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**Cavaco Paulo et al.**

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(54) **PEPTIDE COMPOSITION AND RESPECTIVE USES**

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(56)

**References Cited**

U.S. PATENT DOCUMENTS

5,028,419 A	7/1991	Pigiet
5,635,170 A	6/1997	Lang et al.
6,020,163 A	2/2000	Conklin
7,622,273 B2	11/2009	Gibbs
7,919,456 B2	4/2011	Ghosh
8,034,338 B2	10/2011	Loibner et al.
8,383,580 B2	2/2013	Rui et al.
9,713,604 B2	7/2017	Dreher
10,709,655 B2	7/2020	Cavaco et al.
11,642,298 B2	5/2023	Cavaco Paulo et al.
11,712,410 B2	8/2023	Sahib et al.
12,102,706 B2	10/2024	Cavaco Paulo et al.
12,115,242 B2	10/2024	Cavaco Paulo et al.
2006/0223728 A1	10/2006	Tokunaga
2006/0272103 A1	12/2006	Barbarat
2006/0286655 A1	12/2006	Philippe
2008/0107614 A1	5/2008	Fahnestock et al.
2009/0130154 A1	5/2009	Gupta
2010/0015070 A1	1/2010	Bollschweiler et al.
2010/0272666 A1	10/2010	Breakspeare et al.
2012/0087862 A1	4/2012	Hood et al.
2013/0059772 A1	3/2013	Kumar
2013/0224269 A1	8/2013	Khan et al.

(Continued)

FOREIGN PATENT DOCUMENTS

CA	2309413 A1	11/2000
CN	103126949 A	6/2013

(Continued)

OTHER PUBLICATIONS

PCT/US2023/026017 International Search Report and Written Opinion dated Dec. 13, 2023.

(Continued)

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(57) **ABSTRACT**

The current application discloses a composition that comprises at least one peptide with a sequence length of 6-12 amino acids, where 2-5 of those amino acids are cysteines for the treatment and cosmetics of animal hair, in preference human hair. There are several hair styling methods that involve breakage and reestablishment of disulfide bonds, allowing relaxation and straightening of the hair. However, the most effective methods currently used to modulate hair contain harmful chemicals. Thus, there is a constant demand for formulations that efficiently model the hair fiber without damage. Thus, the present invention aims to provide a composition for treatment of the hair, including animal and human hair, without the use of chemicals harmful to the hair fiber and consumer health and uses of said compositions in shampoo, lotion, serum, cream, conditioner, foam, elixir, oil, aerosol or mask.

17 Claims, No Drawings

Specification includes a Sequence Listing.

(56)

**References Cited****U.S. PATENT DOCUMENTS**

2016/0175209	A1	6/2016	Walker et al.
2016/0271043	A1	9/2016	Cavaco Paulo et al.
2020/0121581	A1	4/2020	Shoseyov et al.
2021/0393500	A1	12/2021	Cavaco Paulo et al.
2022/0287944	A1	9/2022	Costache et al.
2023/0248627	A1	8/2023	Cavaco Paulo et al.
2023/0248631	A1	8/2023	Cavaco Paulo et al.
2023/0301894	A1	9/2023	Cavaco Paulo et al.
2023/0338263	A1	10/2023	Cavaco Paulo et al.
2023/0355499	A1	11/2023	Sahib et al.
2023/0414478	A1	12/2023	Cavaco et al.
2023/0414479	A1	12/2023	Cavaco et al.
2023/0415070	A1	12/2023	Cavaco et al.
2024/0108560	A1	4/2024	Staley et al.
2024/0115481	A1	4/2024	Cavaco Paulo et al.
2024/0316187	A1	9/2024	Von Mutius et al.

**FOREIGN PATENT DOCUMENTS**

CN	104940071	A	9/2015
EP	0335654	A2	10/1989
EP	0488242	A1	6/1992
EP	1046390	A1	10/2000
EP	1238645	A2	9/2002
EP	1705188	A1	9/2006
FR	2706300	A1	12/1994
FR	2876286	A1	4/2006
GB	103484	A	1/1918
JP	H0656889	A	3/1994
JP	H1112138	A	1/1999
JP	2005151849	A	6/2005
KR	20090070272	A	7/2009
PT	103484	A	11/2007
WO	WO-9711672	A1	4/1997
WO	WO-0023039	A2	4/2000
WO	WO-0051556	A1	9/2000
WO	WO-0064405	A2	11/2000
WO	WO-0112806	A2	2/2001
WO	WO-0123890	A1	4/2001
WO	WO-2004048399	A2	6/2004
WO	WO-2005049834	A1	6/2005
WO	WO-2006001536	A1	1/2006
WO	WO-2007136286	A1	11/2007
WO	WO-2008081348	A2	7/2008
WO	WO-2010010145	A1	1/2010
WO	WO-2010089228	A1	8/2010
WO	WO-2011072991	A1	6/2011
WO	WO-2012013593	A1	2/2012
WO	WO-2015056216	A2	4/2015
WO	WO-2018095813	A1	5/2018
WO	WO-2020181395	A1	9/2020
WO	WO-2021001289	A1	1/2021
WO	WO-2022003655	A1	1/2022
WO	WO-2022029147	A1	2/2022
WO	WO-2022072696	A1	4/2022
WO	WO-2023081711	A1	5/2023
WO	WO-2023161711	A1	8/2023
WO	WO-2023250104	A2	12/2023
WO	WO-2023250105	A1	12/2023
WO	WO-2024073683	A2	4/2024
WO	WO-2024206473	A1	10/2024

**OTHER PUBLICATIONS**

PCT/US2023/026019 International Search Report and Written Opinion dated Dec. 5, 2023.

U.S. Appl. No. 18/194,372 Office Action dated Dec. 14, 2023.

U.S. Appl. No. 18/334,287 Office Action dated Feb. 6, 2024.

U.S. Appl. No. 18/339,889 Office Action dated Dec. 19, 2023.

U.S. Appl. No. 18/339,927 Office Action dated Jan. 24, 2024.

What is wrong with CANTU shampoo. <https://forums.longhaircommunity.com/showthread.php?t=149761>. Published: May 5, 2019.

Blast glossary downloaded from www.ncbi.nlm.nih.gov on May 2, 2020.

Blast search for Seq ID No. 1, downloaded May 2, 2020 (2020).

Blast search for Seq ID No. 2, downloaded May 2, 2020 (2020). Co-pending U.S. Appl. No. 18/252,712, inventors Cavaco; Paulo Artur Manuel et al., filed May 11, 2023.

Co-pending U.S. Appl. No. 18/339,889, inventors Cavaco; Paulo Artur Manuel et al., filed Jun. 22, 2023.

Co-pending U.S. Appl. No. 18/339,927, inventors Cavaco; Paulo Artur Manuel et al., filed Jun. 22, 2023.

Co-pending U.S. Appl. No. 18/478,320, inventors Staley; Karis et al., filed Sep. 29, 2023.

Co-pending U.S. Appl. No. 18/520,428, inventors Cavaco Paulo; Artur Manuel et al., filed Nov. 27, 2023.

Dow, Carbowax Sentry Polyethylene Glycols, published online 2011.

Fernanda Reis Gavazzoni Dias. Hair Cosmetics: An Overview. International Journal of Trichology 7:2-15 (2015).

Fernandes et al. Keratin-based peptide: biological evaluation and strengthening properties on relaxed hair. International Journal of Cosmetic Science 34(4):338-346 (2012).

Koonin et al. Chapter 2 Evolutionary Concept in Genetics and Genomics. MY. Sequence—Evolution—Function: Computational Approaches in Comparative Genomics. Boston: Kluwer Academic. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK20260/> (pp. 3.) (2003).

Marabotti et al. The misuse of terms in scientific literature. Bioinformatics 26(19):2498 (2010).

Naturally Curly, <http://www.naturallycurly.com/curlreading/kinky-hair-type-4a/ingredients-commonly-used-in-hair-care-products-peg-modified-materials/>, published online Jun. 8, 2010.

PCT/IB2014/065375 International Search Report and Written Opinion dated Jun. 7, 2015.

Romanowski. An introduction to cosmetic technology. American Oil Chemists' Society. Available at <https://www.aocs.org/stay-informed/inform-magazine/featured-articles/an-introduction-to-cosmetic-technology-april2015?SSO=True> (8 pgs.) (2015).

Shimomura et al. Human Hair Keratin-Associated Proteins. J Investig Dermatol Symp Proc 10:230-233 (2005).

Thesis from Celia Freitas Da Cruz, Unraveling and modulating human hair morphology features (192 pgs) (2012).

Uniprot Protein Database, protein accession A8MUX0 , Keratin-associated protein 16-1, accessed on Dec. 18, 2019.

Uniprot Protein Database, protein accession P26371 , Keratin-associated protein 5-9, accessed on Dec. 18, 2019.

Uniprot Protein Database, protein accession Q9NSB0, Type II hair keratin 6, accessed on Dec. 18, 2019.

Uniprot Protein Database, protein Accession Q9NSB5, accessed on Nov. 8, 2019.

Uniprot protein database, protein Type II hair keratin 1, protein accession Q9NSB5, accessed on Aug. 28, 2017.

U.S. Forest Service entry on soaps at [www.fs.fed.us/wildflowers/ethnobotany/soaps.shtml](http://www.fs.fed.us/wildflowers/ethnobotany/soaps.shtml), downloaded Sep. 29, 2020 (2020).

U.S. Appl. No. 15/030,313 Office Action dated Aug. 29, 2018.

U.S. Appl. No. 15/030,313 Office Action dated Aug. 31, 2017.

U.S. Appl. No. 15/030,313 Office Action dated Jan. 11, 2019.

U.S. Appl. No. 15/030,313 Office Action dated Jan. 24, 2018.

U.S. Appl. No. 15/030,313 Office Action dated Jul. 18, 2019.

U.S. Appl. No. 15/030,313 Office Action dated Mar. 2, 2017.

U.S. Appl. No. 16/122,796 Office Action dated Apr. 15, 2021.

U.S. Appl. No. 16/122,796 Office Action dated Apr. 28, 2023.

U.S. Appl. No. 16/122,796 Office Action dated Jan. 5, 2023.

U.S. Appl. No. 16/122,796 Office Action dated May 4, 2020.

U.S. Appl. No. 16/122,796 Office Action dated Oct. 1, 2020.

U.S. Appl. No. 16/122,796 Office Action dated Sep. 20, 2022.

U.S. Appl. No. 16/439,889 Office Action dated Apr. 1, 2022.

U.S. Appl. No. 16/439,889 Office Action dated Jan. 3, 2020.

U.S. Appl. No. 16/439,889 Office Action dated Sep. 15, 2022.

U.S. Appl. No. 18/164,515 Office Action dated Oct. 12, 2023.

U.S. Appl. No. 18/334,287 Office Action dated Oct. 10, 2023.

Yang. Chapter 36: Hair Care Cosmetics. Cosmetic Science and Technology: Theoretical Principles and Applications (pp. 601-615) (2017).

(56)

**References Cited****OTHER PUBLICATIONS**

- Altschul, Stephen F et al. Basic Local Alignment Search Tool. *Journal of Molecular Biology* 215(3):403-410 (1990).
- Archunan. Odorant Binding Proteins: a key player in the sense of smell. *Bioinformation* 14(1):36-37 (2018).
- Berendsen, HJ., A glimpse of the Holy Grail? *Science* 282(5389):642-643 (1998).
- Bignetti et al. Purification and characterisation of an odorant-binding protein from cow nasal tissue. *Eur. J. Biochem.* 149:227-231 (1985).
- Bignetti et al. The pyrazine-binding protein and olfaction. *Comp. Biochem. Physiol.*, 90(1):1-5 (1988).
- Bradley et al. Limits of cooperativity in a structurally modular protein: response of the Notch ankyrin domain to analogous alanine substitutions in each repeat. *J Mol Biol.* 324(2):373-386 (2002).
- Breer. Olfactory receptors: molecular basis for recognition and discrimination of odors. *Anal Bioanal Chem* 377(3):427-33 (2003).
- Briand et al. Evidence of an Odorant-Binding Protein in the Human Olfactory Mucus: Location, Structural Characterization, and Odorant-Binding Properties. *Biochemistry* 41:7241-7252 (2002).
- Campanella et al., MatGAT: An application that generates similarity/identity matrices using protein or DNA sequences. *BMC Bioinformatics* 4:29 (2003).
- Capo et al. The porcine odorant-binding protein as molecular probe for benzene detection. *PLoS One* 13(9):e0202630 (2018).
- Castro et al. The Structural Properties of Odorants Modulate Their Association to Human Odorant Binding Protein. *Biomolecules* 11(2):145 (2021).
- Cave et al. Progress in the development of olfactory-based bioelectronic chemosensors. *Biosens Bioelectron* 123:211-222 (2019).
- Cennamo et al. Easy to Use Plastic Optical Fiber-Based Biosensor for Detection of Butanal. *PLoS One* 10(3):e0116770 (2015).
- Chemists' Corner, <https://chemistscorner.com/cosmeticsciencetalk/discussion/sodium-pca-vs-glycerin/>. Published: Dec. 1, 2020.
- CN104940071A English Translation Published: Sep. 30, 2015.
- Dal Monte et al. Purification and characterization of two odorant-binding proteins from nasal tissue of rabbit and pig. *Comp Biochem Physiol* 99(2):445-451 (1991).
- Di Pietrantonio et al. Detection of odorant molecules via surface acoustic wave biosensor array based on odorant-binding proteins. *Biosens Bioelectron* 41:328-34 (2013).
- EP1238645A2 English Translation Published: Sep. 11, 2002.
- Flower. Beyond the superfamily: the lipocalin receptors. *Biochim Biophys Acta* 1482:327-336 (2000).
- Flower. The lipocalin protein family : structure and function. *Biochem. J.* 318(Pt 1)(Pt 1):1-14 (1996).
- Garibotti et al. Three Odorant-binding Proteins from Rabbit Nasal Mucosa. *Chem Senses* 22(4):383-390 (1997).
- Goncalves et al. OBP fused with cell-penetrating peptides promotes liposomal transduction. *Colloids Surf B Biointerfaces* 161:645-653 (2018).
- Goncalves et al. Release of Fragrances from Cotton Functionalized with Carbohydrate-Binding Module Proteins. *ACS Applied Mater Interfaces* 11(31):28499-28506 (2019).
- Goncalves et al. Two Engineered OBPs with opposite temperature-dependent affinities towards 1-aminoanthracene. *Sci Rep* 8 (1):14844 (2018).
- Gongalves et al. 1-Aminoanthracene Transduction into Liposomes Driven by Odorant-Binding Protein Proximity. *ACS Applied Mater Interfaces* 10(32):27531-27539 (2018).
- Han et al. Operating Mechanism and Molecular Dynamics of Pheromone-Binding Protein ASP1 as Influenced by pH. *PLoS One* 9(10):e110565 (2014).
- Kozlowski. IPC—Isoelectric Point Calculator. *Biol Direct* 11(1):55 (2016).
- Lazar et al. Molecular and Functional Characterization of an Odorant Binding Protein of the Asian Elephant, *Elephas maximus*: Implications for the Role of Lipocalins in Mammalian Olfaction. *Biochemistry* 41:11786-11794 (2002).
- Lobel et al. Odorant of different chemical classes interact with distinct odorant binding protein subtypes. *Chem Senses* 27:39-44 (2002).
- Malpel et al. Chapter 9: Purification and Fluorescent Titration of Cellular Retinol-Binding Protein. In *Methods in Molecular Biology*; Redfern, C. P. F., Ed.; pp. 111-122 (1998).
- Mazzini et al. Dissociation and unfolding of bovine odorant binding protein at acidic pH. *J Struct Biol* 159(1):82-91 (2007).
- Mulla et al. Capacitance-modulated transistor detects odorant binding protein chiral interactions. *Nature Commun* 6:6010 (2015).
- Needleman, Saul B et al. A General Method Applicable to the Search for Similarities in the Amino Acid Sequence of Two Proteins. *Journal of Molecular Biology* 48(3):444-453 (1970).
- Ngo, Thomas, et al., Computational Complexity, Protein Structure Prediction, and the Levenshtein Paradox. *Birkhauser Boston* 491-495 (1994).
- Nogueira et al. Peptide anchor for folate-targeted liposomal delivery. *Biomacromolecules* 16(9):2904-2910 (2015).
- Ozeki et al. A study of the suppression of body odour in elderly subjects by anti-fungal agents. *Int J Cosmet Sci* 38(3):312-8 (2016).
- Paolini et al. Porcine odorant-binding protein: structural stability and ligand affinities measured by Fourier-transform infrared spectroscopy and fluorescence spectroscopy. *Biochim Biophys Acta* 1431:179-188 (1999).
- Parisi et al. Unfolding and refolding of porcine odorant binding protein in guanidinium hydrochloride: equilibrium studies at neutral pH. *Biochim Biophys Acta* 652(2):115-125 (2003).
- PCT/IB2021/056011 International Search Report and Written Opinion dated Oct. 6, 2021.
- Pelosi et al. Odorant-Binding Proteins as Sensing Elements for Odour Monitoring. *Sensors (Basel)* 18(10):3248 (2018).
- Pelosi et al. Structure and biotechnological applications of odorant-binding proteins. *Appl Microbiol Biotechnol* 98(1):61-70 (2014).
- Pelosi. Odorant-Binding Proteins: Structural Aspects. In *Annals New York academy of sciences; Olfaction and Taste XII: an international symposium*, pp. 281-293 (1998).
- Perduca et al. Crystal Structure of a Truncated Form of Porcine Odorant-Binding Protein. *Proteins* 42:201-209 (2001).
- Pes et al. Isolation of two odorant-binding proteins from mouse nasal tissue. *Comp. Biochem. Physiol.* 103 (4):1011-1017 (1992).
- Pevsner et al. Odorant-binding protein: characterization of ligand binding. *J Biol Chem* 265(11):6118-6125 (1990).
- Rudinger, J., Characteristics of the amino acids as components of a peptide hormone sequence. *Peptide Hormones*, J.A. Parsons , MA, BM, BC, 1-7 (1976).
- Sankaran et al. Biology and applications of olfactory sensing system: A review. *Sensors and Actuators B: Chemical* 171-172:1-17 (2012).
- Schinzel, R, et al., The Phosphate Recognition Site of *Escherichia coli* Maltodextrin Phosphorylase. *FEBS Letters* 286(1-2):125-128 (1991).
- Sigma, Designing Custom Peptides, pp. 1-2. (2004).
- Silva et al. Odorant binding proteins: a biotechnological tool for odour control. *Appl Microbiol Biotechnol* 98(8):3629-3638 (2014).
- Solu Shampoo. <https://web.archive.org/web/20200929001233/https://www.thekindestcut.com/product-page/solu-shampoo>. Published: Sep. 29, 2020.
- Sorokowska et al. Does Personality Smell? Accuracy of Personality Assessments Based on Body Odour. *European Journal of Personality* 26(5):496-503 (2012).
- Spinelli et al. The Structure of the Monomeric Porcine Odorant Binding Protein Sheds Light on the Domain Swapping Mechanism. *Biochemistry* 37:7913-7918 (1998).
- Tegoni et al. Mammalian odorant binding proteins. *Biochim Biophys Acta* 1482:229-240 (2000).
- U.S. Appl. No. 18/164,515 Office Action dated Feb. 15, 2024.
- U.S. Appl. No. 18/164,515 Office Action dated Jun. 5, 2024.
- U.S. Appl. No. 18/339,927 Office Action dated May 8, 2024.
- U.S. Appl. No. 18/520,428 Office Action dated Mar. 25, 2024.
- U.S. Appl. No. 18/339,889 Office Action dated Mar. 27, 2024.
- Vincent et al. Crystal structures of bovine odorant-binding protein in complex with odorant molecules. *Eur J Biochem* 271(19):3832-42 (2004).

(56)

**References Cited**

OTHER PUBLICATIONS

- Voet, Judith., Biochemistry, Second Edition, John Wiley & Sons, Inc., 235-241 (1995).
- Whitson et al. Human Odorant Binding Protein 2a has Two Affinity States and is Capable of Binding Some Uremic Toxins. *Biochem Anal Biochem* 3:2 (2014).
- Yampolsky, Lev, et al., The Exchangeability of Amino Acids in Proteins. *Genetics* 170(4):1459-1472 (2005).
- PCT/US2024/021721 International Search Report and Written Opinion dated Jul. 11, 2024.
- The PH of Hair—The Difficult Truth About Shampoo. Love Curly Hair, Jun. 23, 2021: [Retrieved on Nov. 19, 2024]. Available at URL:<https://web.archive.org/web/20210623093539/><https://www.lovecurlyhair.com/the-ph-of-hair-the-difficult-truth-about-shampoo/> pp. 1-22.
- U.S. Appl. No. 18/003,127 Office Action dated Nov. 14, 2024.
- U.S. Appl. No. 18/164,515 Office Action dated Sep. 16, 2024.
- U.S. Appl. No. 18/339,927 Office Action dated Nov. 26, 2024.
- U.S. Appl. No. 18/520,428 Office Action dated Jul. 11, 2024.

**1****PEPTIDE COMPOSITION AND RESPECTIVE  
USES****CROSS-REFERENCE**

This application is a divisional of 18/334,287, filed Jun. 13, 2023, which is a continuation of U.S. application Ser. No. 18/194,372, filed Mar. 31, 2023, which is a continuation of U.S. application Ser. No. 16/439,889, filed Jun. 13, 2019, now U.S. Pat. No. 11,642,298, issued May 9, 2023, which is a continuation of U.S. application Ser. No. 15/030,313, filed Apr. 18, 2016, now U.S. Pat. No. 10,709,655, issued Jul. 14, 2020, which is a U.S. National Stage Entry of International Application PCT/IB2014/065375, filed Oct. 16, 2014, which claims priority to Portuguese Application No. 107244, filed Oct. 18, 2013, all of which are hereby incorporated by reference in their entirety.

**SEQUENCE LISTING**

The instant application contains a Sequence Listing which has been submitted electronically in XML format and is hereby incorporated by reference in its entirety. Said XML copy, created on Feb. 2, 2023, is named 63230-710-401\_SL.xml and is 1,068,431 bytes in size.

**TECHNICAL FIELD**

The current application corresponds to a composition that comprises at least one peptide, based on keratin and keratin associated proteins, containing 2 to 5 cysteines with the purpose of treatment and cosmetics of animal hair, in preference human hair.

**BACKGROUND**

Human hair has a significant social role in most of the various world cultures, particularly for female population. Thus, there is a constant desire to improve and change hair characteristics, such as its natural texture. There are several differences in hair characteristics between different human ethnicities, as well as between individuals of the same ethnicity, such as length, thickness, color and texture.

Hair is composed of approximately 65% to 95% protein. The remaining constituents include water, lipids, pigments and trace elements. The majority of the proteins present in human hair correspond to keratin and keratin-associated proteins.

Human hair fiber's structure consists of cuticle, cortex and medulla. The cuticle constitutes about 15% by weight of the hair and consists of overlapping layers of cells, similar to a system of scales, with high content of cysteine. It provides a protective character to the hair fiber. The cortex is the middle region of the hair being responsible for the strength, elasticity and hair color. It is composed of several cell types and represents about 80% of the weight of the hair. The medulla corresponds to a central beam of cells and is absent in some hairs.

Keratins and mainly keratin-associated proteins have high sulfur content, present in the cysteine amino acid. The presence of sulfur is essential to the hair structure, as it allows the formation of disulfide bonds between amino acids of the polypeptide chains, due to oxidation of cysteine. The existence of these bonds is largely responsible for the structure and texture of the hair.

There are several hair styling methods that involve breakage and reestablishment of disulfide bonds, allowing relax-

**2**

ation and straightening of the hair. However, the most effective methods currently used to modulate hair contain harmful chemicals such as sodium hydroxide, potassium hydroxide, lithium hydroxide, guanidine hydroxide, ammonium thioglycolate or sodium sulfate. These methods can damage the scalp and the hair fiber, leading to its weakening and reducing its tensile strength. Formaldehyde, an extremely toxic chemical, is also used in hair straightening products. Other hair treatments that do not involve so much damage to the hair and the consumer are usually very expensive, time-consuming and/or have low efficacy. Thus, there is a constant demand for formulations that efficiently model the hair fiber without damage.

Peptides, proteins, amino acids and its derivatives have also been used in compositions for personal care products, namely hair conditioning and strengthening. For example, the document WO 00/23039 discloses a composition for hair treatment containing intermediate filament proteins, namely artificial keratin. The document EP 0488242 discloses a hair treating agent containing 3% to 10% by weight of cysteine and salts thereof, a polyhydric alcohol or a saccharide containing four to twenty carbon atoms, three or more hydroxyl groups in the molecule and no aldehyde or ketone group,

The current invention is distinguished by the use of peptides, while the other applications refer the use of, respectively, proteins and amino acids in isolation and together with other types of compounds. The peptides in this innovation peptide can penetrate into the Human hair in order to improve hair fiber resistance.

The document WO 00/51556 discloses a hair treatment composition that contains four or more discrete amino acids selected from histidine, lysine, methionine, tyrosine, tryptophan or cysteine. This document describes peptides without referring sequences and providing a composition essentially based on histidine, lysine, methionine, tyrosine, tryptophan or cysteine.

The document PT 103484 describes a formulation for cosmetic applications that uses hydrophobic binding domains and/or carbohydrates, in order to enhance its properties and to repair hair damage. The binding domains used are hydrolyzed milk protein, a model of human surfactant protein as well as biologically active and synthetic peptides. The current invention is distinguished by the innovative use of synthetic peptide sequences analogous to keratin proteins instead of surfactant proteins. Furthermore, it does not rely on hydrophobic binding domains and/or carbohydrates, but in other interactions, namely disulfide bonds.

Enzymes have also been used as activating agents for hair treatment, such as in the document WO 00/64405. The document WO 2012/13593 discloses a cosmetic kit for hair conformational change that acts specifically in the disulfide bonds of the hair keratin, through enzyme activating agents and proteolytic enzymes.

As described in the last document there are hair treatments that include actions at the level of the hair disulfide bonds. Below we highlight some examples.

The document WO 97/11672 reports a method for permanent hair processing using tris(2-carboxyethyl)phosphine (TCEP), and other water-soluble tertiary phosphines to break disulfide bonds, whose reaction occurs in acidic environment. The document U.S. Pat. No. 5,635,170 discloses a composition for permanent shaping of hair based on a keratin reducing agent, which contains N-glycyl-L-cysteine and/or L-cysteinyl-glycine. The pH range of this composition is 6.5 to 9.0. The document WO 2008/081348 refers a method and composition for permanent modulation of hair,

through the use of 1% to 30% of N-alkyl-2-mercaptopropionate as a keratin reducing agent. It also contains at least one cationic surfactant for permanently shaping hair and the resulting process. The document WO 2006/001536 describes an agent for permanent hair processing that contains a derivative of mercaptocarboxylic acid, which allows processing and reduction of hair keratin in the acidic and neutral range of the pH. The document US 2010/0272666 discloses a hair cosmetic composition for hair treatment, containing 5 to 50 amino acids, without containing cysteine or its derivatives. Thus, this invention is distinguished by the existence of specific amino acid sequences, which contain cysteine, allowing the formation of disulfide bonds that stabilize and protect the hair fiber.

In a previous article by Fernandes et al. (Fernandes, Lima, Loureiro, Gomes, & Cavaco-Paulo, 2012), it is performed the toxicology evaluation of a peptide sequence for hair care use, containing 13 amino acids with two cysteines in its composition. However, in this article it is not mentioned or suggested that the percentage of cysteine in a peptide sequence may have some effect on the resistance of the hair. Also, in the present innovation, the number of amino acids of each peptide sequence is 6 to 12.

#### SUMMARY

Thus, the present invention aims to provide a composition for treatment of the hair, including animal and human hair, without the use of chemicals harmful to the hair fiber and consumer health and that does not present the drawbacks found in the state of the art.

The compositions described in the current invention, after prolonged use, provide hair with soft, shiny, undamaged texture and with the desired features. The peptide compositions with a specific number of amino acids and cysteines act synergically providing resistance to strength, toughness and elasticity to the hair. Therefore, the compositions of the current invention are particularly relevant for hair treatment, hair dying, hair perms, etc.

The present application describes a peptide composition for hair treatment, in particular human or animal hair, which comprises at least one peptide with 6-12 amino acids length (namely 6, 7, 8, 9, 10, 11, 12 amino acids), where 2-5 of those amino acids correspond to cysteine, preferably 2, 3, 4 or 5 of those amino acids are cysteines and dermatologically suitable excipients, which penetrates the hair, increasing its resistance and reducing its breakage.

In the embodiment, for improved results, the peptide (or peptides) of the peptide composition for hair care can comprise 10-11 amino acids.

In the embodiment of the peptide composition for hair care treatment, the referred peptides can also contain a percentage of hydrophobic amino acids, not higher than 60%, and preferably less than 41% for better results. Preferably, the composition can also comprise at least one hydrophobic amino acid selected from the following list: phenylalanine, alanine, leucine, methionine, isoleucine, tryptophan, proline, valine or their mixtures.

In yet another embodiment, the amount of cysteine of the peptide composition for hair treatment may vary from 10% to 50% of the total of amino acids of the peptide sequence, preferably 20-30%, and even more preferably 25%.

In an embodiment of the composition, with better results of the peptide (or peptides) of the peptide composition for hair treatment, the sequence of peptide(s) can comprise at least one sequence of the following list with a degree of homology greater than or equal to 90%: SEQ. ID NO:

1-SEQ. ID NO: 1239, preferably with a degree of homology greater than or equal to 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, 100%.

In an embodiment, improved results for the peptide (or peptides) of the peptide composition for hair treatment can comprise at least one of the sequences of the following list with a degree of homology equal or greater than 90%: SEQ.ID NO:5, SEQ.ID NO:75; SEQ.ID NO:94; SEQ.ID NO:409; SEQ.ID NO:411; SEQ.ID NO:412; SEQ.ID NO:432; SEQ.ID NO:618; SEQ.ID NO:717; SEQ.ID NO:951; SEQ.ID NO:1088; SEQ.ID NO:1131; SEQ.ID NO:1149, preferably with a degree of homology equal or greater than 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, 100%.

15 In other embodiment, the concentration of the peptide of the peptide composition for hair treatment can vary between 0.001%-20% (w/w), preferably 0.01-5% w/w.

In yet other embodiment, the peptide composition for hair treatment can comprise at least one excipient, selected from 20 the following list: surfactants, emulsifiers, preservatives, thickeners, organic polymers, humectants, silicones, oils, fragrances, vitamins, buffers.

In another embodiment, the peptide composition for hair treatment can comprise at least one anionic surfactant 25 selected from the following list: alkylbenzene sulfonates, ammonium lauryl sulfate, ammonium lauryl sulfate, ammonium xylenesulfonate, sodium C14-16 olefin sulfonate, sodium cocoyl sarcosinate, sodium laureth sulfate, sodium lauryl sulfate, sodium lauryl sulfoacetate, sodium myreth sulfate, sodium xylenesulfonate, TEA-dodecylbenzenesulfonate, ethyl PEG-15 cocamine sulfate, dioctyl sodium sulfosuccinate, or any mixture thereof.

In an embodiment, the peptide composition for hair treatment can comprise at least one amphoteric surfactant 35 selected from the following list: cocamidopropyl betaine, coco betaine, cocoamphoacetate, cocoamphodipropionate, disodium cocoamphodiacetate, disodium cocoamphodipropionate, lauroamphoacetate, sodium cocoyl isethionate, or any mixture thereof.

40 In other embodiment, the peptide composition for hair treatment can comprise at least one cationic surfactant selected from the following list: quaternary ammonium compounds, behentrimonium chloride, behentrimonium methosulfate, benzalkonium chloride, betrimonium chloride, binnamidopropyltrimonium chloride, cocotrimonium chloride, dicetyltrimonium chloride, dicocodimonium chloride, dihydrogenated tallow dimethylammonium chloride, hydrogenated palm trimethylammonium chloride, laurtrimonium chloride, quatemium-15, quaternium-18 bentonite, quatemium-22 heconite, stearalkonium chloride, tallowtrimonium chloride, tricetyldimonium chloride, or any mixture thereof.

In yet other embodiment, the peptide composition for hair treatment can comprise at least one non-ionic surfactant 55 selected from the following list: decyl glucoside, laureth-10 (lauryl ether 10), laureth-23, Laureth-4, PEG-10 sorbitan laurate, polysorbate-(20, 21, 40, 60, 61, 65, 80, 81), PPG-1 trideceth-6, sorbitol, steareth-(2, 10, 15, 20), C11-21 pareth-(3-30), C12-20 acid PEG-8 ester, or their mixtures.

60 In yet other embodiment, the peptide composition for hair treatment can comprise at least one emulsifier selected from the following list: caprylic/capric/diglyceryl succinate, C10-15 pareth-(2,4,6,8) phosphate, C14-16 glycol palmitate, C18-20 glycol isostearate, cetareth-(4-60), cocamidopropyl lauryl ether, deceth-(3-10), DTPA-hydrogenated cocoate, dipentaerythritol hydroxystearate, dipentaerythritol hydroxyisostearate, dipentaerythritol hexacaprate/caprylate,

## 5

dodoxynol-(5,6,7,9,12), nonoxynol-(1-35), octoxynol-(1-70), Octyldodeceth-(2,5,16,20,25), Palm kernel glycerides, or any mixture thereof.

In other embodiment, the peptide composition for hair treatment can comprise at least one preservative selected from the following list: butyl paraben, diazolidinyl urea, DMDM hydantoin, ethyl paraben, imidazolidinyl urea, iodopropynyl butylcarbamate, isobutyl paraben, methyl paraben, methylchloroisothiazolinone, methylisothiazolinone, phenoxyethanol, propyl paraben, sodium benzoate, or any mixture thereof.

In other embodiment, the peptide composition for hair treatment can comprise at least one thickener selected from the following list: aluminum stearates/isostearates/myristates/laurates/palmitates, glycol distearate, hydrogenated castor oil, hydrogenated castor oil hydroxystearate, hydrogenated castor oil isostearate, hydrogenated castor oil stearate, hydrogenated castor PEG-8 esters, PEG-150 distearate, or any mixture thereof.

In other embodiment, the peptide composition for hair treatment can comprise at least one natural polymer derived selected from the following list: carboxymethyl hydroxyethyl cellulose, carboxymethyl hydroxypropyl guar, cellulose, ethyl cellulose, hydroxy-butyl methylcellulose, hydroxyethylcellulose, hydroxymethylcellulose, lauryl polyglucose, or any mixture thereof.

In other embodiment, the peptide composition for hair treatment can comprise at least one humectant selected from the following list: 1,2,6 hexanetriol, dipropylene glycol, glycerin, hexylene glycol, panthenol, phytantriol, propylene glycol, sodium PCA, sorbitol, triethylene glycol, polyglyceryl sorbitol, glucose, fructose, polydextrose, potassium PCA, hydrogenated honey, hyaluronic acid, inositol, hexanediol beeswax, hexanetriol beeswax, hydrolyzed elastin, hydrolyzed collagen, hydrolyzed silk, hydrolyzed keratin, erythritol, capryl glycol, isoceteth-(3-10, 20, 30), iso-laureth-(3-10, 20, 30), laneth-(5-50), laureth-(1-30), steareth-(4-20), trideceth-(5-50), or any mixture thereof.

In other embodiment, the peptide composition for hair treatment can comprise at least one cationic polymer selected from the following list: polyquaternium-10, poly-quatemium-7, polyquaternium-11m guar hydroxypropyltrimonium chloride, or any mixture thereof.

In other embodiment, the peptide composition for hair treatment can comprise at least one silicone selected from the following list: amodimethicone, amodimethicone, trideceth-12, cetrionium, chlotide mixture, behenoxy, dimethicone sparingly, cetearyl methicone, cetyl dimethicone, cyclomethicone, cyclopentasiloxane, dimethicone, dimethicone copolyol, dimethicone copolyol, dimethiconol, hydrolyzed wheat protein hydroxypropyl polysiloxane, stearoxy dimethicone sparingly, stearyl dimethicone, trimethylsilylamodimethicone, lauryl methicone copolyol, or any mixture thereof.

In yet other embodiment, the peptide composition for hair treatment can comprise at least one organic oil selected from the following list: mineral oil, paraffin, petrolatum, or any mixture thereof.

In yet other embodiment, the peptide composition for hair treatment can comprise at least one protein selected from the following list: cocodimonium hydroxypropyl hydrolyzed casein, cocodimonium hydroxypropyl hydrolyzed collagen, cocodimonium hydroxypropyl hydrolyzed hair keratin, cocodimonium hydroxypropyl hydrolyzed keratin, cocodimonium hydroxypropyl hydrolyzed rice protein, cocodimonium hydroxypropyl hydrolyzed silk, cocodimonium hydroxypropyl hydrolyzed soy protein, cocodimonium

## 6

hydroxypropyl hydrolyzed wheat protein, cocodimonium hydroxypropyl silk amino acids, cocoyl hydrolyzed collagen, cocoyl hydrolyzed keratin, hydrolyzed keratin, hydrolyzed oat flour, hydrolyzed silk, hydrolyzed silk protein, hydrolyzed soy protein, hydrolyzed wheat protein, hydrolyzed wheat protein, keratin, potassium cocoyl hydrolyzed collagen, TEA-cocoyl hydrolyzed collagen, TEA-cocoyl hydrolyzed soy protein, or any mixture thereof.

In other embodiment, the peptide composition for hair treatment can comprise at least one vitamin selected from the following list: retinol, retinyl palmitate tocopherol acetate, or any mixture thereof.

In other embodiment, the peptide composition for hair treatment can comprise at least one ester emollient selected from the following list: butyl myristate, butyl stearate, C12-15 alkyl benzoate, caprylicapric triglyceride, cetyl octanoate, cetyl stearate, cetearyl stearate, decyl oleate, dimethyl lauramine isostearate, glyceryl stearate, glyceryl adipate, glyceryl arachidate, glyceryl arachidonate, glyceryl behenate, glyceryl caprate, glyceryl caprylate, glyceryl caprylate/caprate, glyceryl citrate/lactate/linoleate/oleate, glyceryl cocoate, glyceryl diarachidate, glyceryl dibehenate, glyceryl dierucate, glyceryl dihydroxystearate, glyceryl diisopalmitate, glyceryl diisostearate, glyceryl dilaurate, glyceryl dilinoleate, glyceryl dimyristate, glyceryl dioleate, glyceryl dipalmitate, glyceryl dipalmitoleate, glyceryl diricinoleate, glyceryl distearate, glyceryl erucate, glycol stearate, isooctyl stearate, isopropyl myristate, isopropyl palmitate, isopropyl stearate, isostearyl stearate, octyl palmitate, octyl stearate, propylene glycol dicaprylate/dicaprate, sorbitan benzoate, sorbitan caprylate, sorbitan isostearate, Sorbitan laurate, sorbitan tristearate, stearyl stearate, tocopheryl linoleate, or any mixture thereof.

In other embodiment, the peptide composition for hair treatment can comprise at least one alkanolamide selected from the following list: acetamide MEA, cocamide DEA, cocarnide MEA, lactamide MEA, lauramide DEA, lauramide DEA, propylene glycol, lauramide MEA, lecithinamide DEA, linolearnide DEA, linolearnide MEA, linoleamido MIPA, myristamide DEA, myristamide MEA, myristamide MIPA, oleamide DEA, oleamide DEA, oleamide MEA, oleamide MIPA, soyamide DEA, stearamide MEA, or any mixture thereof.

In yet other embodiment, the peptide composition for hair treatment can comprise at least one amine selected from the following list: behentamidopropyl dimethylamine, cocamidopropyl dimethylamine, isostearamidopropyl dimethylamine, lauramidopropyl dimethylamine, myristamidopropyl dimethylamine, oleamidopropyl dimethylamine, palmitamidopropyl dimethylamine, stearamidopropyl dimethylamine, tallamidopropyl dimethylamine, or any mixture thereof.

In yet other embodiment, the peptide composition for hair treatment can comprise at least one pH adjuster selected from the following list: ascorbic acid, citric acid, sodium hydroxide, triethanolamine, or any mixture thereof.

In yet other embodiment, the peptide composition for hair treatment can comprise at least one salt selected from the following list: calcium chloride, magnesium chloride, magnesium sulfate, potassium chloride, potassium glycol sulfate, sodium chloride, or any mixture thereof.

In yet other embodiment, the peptide composition for hair treatment can comprise at least one aliphatic alcohol selected from the following list: behenyl alcohol, cetearyl alcohol, cetyl alcohol, isocetyl alcohol, isostearyl alcohol, lauryl alcohol, myristyl alcohol, stearyl alcohol, C30-50 alcohols, lanolin alcohol, or any mixture thereof.

In another embodiment, the peptide composition for hair treatment can comprise at least one UV filter/sunscreen selected from the following list: benzophenone-(2, 3, 4, 5, 6, 7, 8, 9, or 10), benzophenone-4, benzyl salicylate, benzylidene camphor sulfonic acid, bornelone, ethyl cinnamate, ethylhexyl methoxycinnamate (octyl methoxycinnamate), octoxynol-40, octoxynol-20, octyl methoxycinnamate, octyl salicylate, oxybenzone, phenyl ketone, PEG-25 PABA, polyacrylamidomethyl benzylidene camphor, or any mixture thereof.

In other embodiment, the peptide composition for hair treatment can comprise at least one natural oil selected from the following list: coconut oil, jojoba oil, olive oil, palm Oil, safflower oil, sesame seed oil, shea butter, sweet almond oil, wheat germ oil, or any mixture thereof.

In yet other embodiment, the peptide composition for hair treatment can comprise at least one amine oxide selected from the following list: cocamine oxide, lauramine oxide, or any mixture thereof.

In other embodiment, the peptide composition for hair treatment can comprise at least one chelate selected from the following list: diisopropyl oxalate, disodium EDTA, disodium EDTA-copper, HEDTA, oxalic acid, potassium citrate, sodium citrate, sodium oxalate, TEA-EDTA, tetrasodium EDTA, trisodium EDTA, trisodium HEDTA, or any mixture thereof.

In other embodiment, the peptide composition for hair treatment can comprise at least one fatty acid selected from the following list: arachidonic acid, capric acid, coconut fatty acid, lauric acid, linoleic acid, linolenic acid, myristic acid, palmitic acid, pantothenic acid, stearin; acid, caproic acid, capryleth-(4, 6, 9) carboxylic acid, isostearic acid, or any mixture thereof.

In other embodiment, the peptide composition for hair treatment can comprise at least one agent antimicrobial/ antibacterial selected from the following list: glyoxal, tri-closan, or any mixture thereof.

In other embodiment, the peptide composition for hair treatment can comprise at least one PEG-modified material selected from the following list: PEG-150 pentaerythirtyl tetrastearate, PEG-(-2, -3, -4, -6, -8, -12, -20, -32, -50, -150, -175) distearate, PEG-10 castor oil, PEG-10 cocamine, PEG-10 cocoate, PEG-10 coconut oil esters, PEG-10 glyceryl oleate, PEG-10 glycerlyl pibsa tallate, PEG-10 glyceryl stearate, PEG-10 hydrogenated lanolin, PEG-10 hydrogenated tallow amine, PEG-10 isolauryl thioether, PEG-10 isostearate, PEG-10 lanolate, PEG-10 lanolin, PEG-10 laurate, PEG-10 oleate, PEG-10 olive glycerides, PEG-10 polyglyceryl-2 laurate, PEG-10 propylene glycol, PEG-10 sorbitan laurate, PEG-10 soya sterol, PEG-10 soyamine, PEG-10 stearamine, PEG-10 stearate, PEG-10 stearyl benzonium chloride, PEG-10 tallate, PEG-10 tallow aminopropylamine, PEG-100, PEG-100 castor oil, PEG-100 hydrogenated castor oil, PEG-100 lanolin, PEG-100 stearate, PEG-40 hydrogenated castor Oil, PEG-60, PEG-55 propylene glycol distearate, or any mixture thereof.

In other embodiment, the peptide composition for hair treatment can comprise at least one polymer selected from the following list: carbomer, dodecanedioic acid/cetearyl alcohol/glycol copolymer, hydrogenated C6-14 olefin polymers, hydrogenated ethylene/propylene/styrene copolymer: polyacrylic acid, polymethyl methacrylate: polymer, polyvinyl acetate, polyvinyl alcohol, PPG, PPG-25-laureth-25, PPG-5 pentaerithrityl ether, PPG-75-PEG-300-hexylene glycol, polyvinylpyrrolidone, PVP/VA (polyvinylpyrrolidone/vinyl acetate copolymer), sodium carbomer, TEA-

carbomer, poloxamer (100-407), poloxamine, polyacrylamidomethylpropane sulfonic acid, polyethylene terephthalate, or any mixture thereof.

In other embodiment, the peptide composition for hair treatment can comprise at least one antistatic agent selected from the following list: apricotamidopropyl ethyldimonium ethosulfate, apricotamidopropyl ethyldimonium lactate, cocamidopropyl ethyldimonium ethosulfate, cocamidopropyl ethyldimonium lactate, lauramidopropyl ethyldimonium 10 ethosulfate, lauramidopropyl ethyldimonium lactate, linoleamidopropyl ethyldimonium ethosulfate, linoleamidopropyl ethyldimonium lactate, myristamidopropyl ethyldimonium ethosulfate, myristamidopropyl ethyldimonium lactate, oleamidopropyl ethyldimonium ethosulfate, olearnidopropyl ethyldimonium lactate, stearamidopropyl ethyldimonium 15 ethosulfate, stearamidopropyl ethyldimonium lactate, or any mixture thereof.

In other embodiment, the peptide composition for hair treatment can comprise at least one alcohol selected from the following list: SD alcohol 40, witch hazel, isopropanol, or any mixture thereof.

In yet other embodiment, the peptide composition for hair treatment can comprise fragrances, oils or any mixture thereof.

In other embodiment, the peptide composition for hair treatment can be used in medicine, veterinary and/or for cosmetics, preferably for the treatment of hair, mainly for animal or human, particularly for treating diseases of the scalp, particularly scalp irritation, alopecia areata, lichen planus, folliculitis keloid of the neck, trichorrhexis nodosa, tricodystrophy, pili torti, tricorrhexis

invaginata, moniletrix, uncombable hair syndrome.[0058]  
In other embodiment, the composition may comprise a dye agent linked to the N or C-terminal of the referred peptides.

In yet other embodiment is the use of the described composition for hair coloring.

Other aspect of the embodiment is the use of the described composition as a hair strengthener or as fixer of perms and/or curly hairs.

It is also described in this application shampoo, lotion, serum, cream, conditioner, foam, elixir, oil, aerosol or mask comprising the composition presented in this application.

The present application discloses a composition for hair treatment that comprise, in whole or in part, one or more peptide sequences of 6 to 12 amino acid residues based on keratin and keratin-associated proteins having 2 to 5 cysteine residues, preferably having 3 to 5 residues of cysteine, for treatment and cosmetics of the hair, preferably human hair, chemically pre-treated or not. Thus, the presence of cysteine in the peptide sequence (higher than 10%, preferably more than 15%) in combination with a percentage of hydrophobic amino acids ensures that the peptides can have a lasting fixation in the hair, improving the human hair properties such as elasticity and strength.

Surprisingly, the described peptide compositions in which the peptide(s) comprising 2 to 5 cysteines allow penetration of the peptide(s) and enhance the properties of hair, preferably 3-5 cysteines. Thus, described peptide(s) containing 2-5 cysteine in order to allow hair penetration and enrichment of the hair properties, such as elasticity, resistance, reduce eventual hair damage, as well as improve and change hair characteristics.

The peptide compositions described in the present application surprisingly enrich and improve the properties and characteristics of the hair, such as elasticity, strength and appearance, repairing damaged keratinous fiber. Therefore, formulation's high cysteine content is used to improve

and/or change its characteristics, such as hair curl or uncurl. The sequence of peptides can have also preferably a percentage of hydrophobic amino acids not exceeding 60%, improving even further the results. Examples of hydrophobic amino acids are phenylalanine, alanine, leucine, methionine, isoleucine, tryptophan, proline, valine, and others.

In the context of the present description, the peptide composition can also be applied to the hair and in particular to the human hair as, but not limited to, aqueous solution or conventional shampoo or conditioner. It can also be used as a lotion, foam, aerosol, gel, mask, and application formulation with or without subsequent rinsing.

The concentration of peptide to be used depends on several features such as the condition of the hair, the origin and the formulation of the hair care product.

#### DETAILED DESCRIPTION

It should be understood that the detailed description and specific examples are indicative of preferred embodiments of the invention and are provided to be illustrative only. This patent is not limited to those mentioned applications.

The present application describes a composition for hair treatment that comprises different peptides, which are based in the structure of keratin and keratin associated proteins.

The compositions described in the present application allow surprisingly the dermo-cosmetic treatment of animal hair, including human hair, chemically pre-treated or not. The composition described in the present invention, through the use of specific peptides, allows the preparation of keratinous fiber damages, due to the high binding capacity of the keratin peptides, including through disulfide bridges.

The described compositions improve the properties and characteristics of the hair, such as elasticity, resistance and appearance, repairing putative damages of the hair.

The peptides here defined are peptide sequences which bind with a certain affinity to the hair. The peptides used in this invention are composed by 6 to 12 amino acids and are constituted by a minimum of 2 and a maximum of 5 cysteines, preferably 3-5 cysteines.

The peptide composition for hair treatment described allows a resistance increase due to the presence of the cysteine-rich peptide, which leads to the resistance of the hair even after several rinsing.

Every peptide can be used together or separately, as well as all or part of the peptide sequence in the hair composition. Each peptide sequence contains amino acids with sulfur, specifically cysteine, which interacts with the hair and allows the formation of intermolecular cross-linking, stabilizing the keratinous fiber.

The peptide composition described uses a high content on cysteine in order to enrich the hair properties, such as improve elasticity and resistance, reduce putative damage of the hair, improve and/or change hair characteristics. Regarding the interaction with the keratinous fibers, the cysteine is 10% to 50% of the total amount of amino acids of the peptide sequence. Additionally, the number of amino acids of the peptide sequence is preferable from 6 to 12.

The peptides can be used separately or in combination of two or more peptides. The concentration of the peptide to be used depends on several characteristics, such as hair condition, origin and the formulation of the product for hair treatment. The content of the hair composition of the present invention is as example 1-0.001% (w/w) in mass.

The peptides of the present invention can be prepared by conventional methods of peptide synthesis, well known in the state of the art.

Additionally, many companies provide customized services for peptide synthesis.

An embodiment of the current invention describes peptides that link to the hair, and which sequence of amino acids includes cysteines where the sequence is selected from the group between the sequences ID NO: 1 to sequence ID NO: 1239.

The sequence of the 1239 peptides referred is listed in the table of the FIG. 1,

As example of hair, it was used virgin human hair tresses, acquired from the International Hair Importers and Products, Inc. (New York). The term virgin hair is applied to all the hair that was never subject or was at least 10 years without making any chemical treatment. Several different hair samples such as African, Asian and Caucasian hair are commercially available in several companies, such as the company mentioned above. Optionally, the hair samples can be treated, for example, using hydrogen peroxide to bleach the hair, needed for techniques such as hair dying.

In the context of this invention, the peptides can be applied to the hair, such as the human hair in the form of, but not limited to, aqueous or conventional preparation of shampoo or conditioner. It can also be in the form of lotion, foam, spray, gel, mask, formulation applied with or without subsequent rinsing.

This invention can be prepared by peptide coupling with an agent of these preparations directly or via a spacer.

This coupling interaction can be performed by covalent or non-covalent bonds, such as hydrogen bond, electrostatic interactions, hydrophobic interactions or van der Waals interactions. The spacer can be used to separate the peptide from the preparation agent, ensuring that the agent does not interfere with the peptide linkage to the hair.

The present invention can be understood more clearly and accurately by reading the following examples, which are indicative of preferred embodiments of the invention. They are provided for illustration in greater detail of the present invention, without introducing any limitation and without being limited to those applications.

#### EXAMPLES

The examples that are within the scope of the claims represent different embodiments of the invention; all other examples are comparative examples.

##### Example 1

The present application treats human hair through several commercial formulations with and without the use of the peptides from the sequence ID NO: 5. As the hair was supplied from International Hair Importers and Products, Inc. (New York).

The tests were performed with in human hair after 8 treatments of bleaching, at 50° C., in 0.1 M Na<sub>2</sub>CO<sub>3</sub>/NaHCO<sub>3</sub> buffer, at pH=9, 10% H<sub>2</sub>O<sub>2</sub>, for 1 hour.

Several formulations were tested:  
hair serum with 15% PCG;  
hair mask.

The mask used in this application was a basic commercial formulation with water, denaturing alcohol, propylene glycol, ether dicaprylic, cetylstearyl alcohol, behentrimonium chloride, cetyl ester, polysorbate 20, hydrolyzed wheat protein, hydrolyzed wheat starch, benzyl alcohol and fragrance.

The hair serum used in this application was a basic commercial formulation with water, denaturing alcohol, propylene glycol, polysorbate 20, hydrolyzed wheat protein,

**11**

hydrolyzed wheat starch, crosslinked polymer alkyl acrylate/C10-30, triethanolamine, benzyl alcohol, fragrance.

Each of the formulations was tested with and without the peptide sequence ID NO:5, which contains in the sequence 15% of cysteine. The formulations containing the peptide SEQ ID NO:5 had a concentration of peptide of 0.1 mg/mL, in a ratio 1:1 (v/v).

To demonstrate the effect was also tested:

a peptide whose sequence does not contain cysteine, with approximately 41% hydrophobic amino acids; a peptide which contains in its sequence 8% cysteine, with approximately 58% hydrophobic amino acids.

The hair mask was applied to the hair after 8 bleaching treatments, being left to act for 15 minutes, mimicking the procedure indicated in commercial masks. Posteriorly, the hair was washed. The serum was applied to the hair after 8 bleaching treatments, being left to act for 1 hour at 37° C. Posteriorly, the hair was not washed, as in typical commercial procedures the serum should be applied in dry hair. The hair was also tested after 5 applications.

The peptide from the sequence ID NO: 5 was able to penetrate in the hair fiber for all the formulations.

After the treatment, mechanical tests were performed, using a cell with 2.5 N maximum load and a deformation rate of 1.5 mm/min. Each hair was individually mounted in the tensile jig by means of a paper template with a fixed gauge length of 20 mm.

TABLE 1

Young modulus of virgin hair without treatments and after 8 times bleaching treatments.	
Hair type	Young modulus (MPa)
Virgin hair	6579
Hair after 8 time bleaching	5294
Serum (with a 15% cysteine and 50% hydrophobic amino acids peptide)	7149
Serum for comparison (with a 41% hydrophobic amino acid without cysteine peptide)	6180
Serum for comparison (with a 8% cysteine and 58% hydrophobic amino acid peptide)	6456
Serum for comparison (without peptide)	6034

TABLE 2

Type of treatment	Young modulus after 1 application (MPa)	Young modulus after 5 applications (MPa)
Serum (with a 15% cysteine and 50% hydrophobic amino acid peptide)	7149	7318
Serum for comparison (without peptide)	6034	6112
Mask (with a 15% cysteine and 50% hydrophobic amino acid peptide)	6175	7075
Mask for comparison (without peptide)	5514	5685

The peptide in these treatments is the peptide from sequence ID NO: 5. The formulations which contain the sequence ID NO:5 induce an increase in mechanical resistance of the damaged hair. After 5 applications, the hair

**12**

treated with the sequence ID NO: 5 maintain the high resistance, having a higher increase in the resistance than without the peptide.

## Example 2

This example discloses the treatment of human hair with peptides containing cysteine, and in this case the peptide containing the sequence ID NO: 409, based in the assumption that small peptides are able to penetrate in the hair fiber cuticle.

The hair was supplied from International Hair Importers and Products, Inc. (New York). Hair fibers were pre-treated by bleaching. The formulation was tested in different hair types:

virgin hair washed, with the cuticle intact and absence of chemical damages;  
hair after 8 bleaching treatments, at 50° C. in 0.1 M Na2CO3/NaHCO3 buffer, at pH=9, 10% H2O2, for 1 hour.

The incorporation of the peptides was performed by direct application in the hair surface. The mechanical resistance tests were performed after the treatment of the hair with the peptide.

The measurements of mechanical resistance were performed using a cell with 2.5 N maximum load and a deformation rate of 1.5 mm/min. Each hair was individually mounted in the tensile jig by means of a paper template with a fixed gauge length of 20 mm.

As for the results obtained for the mechanical test showed that compared to the control, i.e., virgin hair without bleaching or peptide treatment (Young modulus: 4142±590 MPa), bleaching reduced the Young modulus (2478±567 MPa), while the treatment with the peptide sequence ID NO: 409 after bleaching increased the Young modulus to higher values than the virgin hair with no treatment (5649±1022 MPa).

## Example 3

This example discloses the treatment of human hair with a composition comprising peptides. In this example, the peptide with the sequence ID NO: 412 was tested. The hair was supplied from International Hair Importers and Products, Inc. (New York).

The formulation was tested in different hair types:  
virgin hair washed, with the cuticle intact and absence of chemical damages;  
hair after reduction treatment, at 37° C. in phosphate buffer at pH=8, with 3M GndHCl and 0.05M DTT for 2 hours.

For the treatment with the peptide SEQ ID NO: 412, concentrations of 0.01% (w/w) were used.

The average of the Young's modulus for relaxed hair is 3002 MPa, while for relaxed hair fiber after peptide treatment at 0.01% is 4190 MPa. The Young modulus value for virgin hair without treatment is 5214 MPa.

In the maximum load test, for the relaxed hair fiber, the maximum resistance was 96 MPa, while for the hair fiber relaxed after peptide treatment 126 MPa and for the virgin hair with no treatment 203 MPa.

Regarding hair stretching, the relaxed hair has an average of 51%, while after treatment with the peptide sequence ID NO: 412, has a stretching of 72%. For virgin hair, the average of hair stretching is 58%.

## 13

Therefore, it is evident that the peptides are capable to prevent the hair surface degradation and consequently, the hair treated with these peptides has a longer life span.

## Example 4

In order to assess the interactions between the keratin and some peptides, a keratin solution was prepared. This procedure was performed by immersing African hair, acquired from the International Hair Importers and Products, Inc. (New York), in a solution containing 8 M urea, 0.2 M sodium dodecyl sulfate and 0.5 M sodium bisulfite. The mixture was heated to 50 °C. for 24 h in a shaker bath. The solution was dialyzed for several days against double-distilled water. The keratin solution was then concentrated using AMICON with a 3 kDa cut-off. The keratin was then conjugated with Alexa Fluor 647 carboxylic acid, succinimidyl ester in DMSO anhydrous 5%.

The reaction was incubated for 1 h 30 min at room temperature and in the dark. The Alexa Fluor 647 that did not link to the keratin solution was separated by centrifugation in AMICON with a 3 kDa cut-off for 1 h at 25 °C. and 5000×g.

The keratin was then diluted to 1 µg./mL in blocking buffer (3% BSA in tris-buffered saline (TBS) with 0.05% Tween 20). The peptides tested were SEQ.ID NO: 179, SEQ.ID NO:75, SEQ.ID NO:432, SEQ.ID NO:951, SEQ.ID NO:1108, SEQ.ID NO: 1131 and a peptide containing 13 amino acids, including 2 cysteines (X<sub>3</sub>CX<sub>5</sub>CX<sub>3</sub>), where X represents one of known amino acid residues, with the exception of cysteine residue that is represented by the letter C. This peptide is similar to the one tested in Fernandes et al (Fernandes, Lima, Loureiro, Goines, & Cavaco-Paulo, 2012).

Several peptides in a concentration of 15 fmol/mm<sup>2</sup>, were attached to a glass through a hydrophilic linked moiety, and were then incubated with the keratin, marked with Alexa Fluor 647, for 2 hours at 37 °C.

After incubation, the glasses were rinsed in successive washing solutions: TBS+0.1% Tween 20 and blocking buffer with 3%BSA in TBS+0.1% Tween 20, for 3 minutes in each solution.

The imaging of the glasses was performed in Agilent G2565CA Microarray Scanner System. Three replicas of each peptide incubation were performed and analyzed.

TABLE 3

Normalized intensity levels of peptide sequences.				
Sequence	Number of amino acids	Cysteine content	Hydrophobic amino acids content	Intensity level (average ± standard deviation)
SEQ. ID NO: 179	10	20%	50%	0.990 ± 0.014
SEQ. ID NO: 75	10	30%	60%	1.000 ± 0.000
SEQ. ID NO: 432	10	30%	40%	1.000 ± 0.000
SEQ. ID NO: 951	10	40%	30%	1.000 ± 0.000
SEQ. ID NO: 1108	11	46%	18%	1.000 ± 0.000
SEQ. ID NO: 1131	11	46%	9%	1.000 ± 0.000
X <sub>3</sub> CX <sub>5</sub> CX <sub>3</sub>	13	15%	38%	0.184 ± 0.084

## 14

The peptides SEQ.ID NO:75, SEQ.ID NO:432, SEQ.ID NO:951, SEQ.ID NO:1108, SEQ.ID NO:1131, with percentage of cysteine ranging from 30% to 46%, such as and percentage of hydrophobic amino acids ranging from 9% to 60% were able to obtain an intensity of 1, indicating a very high affinity to keratin. The peptide SEQ.ID NO:179, with 20% and 50% of cysteine and hydrophobic content, respectively showed a slightly inferior but still very high intensity (0.990±0.014). These peptides were compared with a peptide similar to the one described in Fernandes et al. (Fernandes, Lima, Loureiro, Gomes, & Cavaco-Paulo, 2012) containing 2 cysteines in a 13 amino acids sequence. The reduced percentage of cysteine (15%) and higher number of amino acids in the sequence (13 amino acids) lead to a decrease in the intensity to 0.184±0.084, showing an inferior affinity to keratin. This suggests that the higher number of amino acids difficult the reaction of the peptide with the hair keratins. This inferior affinity to keratin leads to less fixation of the peptides in the hair in posterior treatments and consequently providing less improvements in the recovery of the hair characteristics.

The sequences of peptides are described by one letter code of amino acids. The code is as follows:

## List of peptide sequences

Amino acid—One Letter Code  
 Histidine—H  
 Arginine—R  
 Lysine—K  
 Isoleucine—I  
 Phenylalanine—F  
 Leucine—L  
 Tryptophan—W  
 Alanine—A  
 Methionine—M  
 Proline—P  
 Valine—V  
 Cysteine—C  
 Asparagine—N  
 Glycine—G  
 Serine—S  
 Glutamine—Q  
 Tyrosine—Y  
 Threonine—T  
 Aspartic acid—D  
 Glutamic acid—E

SEQ. ID NO: 1	APCAPRPSCG
SEQ. ID NO: 2	EACVPSPVCP
SEQ. ID NO: 3	ESCGTASGCA
SEQ. ID NO: 4	GLCAGTSACL
SEQ. ID NO: 5	GVCGPSPPCI
SEQ. ID NO: 6	HGCTLPGACN
SEQ. ID NO: 7	HSCTLPGACN
SEQ. ID NO: 8	KDCLQNSLCE
SEQ. ID NO: 9	LPCLPAASCN
SEQ. ID NO: 10	LPCYFTGSCN
SEQ. ID NO: 11	NFCLPSLSCR
SEQ. ID NO: 12	NPCATTNACD
SEQ. ID NO: 13	NPCATTNACE
SEQ. ID NO: 14	NPCATTNACS

US 12,383,484 B2

**15**

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List of peptide sequences		
SEQ. ID NO: 15	NPCGLRARCG	5
SEQ. ID NO: 16	NPCGPRSRG	
SEQ. ID NO: 17	NPCSTPASCT	
SEQ. ID NO: 18	NPCSTSPSCV	10
SEQ. ID NO: 19	PACTSSSPCS	
SEQ. ID NO: 20	SKCHESTVCP	
SEQ. ID NO: 21	SPCVPRTVCV	15
SEQ. ID NO: 22	SSCSVETACL	
SEQ. ID NO: 23	SVCSSGVNCR	
SEQ. ID NO: 24	TACPLPGTCH	20
SEQ. ID NO: 25	TNCSPRPICV	
SEQ. ID NO: 26	TSCVPPAPCT	
SEQ. ID NO: 27	TTCTSSNTCE	25
SEQ. ID NO: 28	VPCVPSVPCT	
SEQ. ID NO: 29	ATCGPSACIT	
SEQ. ID NO: 30	GPCISNPCGL	30
SEQ. ID NO: 31	GPCLSNPCTS	
SEQ. ID NO: 32	GSCVTNPCCP	
SEQ. ID NO: 33	LTCFSITCSS	
SEQ. ID NO: 34	NPCSTPSCTT	35
SEQ. ID NO: 35	PSCVTAPCAP	
SEQ. ID NO: 36	SDCSSTHCSP	
SEQ. ID NO: 37	SLCLPPTCHT	40
SEQ. ID NO: 38	SLCNLNGSCGP	
SEQ. ID NO: 39	SPCLVGNCAW	
SEQ. ID NO: 40	TACLPGTCAT	45
SEQ. ID NO: 41	TSCLPALCLP	
SEQ. ID NO: 42	TSCSSRPCVP	
SEQ. ID NO: 43	TTCGGGSCGV	50
SEQ. ID NO: 44	VNCRPELCLG	
SEQ. ID NO: 45	YVCQPMACLP	
SEQ. ID NO: 46	AFSCCISACGP	55
SEQ. ID NO: 47	GSVCSAPCNG	
SEQ. ID NO: 48	GVVCGDLCAS	
SEQ. ID NO: 49	GVVCGDLCVS	60
SEQ. ID NO: 50	LTGCLLPCYF	
SEQ. ID NO: 51	NEDCKLPCNP	
SEQ. ID NO: 52	NFSCVSACGP	65

**16**

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List of peptide sequences		
SEQ. ID NO: 53	PPTCHTACPL	
SEQ. ID NO: 54	PQPCATAKPK	
SEQ. ID NO: 55	SEDCKLPCNP	
SEQ. ID NO: 56	SLGCRTSCSS	
SEQ. ID NO: 57	SLSCRTSCSS	
SEQ. ID NO: 58	SSSCPLGCTM	
SEQ. ID NO: 59	TGSCNSPCLV	
SEQ. ID NO: 60	TSSCPLGCTM	
SEQ. ID NO: 61	VGSCGSSCRK	
SEQ. ID NO: 62	VGVCGGSCKR	
SEQ. ID NO: 63	VSNCNWFCFG	
SEQ. ID NO: 64	ACGPRPGRCC	
SEQ. ID NO: 65	ACGPRPSRCC	
SEQ. ID NO: 66	CAPRPSCGPC	
SEQ. ID NO: 67	CEPCSAYVIC	
SEQ. ID NO: 68	CGLRARCGPC	
SEQ. ID NO: 69	CGPRPGRCCI	
SEQ. ID NO: 70	CGPRPSRCCI	
SEQ. ID NO: 71	CGPRSRGCGC	
SEQ. ID NO: 72	CGTSQKGCCN	
SEQ. ID NO: 73	CHGCTLPGAC	
SEQ. ID NO: 74	CHSCTLPGAC	
SEQ. ID NO: 75	CLPCLPAASC	
SEQ. ID NO: 76	CLPPTCHTAC	
SEQ. ID NO: 77	CLSNPCTSCV	
SEQ. ID NO: 78	CLVGNCAWCE	
SEQ. ID NO: 79	CNPCSTPASC	
SEQ. ID NO: 80	CNPCSTPSCT	
SEQ. ID NO: 81	CNPCSTSPSC	
SEQ. ID NO: 82	CNSPCLVGNC	
SEQ. ID NO: 83	CRTSCSSRPC	
SEQ. ID NO: 84	CSLKEHCSAC	
SEQ. ID NO: 85	CSPPRICVPC	
SEQ. ID NO: 86	CSSTMYSGCC	
SEQ. ID NO: 87	CSTPASCTSC	
SEQ. ID NO: 88	CSTPSCTTCV	
SEQ. ID NO: 89	CTSCVPPAPC	
SEQ. ID NO: 90	CTSSNTCEPC	
SEQ. ID NO: 91	CVPPAPCTPC	

## US 12,383,484 B2

**17**

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List of peptide sequences		
SEQ. ID NO: 92	CVPPSCHGCT	5
SEQ. ID NO: 93	CVPPSCHSCT	
SEQ. ID NO: 94	DCKLPCNPCA	
SEQ. ID NO: 95	DCKLPCNPSCS	10
SEQ. ID NO: 96	PCGTSQKGCC	
SEQ. ID NO: 97	PCLSNPCTSC	
SEQ. ID NO: 98	PCLVGNCAWC	15
SEQ. ID NO: 99	PCNPCSTPSC	
SEQ. ID NO: 100	PCSTPSCTTC	
SEQ. ID NO: 101	PCTTCGPTCG	20
SEQ. ID NO: 102	PCVPPSCHGC	
SEQ. ID NO: 103	PCVPPSCHSC	
SEQ. ID NO: 104	SCCLPSLGCR	25
SEQ. ID NO: 105	SCSEELQCCQ	
SEQ. ID NO: 106	SCSPCSTTCT	
SEQ. ID NO: 107	ASCSTSGTCG	30
SEQ. ID NO: 108	ASCYIPVGQ	
SEQ. ID NO: 109	ASCYVPVSCQ	
SEQ. ID NO: 110	AVCTLPPSSCQ	
SEQ. ID NO: 111	DLCPTSVSCG	35
SEQ. ID NO: 112	EICWEPTSCQ	
SEQ. ID NO: 113	ETCGEPTSCQ	
SEQ. ID NO: 114	ETCNETTSCQ	40
SEQ. ID NO: 115	ETCWWRPNSCQ	
SEQ. ID NO: 116	GYCGYRPFCF	
SEQ. ID NO: 117	KTCWEPASCO	45
SEQ. ID NO: 118	KTCWEPTSCQ	
SEQ. ID NO: 119	LDCVDTTPCK	
SEQ. ID NO: 120	LGCGYGSFCG	50
SEQ. ID NO: 121	NSCGYGSQCG	
SEQ. ID NO: 122	NYCPSNTMCE	
SEQ. ID NO: 123	PACVTSYSSCR	55
SEQ. ID NO: 124	PDCHVEGTCL	
SEQ. ID NO: 125	PDCRVEGTCL	
SEQ. ID NO: 126	PICSEPSPCS	60
SEQ. ID NO: 127	PICYIFKPCQ	
SEQ. ID NO: 128	PLCYISNSCQ	
SEQ. ID NO: 129	PPCGQPTPCS	65

**18**

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List of peptide sequences		
SEQ. ID NO: 130	PPCHIPQPCV	
SEQ. ID NO: 131	PSCGRLASCG	
SEQ. ID NO: 132	PSCSESSICQ	
SEQ. ID NO: 133	PSCSEVTSCP	
SEQ. ID NO: 134	PSCSTSGTCG	
SEQ. ID NO: 135	PSCSVSSGCQ	
SEQ. ID NO: 136	PSCTESDSCK	
SEQ. ID NO: 137	PSCYQTSSCG	
SEQ. ID NO: 138	PTCFLLNNSCQ	
SEQ. ID NO: 139	PTCSVTSSCQ	
SEQ. ID NO: 140	PTCWLLNNCH	
SEQ. ID NO: 141	PTCYQRTSCV	
SEQ. ID NO: 142	PTCYRRTSCV	
SEQ. ID NO: 143	PTCYVVKRCP	
SEQ. ID NO: 144	PVCFEATICE	
SEQ. ID NO: 145	PVCFEATVCE	
SEQ. ID NO: 146	PVCSRPAACS	
SEQ. ID NO: 147	PVCSWPACCS	
SEQ. ID NO: 148	QTCNESSYCL	
SEQ. ID NO: 149	QTCWEPTSCQ	
SEQ. ID NO: 150	SFCRLGYGCG	
SEQ. ID NO: 151	SFCRRGSGCG	
SEQ. ID NO: 152	SLCGYGYGCG	
SEQ. ID NO: 153	SLCSTEVSCG	
SEQ. ID NO: 154	SNCFGQLNCL	
SEQ. ID NO: 155	SPCGQPTPCS	
SEQ. ID NO: 156	SSCDQSSSCA	
SEQ. ID NO: 157	SSCGQSSSCA	
SEQ. ID NO: 158	SVCPEPVSCP	
SEQ. ID NO: 159	TFCSFDKSCR	
SEQ. ID NO: 160	TICSSDKSCR	
SEQ. ID NO: 161	TLCVESSPCH	
SEQ. ID NO: 162	TPCYQQSSCQ	
SEQ. ID NO: 163	VTCSRQTTCI	
SEQ. ID NO: 164	YGCGYGSGCG	
SEQ. ID NO: 165	YGCGYGSGCR	
SEQ. ID NO: 166	YGCIHSTHCG	
SEQ. ID NO: 167	AACEPSACQS	
SEQ. ID NO: 168	AACEPSPCQS	

US 12,383,484 B2

**19**

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List of peptide sequences		
SEQ. ID NO: 169	AACTMSVCSS	5
SEQ. ID NO: 170	ADCLGGICLPL	
SEQ. ID NO: 171	ALCLPSSCHS	
SEQ. ID NO: 172	ALCSPSTCQL	10
SEQ. ID NO: 173	APCLALVCP	
SEQ. ID NO: 174	APCLSLVCTP	
SEQ. ID NO: 175	APCLTLVCTP	15
SEQ. ID NO: 176	APCVALLCRP	
SEQ. ID NO: 177	ASCGSLLCRP	
SEQ. ID NO: 178	ASCLSFLCRP	20
SEQ. ID NO: 179	ASCVSLLCRP	
SEQ. ID NO: 180	AVCEPSPCQS	
SEQ. ID NO: 181	AVCLPVSCQS	25
SEQ. ID NO: 182	AVCVPVRQCS	
SEQ. ID NO: 183	AVCVPVSCQS	
SEQ. ID NO: 184	DLCSPSTCQL	30
SEQ. ID NO: 185	DSCGSSSCGP	
SEQ. ID NO: 186	DSCVQSNCFP	
SEQ. ID NO: 187	FNCSTRNCSS	
SEQ. ID NO: 188	GGCGSYGCSQ	35
SEQ. ID NO: 189	GSCGFGSCYGY	
SEQ. ID NO: 190	GSCSSRKCF	
SEQ. ID NO: 191	GVCLPSTCPH	40
SEQ. ID NO: 192	HSCEGYLCYS	
SEQ. ID NO: 193	IVCAAPSCQS	
SEQ. ID NO: 194	KTCSTTGCDP	45
SEQ. ID NO: 195	LACVSQPCQS	
SEQ. ID NO: 196	LGCGYGGCGY	
SEQ. ID NO: 197	LSCGSRSCSS	50
SEQ. ID NO: 198	LVCTPVSCVS	
SEQ. ID NO: 199	NGCQETYCEP	
SEQ. ID NO: 200	NSCRSLSCGS	55
SEQ. ID NO: 201	PACVISTCPR	
SEQ. ID NO: 202	PGCLNQSCGS	
SEQ. ID NO: 203	PPCGTAPCLT	60
SEQ. ID NO: 204	PPCTTALCRP	
SEQ. ID NO: 205	PPCYLVSCTP	
SEQ. ID NO: 206	PRCTRPICEP	65

**20**

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List of peptide sequences		
SEQ. ID NO: 207	PSCPVSSCAQ	
SEQ. ID NO: 208	PSCQPSVCVP	
SEQ. ID NO: 209	PSCSVSNCYQ	
SEQ. ID NO: 210	PSCSVSSCAQ	
SEQ. ID NO: 211	PSCTSVLCRP	
SEQ. ID NO: 212	PTCKSPSCEP	
SEQ. ID NO: 213	PTCVISSLCP	
SEQ. ID NO: 214	PTCVIISTCPR	
SEQ. ID NO: 215	PTCYQTICFR	
SEQ. ID NO: 216	PVCGGVSCHT	
SEQ. ID NO: 217	PVCGRVSCHT	
SEQ. ID NO: 218	PVCNKPVCFV	
SEQ. ID NO: 219	PVCPTPTCSV	
SEQ. ID NO: 220	PVCRSTYCP	
SEQ. ID NO: 221	PVCSKSVCYV	
SEQ. ID NO: 222	PVCSRPAQYS	
SEQ. ID NO: 223	PVCYVPTCSE	
SEQ. ID NO: 224	QFCLSKSCQP	
SEQ. ID NO: 225	RPCERTACQS	
SEQ. ID NO: 226	RSCQTSFCGF	
SEQ. ID NO: 227	RSCSSLGCDS	
SEQ. ID NO: 228	RSCYSVGCGS	
SEQ. ID NO: 229	RVCLPGSCDS	
SEQ. ID NO: 230	SFCGFPSCST	
SEQ. ID NO: 231	SFCGYPSCST	
SEQ. ID NO: 232	SGCDPASCQP	
SEQ. ID NO: 233	SGCGGSGCGG	
SEQ. ID NO: 234	SGCQSSCLA	
SEQ. ID NO: 235	SHCQPHCQL	
SEQ. ID NO: 236	SICQPATCVA	
SEQ. ID NO: 237	SLCVPVSCRP	
SEQ. ID NO: 238	SNCLPTSCQP	
SEQ. ID NO: 239	SPCLVSSCQP	
SEQ. ID NO: 240	SPCQQSSCQE	
SEQ. ID NO: 241	SPCQQSYCVP	
SEQ. ID NO: 242	SPCSPAVCVS	
SEQ. ID NO: 243	SRCQQPSCQP	
SEQ. ID NO: 244	SRCYRPHCGQ	
SEQ. ID NO: 245	SSCAPIYCR	

US 12,383,484 B2

**21**

-continued

List of peptide sequences		
SEQ. ID NO: 246	SSCAPVYCR	5
SEQ. ID NO: 247	SSCGKGGCGS	
SEQ. ID NO: 248	SSCGKRGCGS	
SEQ. ID NO: 249	SSCLPVSCR	10
SEQ. ID NO: 250	SSCOPAYCTS	
SEQ. ID NO: 251	SSCOPSYCRQ	
SEQ. ID NO: 252	SSCPVVCEP	15
SEQ. ID NO: 253	SSCTAVVCR	
SEQ. ID NO: 254	SSCYQPFCRS	
SEQ. ID NO: 255	SSCYRPICGS	20
SEQ. ID NO: 256	SSCYRPTCGS	
SEQ. ID NO: 257	SVCMSGSCQA	
SEQ. ID NO: 258	SVCSDQGCDQ	25
SEQ. ID NO: 259	SVCSDOGCGL	
SEQ. ID NO: 260	SVCSDQGCGQ	
SEQ. ID NO: 261	SVCSDQGCSQ	30
SEQ. ID NO: 262	SVCSDQSCGQ	
SEQ. ID NO: 263	SVCSHQGCGQ	
SEQ. ID NO: 264	SVCSHQGCGR	
SEQ. ID NO: 265	SVCVPVSCR	35
SEQ. ID NO: 266	SYCRQASCVS	
SEQ. ID NO: 267	TACEPSACQS	
SEQ. ID NO: 268	TICTASPCQP	40
SEQ. ID NO: 269	TSCPETSCLP	
SEQ. ID NO: 270	TSCQMTNCEQ	
SEQ. ID NO: 271	TSCQPVHCET	45
SEQ. ID NO: 272	TSCQPVLCKS	
SEQ. ID NO: 273	TSCQPVLCP	
SEQ. ID NO: 274	TSCVGFVCQP	50
SEQ. ID NO: 275	TSCVSNPCQV	
SEQ. ID NO: 276	TTCFQPTCVS	
SEQ. ID NO: 277	TTCFQPTCVT	55
SEQ. ID NO: 278	TTCFQPTCVY	
SEQ. ID NO: 279	TTCISNPCST	
SEQ. ID NO: 280	TWCQGSSCQP	60
SEQ. ID NO: 281	VGCQSSVCVP	
SEQ. ID NO: 282	VPCQPSTCVF	
SEQ. ID NO: 283	VSCEPSPCQS	65

**22**

-continued

List of peptide sequences		
SEQ. ID NO: 284	VSCGGPICLP	
SEQ. ID NO: 285	VSCKPVLCVA	
SEQ. ID NO: 286	VSCPSTSCR	
SEQ. ID NO: 287	VSCQSSVCMP	
SEQ. ID NO: 288	VSCTRIVCVA	
SEQ. ID NO: 289	VTCEPSPCQS	
SEQ. ID NO: 290	VTCQTTVCRP	
SEQ. ID NO: 291	YGCGYEGCRY	
SEQ. ID NO: 292	AGSCQPSCE	
SEQ. ID NO: 293	ALLCRPLCGV	
SEQ. ID NO: 294	ALVCEPVCLR	
SEQ. ID NO: 295	ATICEPSCSV	
SEQ. ID NO: 296	ATTCEPSCSV	
SEQ. ID NO: 297	ATVCEPSCSV	
SEQ. ID NO: 298	EGTCLPPCYL	
SEQ. ID NO: 299	FSTCRPSCSG	
SEQ. ID NO: 300	GFVCQPMCSH	
SEQ. ID NO: 301	GLDCGYGCGY	
SEQ. ID NO: 302	GLGCGYGCGY	
SEQ. ID NO: 303	GLGCSYGCCH	
SEQ. ID NO: 304	GLGCSYGCGL	
SEQ. ID NO: 305	GSGCGYGCGY	
SEQ. ID NO: 306	GTGCGYGCGY	
SEQ. ID NO: 307	GVSCHTTCYR	
SEQ. ID NO: 308	GYACNFPCSY	
SEQ. ID NO: 309	GYGCGYGCGF	
SEQ. ID NO: 310	HSPCQASCYV	
SEQ. ID NO: 311	HTSCSPACQP	
SEQ. ID NO: 312	HTSCSSGCQP	
SEQ. ID NO: 313	IRWCHPDCHV	
SEQ. ID NO: 314	IRWCRPDCRV	
SEQ. ID NO: 315	ISSCGTGCIGI	
SEQ. ID NO: 316	KGGCGSGCGG	
SEQ. ID NO: 317	KGGCGSSCSQ	
SEQ. ID NO: 318	LVTCQDSCGS	
SEQ. ID NO: 319	LVTCQESCQP	
SEQ. ID NO: 320	MSICSSACTD	
SEQ. ID NO: 321	MSICSSACTN	
SEQ. ID NO: 322	MSVCSSACSD	

US 12,383,484 B2

**23**

-continued

List of peptide sequences		
SEQ. ID NO: 323	PAICEPSCSV	5
SEQ. ID NO: 324	PASCQKSCYR	
SEQ. ID NO: 325	PIYCRRTCYH	
SEQ. ID NO: 326	PNSCQTLCVE	10
SEQ. ID NO: 327	PQPQCVPTCFL	
SEQ. ID NO: 328	PSACQSGCTS	
SEQ. ID NO: 329	PSPCEPSCSE	15
SEQ. ID NO: 330	PSPCQASCYI	
SEQ. ID NO: 331	PSPCQSGCIS	
SEQ. ID NO: 332	PSPCQSGCTD	20
SEQ. ID NO: 333	PSPCQSGCTS	
SEQ. ID NO: 334	PTACQPTCYQ	
SEQ. ID NO: 335	PTACQPTCYR	25
SEQ. ID NO: 336	PTPCSTTCRT	
SEQ. ID NO: 337	PTSCQKSCYR	
SEQ. ID NO: 338	PTSCQPSCES	30
SEQ. ID NO: 339	PTSCQTSTCL	
SEQ. ID NO: 340	PVICEPSCSV	
SEQ. ID NO: 341	PVSCVPVCSSG	
SEQ. ID NO: 342	PVTCVPRCTR	35
SEQ. ID NO: 343	PVYCRRTCYH	
SEQ. ID NO: 344	PVYCRRTCYY	
SEQ. ID NO: 345	PVYCVPVCSG	40
SEQ. ID NO: 346	QPGCESPCEP	
SEQ. ID NO: 347	QQSCVSSCRR	
SEQ. ID NO: 348	QTSCGSSCGQ	45
SEQ. ID NO: 349	QTTCHPSCGM	
SEQ. ID NO: 350	QTTCRPSCGV	
SEQ. ID NO: 351	RGGCGSGCGG	50
SEQ. ID NO: 352	RLACYSLCSG	
SEQ. ID NO: 353	RPACYRPCYS	
SEQ. ID NO: 354	RPPCFRRRCYS	55
SEQ. ID NO: 355	RPICRPICSG	
SEQ. ID NO: 356	RPLCYRRCCYS	
SEQ. ID NO: 357	RSPCQASCYV	60
SEQ. ID NO: 358	RVSCHTTCYR	
SEQ. ID NO: 359	SAICRPTCPR	
SEQ. ID NO: 360	SDSCKRDCKK	65

**24**

-continued

List of peptide sequences		
SEQ. ID NO: 361	SEGCGSGCGG	
SEQ. ID NO: 362	SFLCRPACSR	
SEQ. ID NO: 363	SGGCQSGCGG	
SEQ. ID NO: 364	SGGCQSSCGG	
SEQ. ID NO: 365	SGSCQAAACGQ	
SEQ. ID NO: 366	SLLCHPVCKS	
SEQ. ID NO: 367	SLLCHPVCRS	
SEQ. ID NO: 368	SLLCRPACSP	
SEQ. ID NO: 369	SLLCRPACSR	
SEQ. ID NO: 370	SLLCRPICRP	
SEQ. ID NO: 371	SLLCRPMCSR	
SEQ. ID NO: 372	SLLCRPTCSR	
SEQ. ID NO: 373	SLLCRPVCQP	
SEQ. ID NO: 374	SLLCRPVCRP	
SEQ. ID NO: 375	SLLCRPVCRS	
SEQ. ID NO: 376	SLLCRPVCSR	
SEQ. ID NO: 377	SNPCQVTCSR	
SEQ. ID NO: 378	SRGCQSGCGG	
SEQ. ID NO: 379	SRSCQSPCYR	
SEQ. ID NO: 380	SRSCQSSCYR	
SEQ. ID NO: 381	SSGCQGYGCGY	
SEQ. ID NO: 382	SSGCPMACPG	
SEQ. ID NO: 383	SSICQPICSE	
SEQ. ID NO: 384	SSPCHTSCYY	
SEQ. ID NO: 385	SSPCQPTCYV	
SEQ. ID NO: 386	SSPCQQSCYV	
SEQ. ID NO: 387	SSPCQTSCYR	
SEQ. ID NO: 388	SSSCQQSCRV	
SEQ. ID NO: 389	STVCQPACGV	
SEQ. ID NO: 390	TDNCQETCGE	
SEQ. ID NO: 391	TQPCYEPCLP	
SEQ. ID NO: 392	TSSCGTGCBI	
SEQ. ID NO: 393	TSSCQPSGR	
SEQ. ID NO: 394	TSSCTTPCYQ	
SEQ. ID NO: 395	TSVCLPGCLN	
SEQ. ID NO: 396	TTVCLPGCLN	
SEQ. ID NO: 397	VANCOAPCST	
SEQ. ID NO: 398	VDDCPESCPW	
SEQ. ID NO: 399	VKRCPSVCPE	

## US 12,383,484 B2

**25**

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List of peptide sequences		
SEQ. ID NO: 400	VSSCQPSCE	5
SEQ. ID NO: 401	YEGCRYGCGH	
SEQ. ID NO: 402	YGRCRHGCHS	
SEQ. ID NO: 403	YGYCRPSCYG	10
SEQ. ID NO: 404	YRDCQKTCWE	
SEQ. ID NO: 405	YRGCCQEICWE	
SEQ. ID NO: 406	YRGCQETCWR	15
SEQ. ID NO: 407	YRGCCQQTCWE	
SEQ. ID NO: 408	YRSCRPSCYG	
SEQ. ID NO: 409	GGVCGPSPPC	20
SEQ. ID NO: 410	GVCGPSPPCI	
SEQ. ID NO: 411	VCGPSPPCIT	
SEQ. ID NO: 412	CGPSPPCITT	25
SEQ. ID NO: 413	CAPIYCRRTC	
SEQ. ID NO: 414	CAPSPCQASC	
SEQ. ID NO: 415	CAPSPCQPAC	30
SEQ. ID NO: 416	CAPVYCRRTC	
SEQ. ID NO: 417	CASSPCQQAC	
SEQ. ID NO: 418	CASSSCQPAC	35
SEQ. ID NO: 419	CASSSCQQSC	
SEQ. ID NO: 420	CCGNFSSHSC	
SEQ. ID NO: 421	CCGYGGLGCG	40
SEQ. ID NO: 422	CCNYYGNSCG	
SEQ. ID NO: 423	CCNYYRNSCG	
SEQ. ID NO: 424	CCSRNFSSCS	
SEQ. ID NO: 425	CDAGSCQPSCE	45
SEQ. ID NO: 426	CDPCSLQEBC	
SEQ. ID NO: 427	CDPSPCEPSC	
SEQ. ID NO: 428	CDPVICEPSC	50
SEQ. ID NO: 429	CDQGLCQETC	
SEQ. ID NO: 430	CEATTCEPSC	
SEQ. ID NO: 431	CELPCGTTPSC	55
SEQ. ID NO: 432	CEPAICEPSC	
SEQ. ID NO: 433	CEPPCGTAPC	
SEQ. ID NO: 434	CEPPCSAPSC	60
SEQ. ID NO: 435	CEPRSCASSC	
SEQ. ID NO: 436	CEPSACQSGC	
SEQ. ID NO: 437	CEPSCSVSNC	65

**26**

-continued

List of peptide sequences		
SEQ. ID NO: 438	CEPSCSVSSC	
SEQ. ID NO: 439	CEPSPCQSGC	
SEQ. ID NO: 440	CEPTACQPTC	
SEQ. ID NO: 441	CEPTSCQTSC	
SEQ. ID NO: 442	CEPVCLRPVC	
SEQ. ID NO: 443	CETSSCQPRC	
SEQ. ID NO: 444	CETTCFQPTC	
SEQ. ID NO: 445	CFQPTCVSSC	
SEQ. ID NO: 446	CFQPTCVTSC	
SEQ. ID NO: 447	CFQPTCVYSC	
SEQ. ID NO: 448	CGCGFRRRLGC	
SEQ. ID NO: 449	CGCGYRGLDC	
SEQ. ID NO: 450	CGCNGYYGCY	
SEQ. ID NO: 451	CGPGSCYGC	
SEQ. ID NO: 452	CGGSGCGGSC	
SEQ. ID NO: 453	CGGSGSSCCV	
SEQ. ID NO: 454	CGGVSCHTTC	
SEQ. ID NO: 455	CGKGGCGSCG	
SEQ. ID NO: 456	CGKRGCGSCG	
SEQ. ID NO: 457	CGQDLCQETC	
SEQ. ID NO: 458	CGQTSCGSSC	
SEQ. ID NO: 459	CGQVLCQETC	
SEQ. ID NO: 460	CGRDLCQETC	
SEQ. ID NO: 461	CGRVSCHTTC	
SEQ. ID NO: 462	CGSCFGFGSCY	
SEQ. ID NO: 463	CGSCGGSKGC	
SEQ. ID NO: 464	CGSGCGVPVC	
SEQ. ID NO: 465	CGSLLCRPTC	
SEQ. ID NO: 466	CGSRCYVPVC	
SEQ. ID NO: 467	CGSSSCGPQC	
SEQ. ID NO: 468	CGSVCSDQGC	
SEQ. ID NO: 469	CGSVCSDQSC	
SEQ. ID NO: 470	CGSVCSHQGC	
SEQ. ID NO: 471	CGSYGCSQCS	
SEQ. ID NO: 472	CGVCLPSTCP	
SEQ. ID NO: 473	CGYEGERYGC	
SEQ. ID NO: 474	CGYGCGYGCG	
SEQ. ID NO: 475	CGYGGCGYGC	
SEQ. ID NO: 476	CGYGSFCGCG	

## US 12,383,484 B2

**27**

-continued

List of peptide sequences		
SEQ. ID NO: 477	CGYGSGCGCG	5
SEQ. ID NO: 478	CHPSCGMSSC	
SEQ. ID NO: 479	CHPSCSISSC	
SEQ. ID NO: 480	CHPTCYQTIC	10
SEQ. ID NO: 481	CHTSCSPACQ	
SEQ. ID NO: 482	CHTSCSSGCCQ	
SEQ. ID NO: 483	CHTTCYRPAC	15
SEQ. ID NO: 484	CHTTCYRPTC	
SEQ. ID NO: 485	CIHSPCQASC	
SEQ. ID NO: 486	CIHSTHGCN	20
SEQ. ID NO: 487	CIRSPCQASC	
SEQ. ID NO: 488	CISSCYRPQC	
SEQ. ID NO: 489	CISSPCQQSC	25
SEQ. ID NO: 490	CKPCSSQSSC	
SEQ. ID NO: 491	CKPSCSQSSC	
SEQ. ID NO: 492	CKPVCFKPIC	30
SEQ. ID NO: 493	CKPVCYVPTC	
SEQ. ID NO: 494	CKPVSCVPVC	
SEQ. ID NO: 495	CKPVYCVPVC	35
SEQ. ID NO: 496	CKTVYCKPIC	
SEQ. ID NO: 497	CLNQSCGSNC	
SEQ. ID NO: 498	CLNQSCGSSC	
SEQ. ID NO: 499	CLPGCLNQSC	40
SEQ. ID NO: 500	CLPGSCDSCS	
SEQ. ID NO: 501	CLPPCYLVSC	
SEQ. ID NO: 502	CLPTSCQPSC	45
SEQ. ID NO: 503	CLSFLCRPAC	
SEQ. ID NO: 504	CLVSSCQPSC	
SEQ. ID NO: 505	CMPSPCQPAC	50
SEQ. ID NO: 506	CMSGSCQAAC	
SEQ. ID NO: 507	CNESSYCLPC	
SEQ. ID NO: 508	CPASCVSLLC	55
SEQ. ID NO: 509	CPMACPGSPC	
SEQ. ID NO: 510	CPSSCTAVVC	
SEQ. ID NO: 511	CPVTCEPSPC	60
SEQ. ID NO: 512	CQAACEPSAC	
SEQ. ID NO: 513	CQAACEPSPC	
SEQ. ID NO: 514	CQAACGQSVC	65

**28**

-continued

List of peptide sequences		
SEQ. ID NO: 515	CQAPCSTKNC	
SEQ. ID NO: 516	CQAVCEPSPC	
SEQ. ID NO: 517	CQDSCGSSC	
SEQ. ID NO: 518	CQHSSCQPTC	
SEQ. ID NO: 519	CQISSCGTGC	
SEQ. ID NO: 520	CQKSSCQPAC	
SEQ. ID NO: 521	CQPMCSHAAC	
SEQ. ID NO: 522	CQPPCTTALC	
SEQ. ID NO: 523	CQPSCESSFC	
SEQ. ID NO: 524	CQPSCESETC	
SEQ. ID NO: 525	CQPSCTSVLC	
SEQ. ID NO: 526	CQPTCGGSSC	
SEQ. ID NO: 527	CQPTCSRSPC	
SEQ. ID NO: 528	CQPVCPPTPTC	
SEQ. ID NO: 529	CQPVLKCKSSC	
SEQ. ID NO: 530	CQPVVCEPSC	
SEQ. ID NO: 531	CQQPSCQPAC	
SEQ. ID NO: 532	CQQSCRVPVC	
SEQ. ID NO: 533	CQQSCYYVPVC	
SEQ. ID NO: 534	CQQSGCQPAC	
SEQ. ID NO: 535	CQQSSCHPAC	
SEQ. ID NO: 536	CQQSSCKPAC	
SEQ. ID NO: 537	CQQSSCQLAC	
SEQ. ID NO: 538	CQQSSCQPAC	
SEQ. ID NO: 539	CQQSSCQPTC	
SEQ. ID NO: 540	CQQSSCQSAC	
SEQ. ID NO: 541	CQQSSCVSCV	
SEQ. ID NO: 542	CQQSYCVPVC	
SEQ. ID NO: 543	CQSGCISSCT	
SEQ. ID NO: 544	CQSGCTDSCT	
SEQ. ID NO: 545	CQSGCTSSCT	
SEQ. ID NO: 546	CQSSCYRPTC	
SEQ. ID NO: 547	CQSVCYQPTC	
SEQ. ID NO: 548	CQSVYCYQPTC	
SEQ. ID NO: 549	CQTACEPSAC	
SEQ. ID NO: 550	CQTSSCGTGC	
SEQ. ID NO: 551	CQTTCHPSCG	
SEQ. ID NO: 552	CQTTCRPSCG	
SEQ. ID NO: 553	CQTTCYRTTC	

US 12,383,484 B2

**29**

-continued

List of peptide sequences		
SEQ. ID NO: 554	CQTTRCRTTC	5
SEQ. ID NO: 555	CQVTCEPSPC	
SEQ. ID NO: 556	CRNTSCQPTC	
SEQ. ID NO: 557	CRPACSPPLAC	10
SEQ. ID NO: 558	CRPACSRSLAC	
SEQ. ID NO: 559	CRPACSRPAC	
SEQ. ID NO: 560	CRPMCSRPAC	15
SEQ. ID NO: 561	CRPSCGTTTC	
SEQ. ID NO: 562	CRPSCGVSSC	
SEQ. ID NO: 563	CRPSCSISSC	20
SEQ. ID NO: 564	CRPSCSQTTTC	
SEQ. ID NO: 565	CRPSYCGQSC	
SEQ. ID NO: 566	CRPSYCISSC	25
SEQ. ID NO: 567	CRPSYCQTTTC	
SEQ. ID NO: 568	CRPTCSRSLAC	
SEQ. ID NO: 569	CRPTCSSGSC	30
SEQ. ID NO: 570	CRPTSCQNTC	
SEQ. ID NO: 571	CRPVCRSTYC	
SEQ. ID NO: 572	CRPVCSRPAAC	
SEQ. ID NO: 573	CRPVTCVPRC	35
SEQ. ID NO: 574	CRQSSCQPAC	
SEQ. ID NO: 575	CRTTCCFHPI	
SEQ. ID NO: 576	CRTTCCFQPTC	40
SEQ. ID NO: 577	CRTTCYRPSC	
SEQ. ID NO: 578	CRTTYCRPSC	
SEQ. ID NO: 579	CRVTCEPSPC	45
SEQ. ID NO: 580	CRYGCGHRC	
SEQ. ID NO: 581	CSAPCVALLC	
SEQ. ID NO: 582	CSDDSGSCCQ	50
SEQ. ID NO: 583	CSEDSSSSCQ	
SEQ. ID NO: 584	CSEDSYSQCCQ	
SEQ. ID NO: 585	CSEGCGSGCG	55
SEQ. ID NO: 586	CSESSPSCCQ	
SEQ. ID NO: 587	CSESSSSCQ	
SEQ. ID NO: 588	CSFDKSCRCG	60
SEQ. ID NO: 589	CSGASSLCCQ	
SEQ. ID NO: 590	CSGASSPCCQ	
SEQ. ID NO: 591	CSGASSSSCQ	65

**30**

-continued

List of peptide sequences		
SEQ. ID NO: 592	CSGASTSCCQ	
SEQ. ID NO: 593	CSGGCGSGCG	
SEQ. ID NO: 594	CSGGCGSSCG	
SEQ. ID NO: 595	CSGISSSSCQ	
SEQ. ID NO: 596	CSKDSSSSCQ	
SEQ. ID NO: 597	CSKGACGSCG	
SEQ. ID NO: 598	CSLSCGSRSC	
SEQ. ID NO: 599	CSQDLCQETC	
SEQ. ID NO: 600	CSRGCNSGCG	
SEQ. ID NO: 601	CSRLSSACCG	
SEQ. ID NO: 602	CSSCGKGGCG	
SEQ. ID NO: 603	CSSCGKRGCG	
SEQ. ID NO: 604	CSSDKSRCG	
SEQ. ID NO: 605	CSSGNFSSCC	
SEQ. ID NO: 606	CSSSGCGSFC	
SEQ. ID NO: 607	CSSSGCGSSC	
SEQ. ID NO: 608	CSTPCYQPIC	
SEQ. ID NO: 609	CSTTCRTSSC	
SEQ. ID NO: 610	CSWVPACSCT	
SEQ. ID NO: 611	CTFSPCQQAC	
SEQ. ID NO: 612	CTMSVCSSAC	
SEQ. ID NO: 613	CTRPICEPCR	
SEQ. ID NO: 614	CTSSPCQHAC	
SEQ. ID NO: 615	CTSSPCQQAC	
SEQ. ID NO: 616	CTSSPCQQSC	
SEQ. ID NO: 617	CTSSSCQQAC	
SEQ. ID NO: 618	CVALLCRPLC	
SEQ. ID NO: 619	CVALVCEPVC	
SEQ. ID NO: 620	CVFSSCNTTC	
SEQ. ID NO: 621	CVGFVCQPMC	
SEQ. ID NO: 622	CVPRCTRPIC	
SEQ. ID NO: 623	CVPSPCQVAC	
SEQ. ID NO: 624	CVPSRCQASC	
SEQ. ID NO: 625	CVPSSCQASC	
SEQ. ID NO: 626	CVPVCKPVC	
SEQ. ID NO: 627	CVPVCSKSVC	
SEQ. ID NO: 628	CVPVCKPVC	
SEQ. ID NO: 629	CVSLLCRPAC	
SEQ. ID NO: 630	CVSLLCRPMC	

US 12,383,484 B2

**31**

-continued

List of peptide sequences		
SEQ. ID NO: 631	CVSLLCRPTC	5
SEQ. ID NO: 632	CVSLLCRPVC	
SEQ. ID NO: 633	CVSNPCQVTC	
SEQ. ID NO: 634	CVSRCYRPHC	10
SEQ. ID NO: 635	CVSSCFRPQC	
SEQ. ID NO: 636	CVSSICQPIC	
SEQ. ID NO: 637	CVSSPCQPTC	15
SEQ. ID NO: 638	CVVSCTPPSC	
SEQ. ID NO: 639	CVVSCTPPTC	
SEQ. ID NO: 640	CYCPKNSIFC	20
SEQ. ID NO: 641	CYEPCPLPRGC	
SEQ. ID NO: 642	CYRRCYSSCY	
SEQ. ID NO: 643	GCCGYGGLGC	25
SEQ. ID NO: 644	GCGGCGSGCA	
SEQ. ID NO: 645	GCGGCGSGCG	
SEQ. ID NO: 646	GCGGCGSSCG	30
SEQ. ID NO: 647	GCGGCSSSCG	
SEQ. ID NO: 648	GCGGSGSSCC	
SEQ. ID NO: 649	GCGSGCAGCG	35
SEQ. ID NO: 650	GCGSGCGGCG	
SEQ. ID NO: 651	GCGSGCGGCS	
SEQ. ID NO: 652	GCGSSCGGCD	
SEQ. ID NO: 653	GCGSSCGGCG	40
SEQ. ID NO: 654	GCGSSCSQCS	
SEQ. ID NO: 655	GCGYSSSCCG	
SEQ. ID NO: 656	GCKGGCGSCG	45
SEQ. ID NO: 657	GCSGCGSGCG	
SEQ. ID NO: 658	IICSGASSLCC	
SEQ. ID NO: 659	IICSGASSPCC	50
SEQ. ID NO: 660	MCCNYYGNSC	
SEQ. ID NO: 661	MCCNYYYRNSC	
SEQ. ID NO: 662	MCYGYGCGCG	55
SEQ. ID NO: 663	NCCSRNFSSC	
SEQ. ID NO: 664	PCSLQEGCCR	
SEQ. ID NO: 665	PCSSQSSCCV	60
SEQ. ID NO: 666	SCCAPASSCQ	
SEQ. ID NO: 667	SCCAPASTCQ	
SEQ. ID NO: 668	SCCAPTSSCQ	65

**32**

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List of peptide sequences		
SEQ. ID NO: 669	SCCGYRPLCY	
SEQ. ID NO: 670	SCCVPASSCQ	
SEQ. ID NO: 671	SCCVPTSSCQ	
SEQ. ID NO: 672	SCGCSKGACG	
SEQ. ID NO: 673	SCGGCDSSCG	
SEQ. ID NO: 674	SCGGCGSGCG	
SEQ. ID NO: 675	SCGGCGSSCG	
SEQ. ID NO: 676	SCGGCKGGCG	
SEQ. ID NO: 677	SCGGSKGCCG	
SEQ. ID NO: 678	SCGSGCRGCG	
SEQ. ID NO: 679	SCYGCGYGC	
SEQ. ID NO: 680	TCCVPVPSCG	
SEQ. ID NO: 681	TCSDDSGSCC	
SEQ. ID NO: 682	TCSEDSSSCC	
SEQ. ID NO: 683	TCSEDSYSCC	
SEQ. ID NO: 684	TCSESSPSCC	
SEQ. ID NO: 685	TCSESSSSCC	
SEQ. ID NO: 686	TCSKDSSSCC	
SEQ. ID NO: 687	TCSRLLSSACC	
SEQ. ID NO: 688	VCCQPTPICD	
SEQ. ID NO: 689	VCSEDSSSCC	
SEQ. ID NO: 690	VCSGASSLCC	
SEQ. ID NO: 691	VCSGASSPCC	
SEQ. ID NO: 692	VCSGASSSSCC	
SEQ. ID NO: 693	VCSGASTSCC	
SEQ. ID NO: 694	VCSGDSSCCQ	
SEQ. ID NO: 695	VCSGISSSCC	
SEQ. ID NO: 696	YCVPIPSCCA	
SEQ. ID NO: 697	CASSCCTPSC	
SEQ. ID NO: 698	CCDNCPPCH	
SEQ. ID NO: 699	CCEPCLPRGC	
SEQ. ID NO: 700	CCGAASSCCR	
SEQ. ID NO: 701	CCGCGGSGCG	
SEQ. ID NO: 702	CCGPSSSSCCQ	
SEQ. ID NO: 703	CCGSAGGGCG	
SEQ. ID NO: 704	CCKPYCSQCS	
SEQ. ID NO: 705	CCMPVSSCCA	
SEQ. ID NO: 706	CCNYYYRNCCG	
SEQ. ID NO: 707	CCPSCVVSSC	

US 12,383,484 B2

**33**

-continued

List of peptide sequences		
SEQ. ID NO: 708	CCPSYCVSSC	5
SEQ. ID NO: 709	CCQPICGSSC	
SEQ. ID NO: 710	CCQPICVTSC	
SEQ. ID NO: 711	CCQPTCLSSC	10
SEQ. ID NO: 712	CCQPTCLTSC	
SEQ. ID NO: 713	CCQPTCVASC	
SEQ. ID NO: 714	CCQPTCVTSC	15
SEQ. ID NO: 715	CCQPYCHPTC	
SEQ. ID NO: 716	CCQQSSCVSC	
SEQ. ID NO: 717	CCQSSCFKPC	20
SEQ. ID NO: 718	CCQSSCSKPC	
SEQ. ID NO: 719	CCQSSCYKPC	
SEQ. ID NO: 720	CCQTICRSTC	25
SEQ. ID NO: 721	CCQTTCHPSC	
SEQ. ID NO: 722	CCQTTCRPSC	
SEQ. ID NO: 723	CCRVPCTCS	30
SEQ. ID NO: 724	CCSPGCQPTC	
SEQ. ID NO: 725	CCSSGCGSSC	
SEQ. ID NO: 726	CCSSSGCG	
SEQ. ID NO: 727	CCTQEQNCEE	35
SEQ. ID NO: 728	CCVPIPSCCA	
SEQ. ID NO: 729	CCVPISSCCA	
SEQ. ID NO: 730	CCVPVCYQCK	40
SEQ. ID NO: 731	CCVPVPSCCA	
SEQ. ID NO: 732	CCVPVPSCCV	
SEQ. ID NO: 733	CCVPVSSCCA	45
SEQ. ID NO: 734	CDSSCCQPSC	
SEQ. ID NO: 735	CDTCPPPCCK	
SEQ. ID NO: 736	CEPCRRPVCC	50
SEQ. ID NO: 737	CEPSCCQPV	
SEQ. ID NO: 738	CEPSCCSAVC	
SEQ. ID NO: 739	CETSCCQPSC	55
SEQ. ID NO: 740	CETTCCRTTC	
SEQ. ID NO: 741	CFSGCGSSCC	
SEQ. ID NO: 742	CGCSQSNC	60
SEQ. ID NO: 743	CGCSQSSCK	
SEQ. ID NO: 744	CGGGGGCGGC	
SEQ. ID NO: 745	CGGCGGGCCG	65

**34**

-continued

List of peptide sequences		
SEQ. ID NO: 746	CGGCGSGGCCV	
SEQ. ID NO: 747	CGGCGSSCCV	
SEQ. ID NO: 748	CGGGCCGSSC	
SEQ. ID NO: 749	CGGSCCGSSC	
SEQ. ID NO: 750	CGQSCCRPAC	
SEQ. ID NO: 751	CGQSCCRPVC	
SEQ. ID NO: 752	CGSCGCSQCN	
SEQ. ID NO: 753	CGSCGCSQCS	
SEQ. ID NO: 754	CGSFCCQSSC	
SEQ. ID NO: 755	CGSGCCVPVC	
SEQ. ID NO: 756	CGSSCCGSGC	
SEQ. ID NO: 757	CGSSCCQPCY	
SEQ. ID NO: 758	CGSSCCQPIC	
SEQ. ID NO: 759	CGSSCCQPSC	
SEQ. ID NO: 760	CGSSCCQSSC	
SEQ. ID NO: 761	CGSSCCVPIC	
SEQ. ID NO: 762	CGSSCCVPVC	
SEQ. ID NO: 763	CGSSCSQCSC	
SEQ. ID NO: 764	CGYGSCCGCG	
SEQ. ID NO: 765	CHPRCISSC	
SEQ. ID NO: 766	CHPSCCESSC	
SEQ. ID NO: 767	CHPSCCISSC	
SEQ. ID NO: 768	CHPTCCQNTC	
SEQ. ID NO: 769	CHPTCCQTC	
SEQ. ID NO: 770	CHPVCCQTTC	
SEQ. ID NO: 771	CHPVCKSTCC	
SEQ. ID NO: 772	CHPVCRKSTCC	
SEQ. ID NO: 773	CISSCCHPSC	
SEQ. ID NO: 774	CISSCCKPSC	
SEQ. ID NO: 775	CISSCCRPSC	
SEQ. ID NO: 776	CISSCTPSCC	
SEQ. ID NO: 777	CISSCCCPSC	
SEQ. ID NO: 778	CKAVCCVPTC	
SEQ. ID NO: 779	CKPCCSQASC	
SEQ. ID NO: 780	CKPCCSQSSC	
SEQ. ID NO: 781	CKPCCSQSRC	
SEQ. ID NO: 782	CKPCCSSSGC	
SEQ. ID NO: 783	CKPCSCFSGC	
SEQ. ID NO: 784	CKPCSCSSGC	

## US 12,383,484 B2

**35**

-continued

List of peptide sequences		
SEQ. ID NO: 785	CKPCYCSSLGC	5
SEQ. ID NO: 786	CKPICCVPVC	
SEQ. ID NO: 787	CKPQCCQSVC	
SEQ. ID NO: 788	CKPSCCQTTC	10
SEQ. ID NO: 789	CKPVCCAPTC	
SEQ. ID NO: 790	CKPVCCPKIC	
SEQ. ID NO: 791	CKPVCCKSIC	15
SEQ. ID NO: 792	CKPVCCLPTC	
SEQ. ID NO: 793	CKPVCCVPTC	
SEQ. ID NO: 794	CKPVCCVPVC	20
SEQ. ID NO: 795	CKPVCCVSTC	
SEQ. ID NO: 796	CKPYCCQSSC	
SEQ. ID NO: 797	CKPYCSQCSC	25
SEQ. ID NO: 798	CKSNCCVPVC	
SEQ. ID NO: 799	CKTVCCVPVC	
SEQ. ID NO: 800	CLPPCCVVSC	30
SEQ. ID NO: 801	CLTSCCQPSC	
SEQ. ID NO: 802	CNPCCSQSSC	
SEQ. ID NO: 803	CPESCCELPC	35
SEQ. ID NO: 804	CPESCCEPHC	
SEQ. ID NO: 805	CPESCCEPPC	
SEQ. ID NO: 806	CPFSCPPTCC	40
SEQ. ID NO: 807	CPGDCFTCCT	
SEQ. ID NO: 808	CPSCVVSSCC	
SEQ. ID NO: 809	CPSYCVSSCC	45
SEQ. ID NO: 810	CPTTCCRTTC	
SEQ. ID NO: 811	CQETCCRPSC	
SEQ. ID NO: 812	CQHACCVPVC	
SEQ. ID NO: 813	CQNTCCRTTC	50
SEQ. ID NO: 814	CQPACCQPTC	
SEQ. ID NO: 815	CQPACCTASC	
SEQ. ID NO: 816	CQPACCTSSC	55
SEQ. ID NO: 817	CQPACCTTSC	
SEQ. ID NO: 818	CQPACCVPVC	
SEQ. ID NO: 819	CQPACCVSSC	60
SEQ. ID NO: 820	CQPCCCHPTCY	
SEQ. ID NO: 821	CQPCCRPTSC	
SEQ. ID NO: 822	CQPICCGSSC	65

**36**

-continued

List of peptide sequences		
SEQ. ID NO: 823	CQPICGSSCC	
SEQ. ID NO: 824	CQPICVTSCC	
SEQ. ID NO: 825	CQPNCCRPSC	
SEQ. ID NO: 826	CQPRCETSC	
SEQ. ID NO: 827	CQPSCCRPAC	
SEQ. ID NO: 828	CQPSCCSTPC	
SEQ. ID NO: 829	CQPSCCSTTC	
SEQ. ID NO: 830	CQPSCCVPSC	
SEQ. ID NO: 831	CQPSCCVSSC	
SEQ. ID NO: 832	CQPTCCGSSC	
SEQ. ID NO: 833	CQPTCCHPSC	
SEQ. ID NO: 834	CQPTCCQPTC	
SEQ. ID NO: 835	CQPTCCRPRC	
SEQ. ID NO: 836	CQPTCCRPSC	
SEQ. ID NO: 837	CQPTCCRTTC	
SEQ. ID NO: 838	CQPTCLSSCC	
SEQ. ID NO: 839	CQPTCLTSCC	
SEQ. ID NO: 840	CQPTCVASCC	
SEQ. ID NO: 841	CQPTCVTSCC	
SEQ. ID NO: 842	CQPVCCQPTC	
SEQ. ID NO: 843	CQPYCHPTCC	
SEQ. ID NO: 844	CQQACCMPPVC	
SEQ. ID NO: 845	CQQACCVPIC	
SEQ. ID NO: 846	CQQACCVPVC	
SEQ. ID NO: 847	CQQSCCVPVC	
SEQ. ID NO: 848	CQQSCCVSVC	
SEQ. ID NO: 849	CQSMCCQPTC	
SEQ. ID NO: 850	CQSNCCVPVC	
SEQ. ID NO: 851	CQSSCCKPCS	
SEQ. ID NO: 852	CQSSCCQSSC	
SEQ. ID NO: 853	CQSSCCVPVC	
SEQ. ID NO: 854	CQSSCFKPCC	
SEQ. ID NO: 855	CQSSCSKPCC	
SEQ. ID NO: 856	CQSVCCQPTC	
SEQ. ID NO: 857	CQTICRSTCC	
SEQ. ID NO: 858	CQTTCCRPSC	
SEQ. ID NO: 859	CQTTCCRTTC	
SEQ. ID NO: 860	CRATCCRPSC	
SEQ. ID NO: 861	CRGCGPSCCA	

US 12,383,484 B2

**37**

-continued

List of peptide sequences		
SEQ. ID NO: 862	CRPACCEETTC	5
SEQ. ID NO: 863	CRPACCONTC	
SEQ. ID NO: 864	CRPCCWATTC	
SEQ. ID NO: 865	CRPICRPACC	10
SEQ. ID NO: 866	CRPLCCQTTTC	
SEQ. ID NO: 867	CRPQCCQSVC	
SEQ. ID NO: 868	CRPQCCQTTTC	15
SEQ. ID NO: 869	CRPRCCISSC	
SEQ. ID NO: 870	CRPSCEESSC	
SEQ. ID NO: 871	CRPSCCETTC	20
SEQ. ID NO: 872	CRPSCCISSL	
SEQ. ID NO: 873	CRPSCCPKQC	
SEQ. ID NO: 874	CRPSCCMSSC	25
SEQ. ID NO: 875	CRPSCCQTTTC	
SEQ. ID NO: 876	CRPSCCRSPSC	
SEQ. ID NO: 877	CRPSCCVSRC	30
SEQ. ID NO: 878	CRPSCCVSSC	
SEQ. ID NO: 879	CRPTCCETTC	
SEQ. ID NO: 880	CRPTCCQNTC	35
SEQ. ID NO: 881	CRPTCCQTTTC	
SEQ. ID NO: 882	CRPVCCDPCS	
SEQ. ID NO: 883	CRPVCCQTTTC	40
SEQ. ID NO: 884	CRPVQCQPACC	
SEQ. ID NO: 885	CRPVCRPACC	
SEQ. ID NO: 886	CRPVCRPTCC	
SEQ. ID NO: 887	CRPVCRSTCC	45
SEQ. ID NO: 888	CRPYCCESSC	
SEQ. ID NO: 889	CRRPVCCDPC	
SEQ. ID NO: 890	CRSQCCQSVC	50
SEQ. ID NO: 891	CRTTCCCHPSC	
SEQ. ID NO: 892	CRTTCCQPIIC	
SEQ. ID NO: 893	CRTTCCQPTC	55
SEQ. ID NO: 894	CRTTCCRPSC	
SEQ. ID NO: 895	CRTTCCRTTC	
SEQ. ID NO: 896	CSCSSCGSCA	60
SEQ. ID NO: 897	CSCSSCGSCG	
SEQ. ID NO: 898	CSCTSGCG	
SEQ. ID NO: 899	CSPACQPTCC	65

**38**

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List of peptide sequences		
SEQ. ID NO: 900	CSPGCQPTCC	
SEQ. ID NO: 901	CSPSCCQTTTC	
SEQ. ID NO: 902	CSQCSCYKPC	
SEQ. ID NO: 903	CSQSNCKPC	
SEQ. ID NO: 904	CSQSSCCKPC	
SEQ. ID NO: 905	CSSGCGSCCQ	
SEQ. ID NO: 906	CSSGCGSSCC	
SEQ. ID NO: 907	CSSGCQPACC	
SEQ. ID NO: 908	CSSSCCOPSC	
SEQ. ID NO: 909	CSTPCCQPTC	
SEQ. ID NO: 910	CSTTCCQPIIC	
SEQ. ID NO: 911	CTAVVCRPCC	
SEQ. ID NO: 912	CTDSCTPSCC	
SEQ. ID NO: 913	CTPSCCQPAC	
SEQ. ID NO: 914	CTRPICEPCC	
SEQ. ID NO: 915	CTSSCTPSCC	
SEQ. ID NO: 916	CVPACSCSSC	
SEQ. ID NO: 917	CVPACSCTSC	
SEQ. ID NO: 918	CVPVCCKPVC	
SEQ. ID NO: 919	CVPVCCVPTC	
SEQ. ID NO: 920	CVPVCCVPVC	
SEQ. ID NO: 921	CVSCVSSPCC	
SEQ. ID NO: 922	CVSRCCRPQC	
SEQ. ID NO: 923	CVSSCCKPQC	
SEQ. ID NO: 924	CVSSCCQHSC	
SEQ. ID NO: 925	CVSSCCQFPC	
SEQ. ID NO: 926	CVSSCCQPSC	
SEQ. ID NO: 927	CVSSCCRPQC	
SEQ. ID NO: 928	CVSTCCRPTC	
SEQ. ID NO: 929	CVTRCCSTPC	
SEQ. ID NO: 930	CVTSCCQPAC	
SEQ. ID NO: 931	CVTSCCQPSC	
SEQ. ID NO: 932	CVYSCCQFPC	
SEQ. ID NO: 933	CVYSCCQPSC	
SEQ. ID NO: 934	GCCGCSEGCG	
SEQ. ID NO: 935	GCCGCGGGCG	
SEQ. ID NO: 936	GCCGCSRGC	
SEQ. ID NO: 937	GCCRPIITCCP	
SEQ. ID NO: 938	GCGSSCCQCS	

## US 12,383,484 B2

**39**

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List of peptide sequences		
SEQ. ID NO: 939	GCGVPVCCCS	5
SEQ. ID NO: 940	LCCPCQTTCS	
SEQ. ID NO: 941	PCCCLRPVCG	
SEQ. ID NO: 942	PCCCCRPVTCQ	10
SEQ. ID NO: 943	PCCCCVRPVCG	
SEQ. ID NO: 944	PCCSQASCCV	
SEQ. ID NO: 945	PCCSQSRCCV	15
SEQ. ID NO: 946	PCCSQSSCCK	
SEQ. ID NO: 947	PCCSQSSCCV	
SEQ. ID NO: 948	PCCWATTCCQ	20
SEQ. ID NO: 949	QCSCCKPYCS	
SEQ. ID NO: 950	RCYVPVCCCK	
SEQ. ID NO: 951	SCCAPVYCK	25
SEQ. ID NO: 952	SCCISSSSCP	
SEQ. ID NO: 953	SCCVSSCRCP	
SEQ. ID NO: 954	SCGCSQCSY	30
SEQ. ID NO: 955	SCGLENCSCP	
SEQ. ID NO: 956	VCCGASSCCQ	
SEQ. ID NO: 957	VCCGDSSCCQ	
SEQ. ID NO: 958	CASSCCTPSCC	35
SEQ. ID NO: 959	CCCPSCVVSSC	
SEQ. ID NO: 960	CCCPSYCVSSC	
SEQ. ID NO: 961	CCCSSGCGSSC	40
SEQ. ID NO: 962	CCDTCPPPCCK	
SEQ. ID NO: 963	CCEPHCALSC	
SEQ. ID NO: 964	CCEPPCCAPSC	45
SEQ. ID NO: 965	CCEPPCCATSC	
SEQ. ID NO: 966	CCETSCCQPSC	
SEQ. ID NO: 967	CCGSSCCGSGC	50
SEQ. ID NO: 968	CCGSSCCGSSC	
SEQ. ID NO: 969	CCHPRCCISSC	
SEQ. ID NO: 970	CCHPSCCCESSC	55
SEQ. ID NO: 971	CCHPSCCISSL	
SEQ. ID NO: 972	CCHPSCCVSSC	
SEQ. ID NO: 973	CCHPTCCQNTC	60
SEQ. ID NO: 974	CCHPTCCQTC	
SEQ. ID NO: 975	CCISSCCKPSC	
SEQ. ID NO: 976	CCISSCCRPS	65

**40**

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List of peptide sequences		
SEQ. ID NO: 977	CCISSCCKPSC	
SEQ. ID NO: 978	CCKAVCCVPTC	
SEQ. ID NO: 979	CCKPCCSQASC	
SEQ. ID NO: 980	CCKPCCSQSRC	
SEQ. ID NO: 981	CCKPCCSQSSC	
SEQ. ID NO: 982	CCKPCCSSSGC	
SEQ. ID NO: 983	CCKPCSCPSCG	
SEQ. ID NO: 984	CCKPCSCSSGC	
SEQ. ID NO: 985	CCKPCYCSSGC	
SEQ. ID NO: 986	CCKPICCVPVC	
SEQ. ID NO: 987	CCKPQCCQSVC	
SEQ. ID NO: 988	CCKPVCCKPIC	
SEQ. ID NO: 989	CCKPYCCQSSC	
SEQ. ID NO: 990	CCKPYCSQCSC	
SEQ. ID NO: 991	CCMPVCCKPVC	
SEQ. ID NO: 992	CCMPVCCKTVC	
SEQ. ID NO: 993	CCMSSCCKPQC	
SEQ. ID NO: 994	CCNPCCSQSSC	
SEQ. ID NO: 995	CCPGDCFTCCT	
SEQ. ID NO: 996	CCPSCVVSSCC	
SEQ. ID NO: 997	CCPSYCVSSCC	
SEQ. ID NO: 998	CCQNTCCRRTTC	
SEQ. ID NO: 999	CCQPACCVSSC	
SEQ. ID NO: 1000	CCQPCHPTCY	
SEQ. ID NO: 1001	CCQPCCRPTSC	
SEQ. ID NO: 1002	CCQPICGSSCC	
SEQ. ID NO: 1003	CCQPICVTSCC	
SEQ. ID NO: 1004	CCQPNCCRSPC	
SEQ. ID NO: 1005	CCQPSCCETSC	
SEQ. ID NO: 1006	CCQPSCCRPA	
SEQ. ID NO: 1007	CCQPSCCSTPC	
SEQ. ID NO: 1008	CCQPSCCSTTC	
SEQ. ID NO: 1009	CCQPSCCVPSC	
SEQ. ID NO: 1010	CCQPSCCVSSC	
SEQ. ID NO: 1011	CCQPTCCHPSC	
SEQ. ID NO: 1012	CCQPTCCQPTC	
SEQ. ID NO: 1013	CCQPTCCRPRC	
SEQ. ID NO: 1014	CCQPTCCRPS	
SEQ. ID NO: 1015	CCQPTCCRPTC	

US 12,383,484 B2

**41**

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List of peptide sequences		
SEQ. ID NO: 1016	CCQPTCCRRTTC	5
SEQ. ID NO: 1017	CCQPTCLSSCC	
SEQ. ID NO: 1018	CCQPTCLTSCC	
SEQ. ID NO: 1019	CCQPTCVASCC	10
SEQ. ID NO: 1020	CCQPTCVTSCC	
SEQ. ID NO: 1021	CCQPYCHPTCC	
SEQ. ID NO: 1022	CCQSMCCQPTC	15
SEQ. ID NO: 1023	CCQSNCCVPVC	
SEQ. ID NO: 1024	CCQSSCKPKCS	
SEQ. ID NO: 1025	CCQSSCKPKSC	20
SEQ. ID NO: 1026	CCQSSCKPYC	
SEQ. ID NO: 1027	CCQSSCCQSSC	
SEQ. ID NO: 1028	CCQSSCCVPVC	25
SEQ. ID NO: 1029	CCQSSCFKPCC	
SEQ. ID NO: 1030	CCQSSCSKPCC	
SEQ. ID NO: 1031	CCQSSCYKPCC	30
SEQ. ID NO: 1032	CCQSVCCQPTC	
SEQ. ID NO: 1033	CCQTICRSTCC	
SEQ. ID NO: 1034	CCQTTCCRSPC	35
SEQ. ID NO: 1035	CCQTTCCRRTTC	
SEQ. ID NO: 1036	CCRPACETTC	
SEQ. ID NO: 1037	CCRPACCQNTC	40
SEQ. ID NO: 1038	CCRPLCQTTTC	
SEQ. ID NO: 1039	CCRPQCCQSVC	
SEQ. ID NO: 1040	CCRPQCCQTTC	
SEQ. ID NO: 1041	CCRPSCCESSC	45
SEQ. ID NO: 1042	CCRPSCCETTC	
SEQ. ID NO: 1043	CCRPSCCGSSC	
SEQ. ID NO: 1044	CCRPSCCISSC	50
SEQ. ID NO: 1045	CCRPSCCKPQC	
SEQ. ID NO: 1046	CCRPSCCQTTC	
SEQ. ID NO: 1047	CCRPSCCVSRC	55
SEQ. ID NO: 1048	CCRPSCCVSSC	
SEQ. ID NO: 1049	CCRPTCCQNTC	
SEQ. ID NO: 1050	CCRPTCCQTTC	60
SEQ. ID NO: 1051	CCRPVCCDPCS	
SEQ. ID NO: 1052	CCRRTCCQPTC	
SEQ. ID NO: 1053	CCRRTCCRSPC	65

**42**

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List of peptide sequences		
SEQ. ID NO: 1054	CCRTTCCRRTTC	
SEQ. ID NO: 1055	CCSCSSCGSCA	
SEQ. ID NO: 1056	CCSPGCQPTCC	
SEQ. ID NO: 1057	CCSQSSCCKPC	
SEQ. ID NO: 1058	CCSSGCGSCCQ	
SEQ. ID NO: 1059	CCSSGCGSSCC	
SEQ. ID NO: 1060	CCSTPCCQPTC	
SEQ. ID NO: 1061	CCVPACSCSSC	
SEQ. ID NO: 1062	CCVPACSCTSC	
SEQ. ID NO: 1063	CCVPICCKPIC	
SEQ. ID NO: 1064	CCVPICCKPVC	
SEQ. ID NO: 1065	CCVPVCCCKPIC	
SEQ. ID NO: 1066	CCVPVCCVPVC	
SEQ. ID NO: 1067	CCVPVCCKSNC	
SEQ. ID NO: 1068	CCVPVCCKTVC	
SEQ. ID NO: 1069	CCVPVCCSSSC	
SEQ. ID NO: 1070	CCVPVCCVPVC	
SEQ. ID NO: 1071	CCVSSCCKPQC	
SEQ. ID NO: 1072	CCVSSCCQHSC	
SEQ. ID NO: 1073	CCVSSCCQPS	
SEQ. ID NO: 1074	CCVSSCCKPQC	
SEQ. ID NO: 1075	CCVSTCCRPTC	
SEQ. ID NO: 1076	CCVSVCCKPVC	
SEQ. ID NO: 1077	CDSSCCQPS	
SEQ. ID NO: 1078	CEPCCRVPCCD	
SEQ. ID NO: 1079	CFKPCCQSSC	
SEQ. ID NO: 1080	CGDGCCCPSCY	
SEQ. ID NO: 1081	CGGGCCGSSCC	
SEQ. ID NO: 1082	CGGSCCGSSCC	
SEQ. ID NO: 1083	CGLENCCCPSC	
SEQ. ID NO: 1084	CGQSCCRPACC	
SEQ. ID NO: 1085	CGQSCCRPVC	
SEQ. ID NO: 1086	CGSCCQSSCCN	
SEQ. ID NO: 1087	CGSGCGSCQCN	
SEQ. ID NO: 1088	CGSGCGSCQSC	
SEQ. ID NO: 1089	CGSGCCGPVCC	
SEQ. ID NO: 1090	CGSGCCVPVCC	
SEQ. ID NO: 1091	CGSNCCQPCR	
SEQ. ID NO: 1092	CGSSCCQPCCH	

## US 12,383,484 B2

**43**

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List of peptide sequences		
SEQ. ID NO: 1093	CGSSCCQPCCR	5
SEQ. ID NO: 1094	CGSSCCQPCYC	
SEQ. ID NO: 1095	CGSSCCQPSCC	
SEQ. ID NO: 1096	CGSSCCQSSCC	10
SEQ. ID NO: 1097	CGSSCCVPICC	
SEQ. ID NO: 1098	CGSSCCVPVCC	
SEQ. ID NO: 1099	CGSSCSQSCCC	15
SEQ. ID NO: 1100	CGVPVCCCSGS	
SEQ. ID NO: 1101	CHPRCCISSCC	
SEQ. ID NO: 1102	CHPSCCESSCC	20
SEQ. ID NO: 1103	CHPSCCISSCC	
SEQ. ID NO: 1104	CHPTCCQNTCC	
SEQ. ID NO: 1105	CISSCCHPSCC	25
SEQ. ID NO: 1106	CISSCCKPSCC	
SEQ. ID NO: 1107	CISSCCRPSCC	
SEQ. ID NO: 1108	CISSCCCPSCC	30
SEQ. ID NO: 1109	CKPCCCSSGCG	
SEQ. ID NO: 1110	CKPCCSQASCC	
SEQ. ID NO: 1111	CKPCCSQSRCC	35
SEQ. ID NO: 1112	CKPCCSQSSCC	
SEQ. ID NO: 1113	CKPQCCQSMCC	
SEQ. ID NO: 1114	CKPQCCQSVCC	
SEQ. ID NO: 1115	CKPVCCCCPAC	40
SEQ. ID NO: 1116	CKPVCCCKPICC	
SEQ. ID NO: 1117	CKPVCCMPVCC	
SEQ. ID NO: 1118	CKPVCCVPVCC	45
SEQ. ID NO: 1119	CKPVCCVSVCC	
SEQ. ID NO: 1120	CKPYCSQSCCC	
SEQ. ID NO: 1121	CLPCCRPTCCQ	50
SEQ. ID NO: 1122	CLTSCCQPSCC	
SEQ. ID NO: 1123	CMSSCCPKQCC	
SEQ. ID NO: 1124	CNPCCSQSSCC	55
SEQ. ID NO: 1125	CPACCVSSCCQ	
SEQ. ID NO: 1126	CPESCCEPHCC	
SEQ. ID NO: 1127	CPESCCEPPCC	60
SEQ. ID NO: 1128	CPSCCESSCCR	
SEQ. ID NO: 1129	CPSCCQTTCCR	
SEQ. ID NO: 1130	CPSCCVSSCCR	65

**44**

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List of peptide sequences		
SEQ. ID NO: 1131	CQCSCCKPYCS	
SEQ. ID NO: 1132	CQETCCRPSCC	
SEQ. ID NO: 1133	CQNTCCRTTCC	
SEQ. ID NO: 1134	CQPACCTASCC	
SEQ. ID NO: 1135	CQPACCTSSCC	
SEQ. ID NO: 1136	CQPACCTTSCC	
SEQ. ID NO: 1137	CQPACCVPVCC	
SEQ. ID NO: 1138	CQPACCVSSCC	
SEQ. ID NO: 1139	CQPCCCHPTCCQ	
SEQ. ID NO: 1140	CQPCCRPAcce	
SEQ. ID NO: 1141	CQPCCRPAccQ	
SEQ. ID NO: 1142	CQPCCRPTCCQ	
SEQ. ID NO: 1143	CQPCYCPACCV	
SEQ. ID NO: 1144	CQPICCGSSCC	
SEQ. ID NO: 1145	CQPRCCETSCC	
SEQ. ID NO: 1146	CQPSCCETSCC	
SEQ. ID NO: 1147	CQPSCCRPACC	
SEQ. ID NO: 1148	CQPSCCVPSCC	
SEQ. ID NO: 1149	CQPSCCVSSCC	
SEQ. ID NO: 1150	CQPTCCCPSYC	
SEQ. ID NO: 1151	CQPTCCGSSCC	
SEQ. ID NO: 1152	CQPTCCHPSCC	
SEQ. ID NO: 1153	CQPTCCQPTCC	
SEQ. ID NO: 1154	CQPTCCRPTSCC	
SEQ. ID NO: 1155	CQPTCCRPTCC	
SEQ. ID NO: 1156	CQPTCCRTTCC	
SEQ. ID NO: 1157	CQQACCMVPCC	
SEQ. ID NO: 1158	CQQACCVPICC	
SEQ. ID NO: 1159	CQQACCVPVCC	
SEQ. ID NO: 1160	CQQSCCVPVCC	
SEQ. ID NO: 1161	CQQSCCVSVCC	
SEQ. ID NO: 1162	CQSNCVPVCC	
SEQ. ID NO: 1163	CQSSCCCPASC	
SEQ. ID NO: 1164	CQSSCCKPCCS	
SEQ. ID NO: 1165	CQSSCCKPSCC	
SEQ. ID NO: 1166	CQSSCCCKPYCC	
SEQ. ID NO: 1167	CQSSCCNPCCS	
SEQ. ID NO: 1168	CQSSCCQSSCC	
SEQ. ID NO: 1169	CQSSCCVPVCC	

**45**

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List of peptide sequences		
SEQ. ID NO: 1170	CQSSCFKPCCC	5
SEQ. ID NO: 1171	CQSSCSKPCCC	
SEQ. ID NO: 1172	CQSSCYKPCCC	
SEQ. ID NO: 1173	CQSVCCQPTCC	10
SEQ. ID NO: 1174	CQTTCCCPSCV	
SEQ. ID NO: 1175	CQTTCCRPSCC	
SEQ. ID NO: 1176	CQTTCCRRTCC	15
SEQ. ID NO: 1177	CRPACCETTCC	
SEQ. ID NO: 1178	CRPACCQNTCC	
SEQ. ID NO: 1179	CRPCCCLRPVC	20
SEQ. ID NO: 1180	CRPCCCVRPVC	
SEQ. ID NO: 1181	CRPCCWATTCC	
SEQ. ID NO: 1182	CRPLCCQTTCC	25
SEQ. ID NO: 1183	CRPQCCQSVCC	
SEQ. ID NO: 1184	CRPQCCQTTCC	
SEQ. ID NO: 1185	CRPRCCISSLCC	30
SEQ. ID NO: 1186	CRPSCCCESSCC	
SEQ. ID NO: 1187	CRPSCCISSLCC	
SEQ. ID NO: 1188	CRPSCCPKQCC	35
SEQ. ID NO: 1189	CRPSCCPSCCQ	
SEQ. ID NO: 1190	CRPSCCQTTCC	
SEQ. ID NO: 1191	CRPSCCRQCC	
SEQ. ID NO: 1192	CRPSCCVSRCC	40
SEQ. ID NO: 1193	CRPSCCVSSCC	
SEQ. ID NO: 1194	CRPTCCQNTCC	
SEQ. ID NO: 1195	CRPVCCCEPTC	45
SEQ. ID NO: 1196	CRPVCCCCYSCE	
SEQ. ID NO: 1197	CRTTCCHPSCC	
SEQ. ID NO: 1198	CRTTCCRSPSCC	50
SEQ. ID NO: 1199	CSCCKPYCSQC	
SEQ. ID NO: 1200	CSKPCCCCQSSC	
SEQ. ID NO: 1201	CSPCCQPTCCR	55
SEQ. ID NO: 1202	CSPCCVSSCCQ	
SEQ. ID NO: 1203	CSQCSCKPCY	
SEQ. ID NO: 1204	CSQCSCKPCC	
SEQ. ID NO: 1205	CSQSNCKPCC	
SEQ. ID NO: 1206	CSQSSCKPCC	
SEQ. ID NO: 1207	CSSSCCQPSCC	

**46**

-continued

List of peptide sequences		
SEQ. ID NO: 1208	CTPSCCQPACC	
SEQ. ID NO: 1209	CVASCCQPSCC	
SEQ. ID NO: 1210	CVPICCCKPVC	
SEQ. ID NO: 1211	CVPSCCQPCCH	
SEQ. ID NO: 1212	CVPVCCCKPMC	
SEQ. ID NO: 1213	CVPVCCCKPVC	
SEQ. ID NO: 1214	CVPVCCCKPVCC	
SEQ. ID NO: 1215	CVSSCCKPQCC	
SEQ. ID NO: 1216	CVSSCCQHSCC	
SEQ. ID NO: 1217	CVSSCCQPCCH	
SEQ. ID NO: 1218	CVSSCCQPCCR	
SEQ. ID NO: 1219	CVSSCCQPFCC	
SEQ. ID NO: 1220	CVSSCCQPSCC	
SEQ. ID NO: 1221	CVSSCCRPQCC	
SEQ. ID NO: 1222	CVTRCCSTPCC	
SEQ. ID NO: 1223	CVTSCCQPACC	
SEQ. ID NO: 1224	CVTSCCQPSCC	
SEQ. ID NO: 1225	CVYSCCQPFCC	
SEQ. ID NO: 1226	CVYSCCQPSCC	
SEQ. ID NO: 1227	CYCPACCVSSC	
SEQ. ID NO: 1228	CYKPCCCQSSC	
SEQ. ID NO: 1229	CYKPCCCSSGC	
SEQ. ID NO: 1230	MCCCVPACSCS	
SEQ. ID NO: 1231	NCCVPVCCQCK	
SEQ. ID NO: 1232	QCSCCKPCYCS	
SEQ. ID NO: 1233	QCSCYKPCCCS	
SEQ. ID NO: 1234	SCCVPICCQCK	
SEQ. ID NO: 1235	SCCVPVCCQCK	
SEQ. ID NO: 1236	SCGCSQCNCCK	
SEQ. ID NO: 1237	SCGCSQCSCCK	
SEQ. ID NO: 1238	VCCCVPACSCS	
SEQ. ID NO: 1239	VCCCVPACSCT	

The present invention is of course in any way restricted to the embodiments herein described and one with ordinary skill in the area can provide many possibilities to modifications and substitutions of technical characteristics by equivalent ones, depending on each situation, as defined in the claims.

The preferred embodiments described above may obviously be combined. The following claims define further preferred embodiments.

## SEQUENCE LISTING

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Sequence total quantity: 1239
SEQ ID NO: 1      moltype = AA length = 10
FEATURE
source          Location/Qualifiers
1..10           mol_type = protein
                organism = Homo sapiens
SEQUENCE: 1
APCAPRPSCG                                10

SEQ ID NO: 2      moltype = AA length = 10
FEATURE
source          Location/Qualifiers
1..10           mol_type = protein
                organism = Homo sapiens
SEQUENCE: 2
EACVPSVPCP                                10

SEQ ID NO: 3      moltype = AA length = 10
FEATURE
source          Location/Qualifiers
1..10           mol_type = protein
                organism = Homo sapiens
SEQUENCE: 3
ESCGTASGCA                                10

SEQ ID NO: 4      moltype = AA length = 10
FEATURE
source          Location/Qualifiers
1..10           mol_type = protein
                organism = Homo sapiens
SEQUENCE: 4
GLCAGTSACL                                10

SEQ ID NO: 5      moltype = AA length = 10
FEATURE
source          Location/Qualifiers
1..10           mol_type = protein
                organism = Homo sapiens
SEQUENCE: 5
GVCGPSPPCI                                10

SEQ ID NO: 6      moltype = AA length = 10
FEATURE
source          Location/Qualifiers
1..10           mol_type = protein
                organism = Homo sapiens
SEQUENCE: 6
HGCTLPGACN                                10

SEQ ID NO: 7      moltype = AA length = 10
FEATURE
source          Location/Qualifiers
1..10           mol_type = protein
                organism = Homo sapiens
SEQUENCE: 7
HSCTLPGACN                                10

SEQ ID NO: 8      moltype = AA length = 10
FEATURE
source          Location/Qualifiers
1..10           mol_type = protein
                organism = Homo sapiens
SEQUENCE: 8
KDCLQNSLCE                                10

SEQ ID NO: 9      moltype = AA length = 10
FEATURE
source          Location/Qualifiers
1..10           mol_type = protein
                organism = Homo sapiens
SEQUENCE: 9
LPCLPAASCG                                10

SEQ ID NO: 10     moltype = AA length = 10
FEATURE
source          Location/Qualifiers
1..10           mol_type = protein
                organism = Homo sapiens

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SEQUENCE: 10	
LPCYFTGSCN	10
SEQ ID NO: 11	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 11	
NFCLPSLSCR	10
SEQ ID NO: 12	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 12	
NPCATTNACD	10
SEQ ID NO: 13	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 13	
NPCATTNACE	10
SEQ ID NO: 14	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 14	
NPCATTNACS	10
SEQ ID NO: 15	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 15	
NPCGLRARG	10
SEQ ID NO: 16	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 16	
NPCGPRSRG	10
SEQ ID NO: 17	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 17	
NPCSTPASCT	10
SEQ ID NO: 18	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 18	
NPCSTSPSCV	10
SEQ ID NO: 19	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 19	
PACTSSSPCS	10
SEQ ID NO: 20	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein

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SEQUENCE: 20 SKCHESTVCP	organism = Homo sapiens	
		10
SEQ ID NO: 21 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 21 SPCVPTVVCV		10
SEQ ID NO: 22 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 22 SSCSVETACL		10
SEQ ID NO: 23 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 23 SVCSSGVNCR		10
SEQ ID NO: 24 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 24 TACPLPGTCH		10
SEQ ID NO: 25 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 25 TNCSPPRPICV		10
SEQ ID NO: 26 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 26 TSCVPPAPCT		10
SEQ ID NO: 27 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 27 TTCTSSNTCE		10
SEQ ID NO: 28 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 28 VPCVPSVPCT		10
SEQ ID NO: 29 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 29 ATCGPSACIT		10
SEQ ID NO: 30 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10	

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SEQUENCE: 30	mol_type = protein organism = Homo sapiens	
		10
SEQ ID NO: 31	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 31	organism = Homo sapiens	
GPCLSNPCTS		10
SEQ ID NO: 32	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 32	organism = Homo sapiens	
GSCVTNPCGP		10
SEQ ID NO: 33	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 33	organism = Homo sapiens	
LTCFSITCSS		10
SEQ ID NO: 34	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 34	organism = Homo sapiens	
NPCSTPSCTT		10
SEQ ID NO: 35	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 35	organism = Homo sapiens	
PSCVTAPCAP		10
SEQ ID NO: 36	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 36	organism = Homo sapiens	
SDCSSTHCSP		10
SEQ ID NO: 37	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 37	organism = Homo sapiens	
SLCLPPPTCHT		10
SEQ ID NO: 38	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 38	organism = Homo sapiens	
SLCNLGSCGP		10
SEQ ID NO: 39	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 39	organism = Homo sapiens	
SPCLVGNCAW		10
SEQ ID NO: 40	moltype = AA length = 10	
FEATURE	Location/Qualifiers	

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source          1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 40
TACLPGTCA      10

SEQ ID NO: 41      moltype = AA length = 10
FEATURE          Location/Qualifiers
source           1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 41
TSCLPALCLP      10

SEQ ID NO: 42      moltype = AA length = 10
FEATURE          Location/Qualifiers
source           1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 42
TSCSSSRPCVP     10

SEQ ID NO: 43      moltype = AA length = 10
FEATURE          Location/Qualifiers
source           1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 43
TTCGGGSGCV      10

SEQ ID NO: 44      moltype = AA length = 10
FEATURE          Location/Qualifiers
source           1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 44
VNCRPELCLG      10

SEQ ID NO: 45      moltype = AA length = 10
FEATURE          Location/Qualifiers
source           1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 45
YVCQPMACLP      10

SEQ ID NO: 46      moltype = AA length = 10
FEATURE          Location/Qualifiers
source           1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 46
AFSCISACGP      10

SEQ ID NO: 47      moltype = AA length = 10
FEATURE          Location/Qualifiers
source           1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 47
GSVCSAPCNG      10

SEQ ID NO: 48      moltype = AA length = 10
FEATURE          Location/Qualifiers
source           1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 48
GVVCGDLCAS      10

SEQ ID NO: 49      moltype = AA length = 10
FEATURE          Location/Qualifiers
source           1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 49
GVVCGDLCVS      10

SEQ ID NO: 50      moltype = AA length = 10

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FEATURE source	Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 50 LTGCLLPCYF		10
SEQ ID NO: 51 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 51 NEDCKLPCNP		10
SEQ ID NO: 52 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 52 NFSCV р SACGP		10
SEQ ID NO: 53 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 53 PPTCHTACPL		10
SEQ ID NO: 54 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 54 PQPCATACKP		10
SEQ ID NO: 55 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 55 SEDKLPCNP		10
SEQ ID NO: 56 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 56 SLGCRTSCSS		10
SEQ ID NO: 57 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 57 SLSCRTSCSS		10
SEQ ID NO: 58 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 58 SSSCPLGCTM		10
SEQ ID NO: 59 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 59 TGSCNSPCLV		10

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SEQ ID NO: 60      moltype = AA  length = 10
FEATURE
source
1..10
mol_type = protein
organism = Homo sapiens
SEQUENCE: 60
TSSCPLGCTM

SEQ ID NO: 61      moltype = AA  length = 10
FEATURE
source
1..10
mol_type = protein
organism = Homo sapiens
SEQUENCE: 61
VGSCGSSCRK

SEQ ID NO: 62      moltype = AA  length = 10
FEATURE
source
1..10
mol_type = protein
organism = Homo sapiens
SEQUENCE: 62
VGVCGGSCKR

SEQ ID NO: 63      moltype = AA  length = 10
FEATURE
source
1..10
mol_type = protein
organism = Homo sapiens
SEQUENCE: 63
VSNCNWFCEG

SEQ ID NO: 64      moltype = AA  length = 10
FEATURE
source
1..10
mol_type = protein
organism = Homo sapiens
SEQUENCE: 64
ACGPRPGRCC

SEQ ID NO: 65      moltype = AA  length = 10
FEATURE
source
1..10
mol_type = protein
organism = Homo sapiens
SEQUENCE: 65
ACGPRPSRCC

SEQ ID NO: 66      moltype = AA  length = 10
FEATURE
source
1..10
mol_type = protein
organism = Homo sapiens
SEQUENCE: 66
CAPRPSCGPC

SEQ ID NO: 67      moltype = AA  length = 10
FEATURE
source
1..10
mol_type = protein
organism = Homo sapiens
SEQUENCE: 67
CEPCSAYVIC

SEQ ID NO: 68      moltype = AA  length = 10
FEATURE
source
1..10
mol_type = protein
organism = Homo sapiens
SEQUENCE: 68
CGLRARCGPC

SEQ ID NO: 69      moltype = AA  length = 10
FEATURE
source
1..10
mol_type = protein
organism = Homo sapiens
SEQUENCE: 69
CGPRPGRCCI

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SEQ ID NO: 70 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 70 CGPRPSRCCI	10
SEQ ID NO: 71 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 71 CGPRSRGCGC	10
SEQ ID NO: 72 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 72 CGTSQKGCCN	10
SEQ ID NO: 73 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 73 CHGCTLPGAC	10
SEQ ID NO: 74 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 74 CHSCTLPGAC	10
SEQ ID NO: 75 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 75 CLPCLPAASC	10
SEQ ID NO: 76 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 76 CLPPTCTHTAC	10
SEQ ID NO: 77 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 77 CLSNPCTSCV	10
SEQ ID NO: 78 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 78 CLVGNCAWCE	10
SEQ ID NO: 79 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 79	

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CNP C S T P A S C	10
SEQ ID NO: 80 FEATURE source SEQUENCE: 80	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
CNP C S T P S C T	10
SEQ ID NO: 81 FEATURE source SEQUENCE: 81	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
CNP C S T S P S C	10
SEQ ID NO: 82 FEATURE source SEQUENCE: 82	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
C N S P C L V G N C	10
SEQ ID NO: 83 FEATURE source SEQUENCE: 83	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
C R T S C S S R P C	10
SEQ ID NO: 84 FEATURE source SEQUENCE: 84	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
C S L K E H C S A C	10
SEQ ID NO: 85 FEATURE source SEQUENCE: 85	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
C S P R P I C V P C	10
SEQ ID NO: 86 FEATURE source SEQUENCE: 86	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
C S S T M S Y S C C	10
SEQ ID NO: 87 FEATURE source SEQUENCE: 87	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
C S T P A S C T S C	10
SEQ ID NO: 88 FEATURE source SEQUENCE: 88	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
C S T P S C T T C V	10
SEQ ID NO: 89 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens

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SEQUENCE: 89 CTSCVPPAPC	10
SEQ ID NO: 90 FEATURE source moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 90 CTSSNTCEPC	10
SEQ ID NO: 91 FEATURE source moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 91 CVPPAPCTPC	10
SEQ ID NO: 92 FEATURE source moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 92 CVPPSCHGCT	10
SEQ ID NO: 93 FEATURE source moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 93 CVPPSCHSCT	10
SEQ ID NO: 94 FEATURE source moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 94 DCKLPCNPCA	10
SEQ ID NO: 95 FEATURE source moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 95 DCKLPCNPSC	10
SEQ ID NO: 96 FEATURE source moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 96 PCGTSQKGCC	10
SEQ ID NO: 97 FEATURE source moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 97 PCLSNPCTSC	10
SEQ ID NO: 98 FEATURE source moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 98 PCLVGNGCAWC	10
SEQ ID NO: 99 FEATURE source moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein	

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	organism = Homo sapiens	
SEQUENCE: 99 PCNPCSTPSC		10
SEQ ID NO: 100 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 100 PCSTPSCTTC		10
SEQ ID NO: 101 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 101 PCCTCGPTCG		10
SEQ ID NO: 102 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 102 PCVPPSCHGC		10
SEQ ID NO: 103 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 103 PCVPPSCHSC		10
SEQ ID NO: 104 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 104 SCCLPLSLGCR		10
SEQ ID NO: 105 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 105 SCSEELQCCQ		10
SEQ ID NO: 106 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 106 SCSPCSTTCT		10
SEQ ID NO: 107 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 107 ASCSTSGTCG		10
SEQ ID NO: 108 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 108 ASCYIPVGCG		10
SEQ ID NO: 109 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10	

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SEQUENCE: 109          mol_type = protein
                      organism = Homo sapiens
ASCYVPVSCQ                         10

SEQ ID NO: 110          moltype = AA  length = 10
FEATURE
source
1..10
mol_type = protein
organism = Homo sapiens
SEQUENCE: 110          moltype = AA  length = 10
AVCTLPSSCQ                         10

SEQ ID NO: 111          moltype = AA  length = 10
FEATURE
source
1..10
mol_type = protein
organism = Homo sapiens
SEQUENCE: 111          moltype = AA  length = 10
DLCPTSVSCG                         10

SEQ ID NO: 112          moltype = AA  length = 10
FEATURE
source
1..10
mol_type = protein
organism = Homo sapiens
SEQUENCE: 112          moltype = AA  length = 10
EICWEPTSCQ                         10

SEQ ID NO: 113          moltype = AA  length = 10
FEATURE
source
1..10
mol_type = protein
organism = Homo sapiens
SEQUENCE: 113          moltype = AA  length = 10
ETCGEPTSCQ                         10

SEQ ID NO: 114          moltype = AA  length = 10
FEATURE
source
1..10
mol_type = protein
organism = Homo sapiens
SEQUENCE: 114          moltype = AA  length = 10
ETCNETTSCQ                         10

SEQ ID NO: 115          moltype = AA  length = 10
FEATURE
source
1..10
mol_type = protein
organism = Homo sapiens
SEQUENCE: 115          moltype = AA  length = 10
ETCWRPNNSCQ                         10

SEQ ID NO: 116          moltype = AA  length = 10
FEATURE
source
1..10
mol_type = protein
organism = Homo sapiens
SEQUENCE: 116          moltype = AA  length = 10
GYCGYRPFCF                         10

SEQ ID NO: 117          moltype = AA  length = 10
FEATURE
source
1..10
mol_type = protein
organism = Homo sapiens
SEQUENCE: 117          moltype = AA  length = 10
KTCWEPASCQ                         10

SEQ ID NO: 118          moltype = AA  length = 10
FEATURE
source
1..10
mol_type = protein
organism = Homo sapiens
SEQUENCE: 118          moltype = AA  length = 10
KTCWEPTSCQ                         10

SEQ ID NO: 119          moltype = AA  length = 10
FEATURE

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source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 119 LDCVDTTPCK		10
SEQ ID NO: 120 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 120 LGGGYGSFCG		10
SEQ ID NO: 121 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 121 NSCGYGSGCG		10
SEQ ID NO: 122 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 122 NYCPSNTMCE		10
SEQ ID NO: 123 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 123 PACVTSYSCR		10
SEQ ID NO: 124 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 124 PDCHVEGTCL		10
SEQ ID NO: 125 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 125 PDCRVEGTCL		10
SEQ ID NO: 126 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 126 PICSEPPSPCS		10
SEQ ID NO: 127 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 127 PICYIFKPCQ		10
SEQ ID NO: 128 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 128 PLCYISNSCQ		10
SEQ ID NO: 129	moltype = AA length = 10	

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FEATURE source	Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 129 PPCGQPTPCS		10
SEQ ID NO: 130 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 130 PPCHIPQPCV		10
SEQ ID NO: 131 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 131 PSCGRLASCG		10
SEQ ID NO: 132 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 132 PSCSESSICQ		10
SEQ ID NO: 133 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 133 PSCSEVTSCP		10
SEQ ID NO: 134 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 134 PSCSTSGTCG		10
SEQ ID NO: 135 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 135 PSCSVSSGCQ		10
SEQ ID NO: 136 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 136 PSCTESDSCK		10
SEQ ID NO: 137 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 137 PSCYQTSSCG		10
SEQ ID NO: 138 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 138 PTCFLLNSCQ		10

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SEQ ID NO: 139	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 139	
PTCSVTSQ	10
SEQ ID NO: 140	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 140	
PTCWLLNNCH	10
SEQ ID NO: 141	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 141	
PTCYQRTSCV	10
SEQ ID NO: 142	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 142	
PTCYRRTSCV	10
SEQ ID NO: 143	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 143	
PTCYVVVKRP	10
SEQ ID NO: 144	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 144	
PVCFEATICE	10
SEQ ID NO: 145	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 145	
PVCFEATVCE	10
SEQ ID NO: 146	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 146	
PVCSRPAACS	10
SEQ ID NO: 147	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 147	
PVCSWVPACS	10
SEQ ID NO: 148	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 148	
QTCNESSYCL	10

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SEQ ID NO: 149 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 149 QTCWEPTSCQ	10
SEQ ID NO: 150 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 150 SFCRLGYGCG	10
SEQ ID NO: 151 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 151 SFCRRGSGCG	10
SEQ ID NO: 152 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 152 SLCGYGYGCG	10
SEQ ID NO: 153 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 153 SLCSTEVSCG	10
SEQ ID NO: 154 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 154 SNCFGQLNCL	10
SEQ ID NO: 155 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 155 SPCGQPTPCS	10
SEQ ID NO: 156 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 156 SSCDQSSCA	10
SEQ ID NO: 157 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 157 SSCGQSSCA	10
SEQ ID NO: 158 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 158	

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SVCPEPVSCP	10
SEQ ID NO: 159	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 159	
TFCSFDKSCR	10
SEQ ID NO: 160	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 160	
TICSSDKSCR	10
SEQ ID NO: 161	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 161	
TLCVESSPCH	10
SEQ ID NO: 162	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 162	
TPCYQQSSCQ	10
SEQ ID NO: 163	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 163	
VTCSRQTTCI	10
SEQ ID NO: 164	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 164	
YGCGYGSGCG	10
SEQ ID NO: 165	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 165	
YGCGYGSGCR	10
SEQ ID NO: 166	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 166	
YGCIHSTHCG	10
SEQ ID NO: 167	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 167	
AACEPSACQS	10
SEQ ID NO: 168	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens

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SEQUENCE: 168 AACEPSPCQS	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	10
SEQ ID NO: 169 FEATURE source		
SEQUENCE: 169 AACTMSVCSS		10
SEQ ID NO: 170 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 170 ADCLGGICLP		10
SEQ ID NO: 171 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 171 ALCLPSSCHS		10
SEQ ID NO: 172 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 172 ALCSPSTCQL		10
SEQ ID NO: 173 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 173 APCLALVCAP		10
SEQ ID NO: 174 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 174 APCLSLVCTP		10
SEQ ID NO: 175 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 175 APCLTLVCTP		10
SEQ ID NO: 176 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 176 APCVALLCRP		10
SEQ ID NO: 177 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 177 ASCGSLLCRP		10
SEQ ID NO: 178 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein	

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	organism = Homo sapiens	
SEQUENCE: 178 ASCLSFLLCRP		10
SEQ ID NO: 179 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein	
SEQUENCE: 179 ASCVSLLCRP	organism = Homo sapiens	10
SEQ ID NO: 180 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein	
SEQUENCE: 180 AVCEPSPCQS	organism = Homo sapiens	10
SEQ ID NO: 181 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein	
SEQUENCE: 181 AVCLPVSCQS	organism = Homo sapiens	10
SEQ ID NO: 182 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein	
SEQUENCE: 182 AVCPVRCQS	organism = Homo sapiens	10
SEQ ID NO: 183 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein	
SEQUENCE: 183 AVCVPVSCQS	organism = Homo sapiens	10
SEQ ID NO: 184 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein	
SEQUENCE: 184 DLCPSTCQL	organism = Homo sapiens	10
SEQ ID NO: 185 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein	
SEQUENCE: 185 DSCGSSSCGP	organism = Homo sapiens	10
SEQ ID NO: 186 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein	
SEQUENCE: 186 DSCVQSNCFP	organism = Homo sapiens	10
SEQ ID NO: 187 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein	
SEQUENCE: 187 FNCSTRNCSS	organism = Homo sapiens	10
SEQ ID NO: 188 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10	

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	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 188	
GGCGSYGCSQ	10
SEQ ID NO: 189	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 189	
GSCGFGSCYG	10
SEQ ID NO: 190	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 190	
GSCSSRKCF	10
SEQ ID NO: 191	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 191	
GVCLPSTCPH	10
SEQ ID NO: 192	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 192	
HSCEGYLCYS	10
SEQ ID NO: 193	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 193	
IVCAAPSCQS	10
SEQ ID NO: 194	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 194	
KTCSTTGCDP	10
SEQ ID NO: 195	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 195	
LACVSQPCQS	10
SEQ ID NO: 196	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 196	
LGCGYGGCGY	10
SEQ ID NO: 197	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 197	
LSCGSRSRSCSS	10
SEQ ID NO: 198	moltype = AA length = 10
FEATURE	Location/Qualifiers

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source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 198 LVCTPVSCVS		10
SEQ ID NO: 199 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 199 NGCQETYCEP		10
SEQ ID NO: 200 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 200 NSCRSLSCGS		10
SEQ ID NO: 201 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 201 PACVISTCPR		10
SEQ ID NO: 202 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 202 PGCLNQSCGS		10
SEQ ID NO: 203 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 203 PPCGTAPCLT		10
SEQ ID NO: 204 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 204 PPCTTALCRP		10
SEQ ID NO: 205 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 205 PPCYLVSCTP		10
SEQ ID NO: 206 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 206 PRCTRPICEP		10
SEQ ID NO: 207 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 207 PSCPVSSCAQ		10
SEQ ID NO: 208	moltype = AA length = 10	

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FEATURE source	Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 208 PSCQPSVCVP		10
SEQ ID NO: 209 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 209 PSCSVSNCYQ		10
SEQ ID NO: 210 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 210 PSCSVSSCAQ		10
SEQ ID NO: 211 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 211 PSCTSVLCRP		10
SEQ ID NO: 212 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 212 PTCKSPSCEP		10
SEQ ID NO: 213 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 213 PTCVISSLCR		10
SEQ ID NO: 214 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 214 PTCVISTCPR		10
SEQ ID NO: 215 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 215 PTCYQTICFR		10
SEQ ID NO: 216 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 216 PVCGGVVSCHT		10
SEQ ID NO: 217 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 217 PVCGRVVSCHT		10

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SEQ ID NO: 218	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 218	
PVCNKPVCVF	10
SEQ ID NO: 219	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 219	
PVCPTPTCSV	10
SEQ ID NO: 220	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 220	
PVCRSTYCVP	10
SEQ ID NO: 221	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 221	
PVCSKSVCYV	10
SEQ ID NO: 222	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 222	
PVCSRPAEYS	10
SEQ ID NO: 223	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 223	
PVCYVPTCSE	10
SEQ ID NO: 224	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 224	
QFCLSKSCQP	10
SEQ ID NO: 225	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 225	
RPCERTACQS	10
SEQ ID NO: 226	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 226	
RSCQTTSFCGF	10
SEQ ID NO: 227	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 227	
RSCSSLGCGS	10

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SEQ ID NO: 228	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 228	
RSCYSVGCGS	10
SEQ ID NO: 229	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 229	
RVCLPGSCDS	10
SEQ ID NO: 230	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 230	
SFCGFPSCST	10
SEQ ID NO: 231	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 231	
SFCGYPSCST	10
SEQ ID NO: 232	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 232	
SGCDPASCQP	10
SEQ ID NO: 233	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 233	
SGCGGSGCGG	10
SEQ ID NO: 234	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 234	
SGCQPSSCLA	10
SEQ ID NO: 235	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 235	
SHCQPPHCQL	10
SEQ ID NO: 236	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 236	
SICQPATCVA	10
SEQ ID NO: 237	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 237	

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SLCVPVSCRP	10
SEQ ID NO: 238	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 238	
SNCLPTSCQP	10
SEQ ID NO: 239	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 239	
SPCLVSSCQP	10
SEQ ID NO: 240	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 240	
SPCQQSSCQE	10
SEQ ID NO: 241	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 241	
SPCQQSYCVP	10
SEQ ID NO: 242	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 242	
SPCSPAVCVS	10
SEQ ID NO: 243	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 243	
SRCQQPSCQP	10
SEQ ID NO: 244	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 244	
SRCYRPHCGQ	10
SEQ ID NO: 245	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 245	
SSCAPIYCR	10
SEQ ID NO: 246	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 246	
SSCAPVYCRR	10
SEQ ID NO: 247	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens

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SEQUENCE: 247 SSCGKGCGS		10
SEQ ID NO: 248 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 248 SSCGKRGCGS		10
SEQ ID NO: 249 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 249 SSCLPVSCR		10
SEQ ID NO: 250 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 250 SSCQPAYCTS		10
SEQ ID NO: 251 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 251 SSCQPSYCRQ		10
SEQ ID NO: 252 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 252 SSCQPVVCEP		10
SEQ ID NO: 253 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 253 SSCTAVVCRP		10
SEQ ID NO: 254 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 254 SSCYQPFCRS		10
SEQ ID NO: 255 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 255 SSCYRPICGS		10
SEQ ID NO: 256 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 256 SSCYRPTCGS		10
SEQ ID NO: 257 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein	

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	organism = Homo sapiens	
SEQUENCE: 257		
SVCMSGSCQA		10
SEQ ID NO: 258	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 258	organism = Homo sapiens	
SVCSDQGCDQ		10
SEQ ID NO: 259	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 259	organism = Homo sapiens	
SVCSDQGCCG		10
SEQ ID NO: 260	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 260	organism = Homo sapiens	
SVCSDQGCGQ		10
SEQ ID NO: 261	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 261	organism = Homo sapiens	
SVCSDQGCSQ		10
SEQ ID NO: 262	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 262	organism = Homo sapiens	
SVCSDQSCGQ		10
SEQ ID NO: 263	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 263	organism = Homo sapiens	
SVCSHQGCGQ		10
SEQ ID NO: 264	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 264	organism = Homo sapiens	
SVCSHQGCGR		10
SEQ ID NO: 265	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 265	organism = Homo sapiens	
SVCVPVSCRP		10
SEQ ID NO: 266	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 266	organism = Homo sapiens	
SYCRQASCVS		10
SEQ ID NO: 267	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	

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SEQUENCE: 267 TACEPSACQS	mol_type = protein organism = Homo sapiens	
		10
SEQ ID NO: 268 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 268 TICTASPCQP		10
SEQ ID NO: 269 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 269 TSCPETSCLP		10
SEQ ID NO: 270 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 270 TSCQMTNCEQ		10
SEQ ID NO: 271 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 271 TSCQPVH CET		10
SEQ ID NO: 272 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 272 TSCQPVLCKS		10
SEQ ID NO: 273 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 273 TSCQPVLCVP		10
SEQ ID NO: 274 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 274 TSCVGFVCQP		10
SEQ ID NO: 275 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 275 TSCVSNPCQV		10
SEQ ID NO: 276 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 276 TTCFQPTCVS		10
SEQ ID NO: 277 FEATURE	moltype = AA length = 10 Location/Qualifiers	

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source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 277	TTCFQPTCVT	10
SEQ ID NO: 278	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 278	TTCFQPTCVY	10
SEQ ID NO: 279	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 279	TTCISNPCST	10
SEQ ID NO: 280	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 280	TWCQGSSCQP	10
SEQ ID NO: 281	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 281	VGCQSSVCVP	10
SEQ ID NO: 282	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 282	VPCQPSTCVF	10
SEQ ID NO: 283	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 283	VSCEPSPCQS	10
SEQ ID NO: 284	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 284	VSCGGPICLP	10
SEQ ID NO: 285	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 285	VSCKPVLCVA	10
SEQ ID NO: 286	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 286	VSCPSTSCRP	10
SEQ ID NO: 287	moltype = AA length = 10	

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FEATURE source	Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 287 VSCQSSVCMP		10
SEQ ID NO: 288 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 288 VSCTRIVCVA		10
SEQ ID NO: 289 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 289 VTCEPSPCQS		10
SEQ ID NO: 290 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 290 VTCQTTVCRP		10
SEQ ID NO: 291 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 291 YGCGYEGCRY		10
SEQ ID NO: 292 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 292 AGSCQPSCSE		10
SEQ ID NO: 293 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 293 ALLCRPLCGV		10
SEQ ID NO: 294 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 294 ALVCEPVCLR		10
SEQ ID NO: 295 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 295 ATICEPSCSV		10
SEQ ID NO: 296 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 296 ATTCEPSCSV		10

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SEQ ID NO: 297	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 297	
ATVCEPSCSV	10
SEQ ID NO: 298	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 298	
EGTCLPPCYL	10
SEQ ID NO: 299	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 299	
FSTCRPSCSG	10
SEQ ID NO: 300	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 300	
GFVCQPMCSH	10
SEQ ID NO: 301	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 301	
GLDCGYGCGY	10
SEQ ID NO: 302	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 302	
GLGCGYGCY	10
SEQ ID NO: 303	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 303	
GLGCSYGCCH	10
SEQ ID NO: 304	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 304	
GLGCSYGCGL	10
SEQ ID NO: 305	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 305	
GSGCGYGCY	10
SEQ ID NO: 306	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 306	
GTGCGYGCY	10

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SEQ ID NO: 307 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 307 GVSCHTTCYR	10
SEQ ID NO: 308 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 308 GYACCNFPCSY	10
SEQ ID NO: 309 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 309 GYGCGGYGCGF	10
SEQ ID NO: 310 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 310 HSPCQASCYV	10
SEQ ID NO: 311 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 311 HTSCSPACQP	10
SEQ ID NO: 312 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 312 HTCSSGCQP	10
SEQ ID NO: 313 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 313 IRWCHPDCHV	10
SEQ ID NO: 314 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 314 IRWCRPDCRV	10
SEQ ID NO: 315 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 315 ISSCGTGCIG	10
SEQ ID NO: 316 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 316	

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KGGCGSGCGG	10
SEQ ID NO: 317	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 317	
KGGCGSSCSQ	10
SEQ ID NO: 318	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 318	
LVTCDQDSCGS	10
SEQ ID NO: 319	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 319	
LVTCDQESCP	10
SEQ ID NO: 320	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 320	
MSICSSACTD	10
SEQ ID NO: 321	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 321	
MSICSSACTN	10
SEQ ID NO: 322	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 322	
MSVCSSACSD	10
SEQ ID NO: 323	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 323	
PAICEPSCSV	10
SEQ ID NO: 324	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 324	
PASCQKSCYR	10
SEQ ID NO: 325	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 325	
PIYCRRTCYH	10
SEQ ID NO: 326	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens

-continued

SEQUENCE: 326 PNSCQTLCVE	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	10
SEQ ID NO: 327 FEATURE source		
SEQUENCE: 327 PQPCVPTCFL		10
SEQ ID NO: 328 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 328 PSACQSGCTS		10
SEQ ID NO: 329 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 329 PSPCEPSCSE		10
SEQ ID NO: 330 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 330 PSPCQASCYI		10
SEQ ID NO: 331 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 331 PSPCQSGCIS		10
SEQ ID NO: 332 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 332 PSPCQSGCTD		10
SEQ ID NO: 333 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 333 PSPCQSGCTS		10
SEQ ID NO: 334 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 334 PTACQPTCYQ		10
SEQ ID NO: 335 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 335 PTACQPTCYR		10
SEQ ID NO: 336 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein	

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SEQUENCE: 336 PTPCSTTCRT	organism = Homo sapiens	
		10
SEQ ID NO: 337 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 337 PTSCQKSCYR		10
SEQ ID NO: 338 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 338 PTSCQPSCES		10
SEQ ID NO: 339 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 339 PTSCQTSTCL		10
SEQ ID NO: 340 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 340 PVICEPSCSV		10
SEQ ID NO: 341 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 341 PVSCVPVCSG		10
SEQ ID NO: 342 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 342 PVTCVPRCTR		10
SEQ ID NO: 343 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 343 PVYCRRTCYH		10
SEQ ID NO: 344 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 344 PVYCRRTCYY		10
SEQ ID NO: 345 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 345 PVYCVPVCSG		10
SEQ ID NO: 346 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10	

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SEQUENCE: 346	mol_type = protein organism = Homo sapiens	
QPGCESPCEP		10
SEQ ID NO: 347	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
	organism = Homo sapiens	
SEQUENCE: 347		
QQSCVSSCRR		10
SEQ ID NO: 348	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
	organism = Homo sapiens	
SEQUENCE: 348		
QTSCGSSCGQ		10
SEQ ID NO: 349	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
	organism = Homo sapiens	
SEQUENCE: 349		
TTTCHPSCGM		10
SEQ ID NO: 350	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
	organism = Homo sapiens	
SEQUENCE: 350		
TTTCRPSCGV		10
SEQ ID NO: 351	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
	organism = Homo sapiens	
SEQUENCE: 351		
RGGCGSGCGG		10
SEQ ID NO: 352	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
	organism = Homo sapiens	
SEQUENCE: 352		
RLACYSLCGS		10
SEQ ID NO: 353	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
	organism = Homo sapiens	
SEQUENCE: 353		
RPACYRPCYS		10
SEQ ID NO: 354	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
	organism = Homo sapiens	
SEQUENCE: 354		
RPFCFRRCYS		10
SEQ ID NO: 355	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
	organism = Homo sapiens	
SEQUENCE: 355		
RPICRPICSG		10
SEQ ID NO: 356	moltype = AA length = 10	
FEATURE	Location/Qualifiers	

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## US 12,383,484 B2

**119**

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**120**


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source          1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 356
RPLCYRRCCYS                           10

SEQ ID NO: 357      moltype = AA  length = 10
FEATURE           Location/Qualifiers
source            1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 357
RSPCQASCYV                           10

SEQ ID NO: 358      moltype = AA  length = 10
FEATURE           Location/Qualifiers
source            1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 358
RVSCHTTCYR                           10

SEQ ID NO: 359      moltype = AA  length = 10
FEATURE           Location/Qualifiers
source            1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 359
SAICRPTCPR                           10

SEQ ID NO: 360      moltype = AA  length = 10
FEATURE           Location/Qualifiers
source            1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 360
SDSCKRDCKK                           10

SEQ ID NO: 361      moltype = AA  length = 10
FEATURE           Location/Qualifiers
source            1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 361
SEGCAGSGCGG                           10

SEQ ID NO: 362      moltype = AA  length = 10
FEATURE           Location/Qualifiers
source            1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 362
SFLCRPACSR                           10

SEQ ID NO: 363      moltype = AA  length = 10
FEATURE           Location/Qualifiers
source            1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 363
GGCGAGCGG                           10

SEQ ID NO: 364      moltype = AA  length = 10
FEATURE           Location/Qualifiers
source            1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 364
GGCGGSSCGG                           10

SEQ ID NO: 365      moltype = AA  length = 10
FEATURE           Location/Qualifiers
source            1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 365
SGSCQAACGQ                           10

SEQ ID NO: 366      moltype = AA  length = 10

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FEATURE source	Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 366 SLLCHPVCKS		10
SEQ ID NO: 367 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 367 SLLCHPVCRS		10
SEQ ID NO: 368 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 368 SLLCRPACSP		10
SEQ ID NO: 369 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 369 SLLCRPACSR		10
SEQ ID NO: 370 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 370 SLLCRPICRP		10
SEQ ID NO: 371 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 371 SLLCRPMCSR		10
SEQ ID NO: 372 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 372 SLLCRPTCSR		10
SEQ ID NO: 373 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 373 SLLCRPVCQP		10
SEQ ID NO: 374 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 374 SLLCRPVCRP		10
SEQ ID NO: 375 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 375 SLLCRPVCRS		10

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SEQ ID NO: 376	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 376	
SLLCRPVC	10
SEQ ID NO: 377	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 377	
SNPCQVTC	10
SEQ ID NO: 378	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 378	
SRGCGSGCGG	10
SEQ ID NO: 379	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 379	
SRSCQSPCYR	10
SEQ ID NO: 380	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 380	
SRSCQSSCYR	10
SEQ ID NO: 381	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 381	
SSGCGYGCGY	10
SEQ ID NO: 382	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 382	
SSGCPMACPG	10
SEQ ID NO: 383	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 383	
SSICQPICSE	10
SEQ ID NO: 384	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 384	
SSPCHTSCYY	10
SEQ ID NO: 385	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 385	
SSPCQPTCYV	10

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SEQ ID NO: 386	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 386	
SSPCQQSCYV	10
SEQ ID NO: 387	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 387	
SSPCQTSCYR	10
SEQ ID NO: 388	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 388	
SSSCQQSCRV	10
SEQ ID NO: 389	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 389	
STVCQPACGV	10
SEQ ID NO: 390	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 390	
TDNCQETCGE	10
SEQ ID NO: 391	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 391	
TQPCYEPCLP	10
SEQ ID NO: 392	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 392	
TSSCGTCCGI	10
SEQ ID NO: 393	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 393	
TSSCQPSCGR	10
SEQ ID NO: 394	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 394	
TSSCTTPCYQ	10
SEQ ID NO: 395	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 395	

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TSVCLPGCLN

10

SEQ ID NO: 396 moltype = AA length = 10  
 FEATURE Location/Qualifiers  
 source 1..10  
 mol\_type = protein  
 organism = Homo sapiens  
 SEQUENCE: 396

10

SEQ ID NO: 397 moltype = AA length = 10  
 FEATURE Location/Qualifiers  
 source 1..10  
 mol\_type = protein  
 organism = Homo sapiens  
 SEQUENCE: 397

10

SEQ ID NO: 398 moltype = AA length = 10  
 FEATURE Location/Qualifiers  
 source 1..10  
 mol\_type = protein  
 organism = Homo sapiens  
 SEQUENCE: 398

10

SEQ ID NO: 399 moltype = AA length = 10  
 FEATURE Location/Qualifiers  
 source 1..10  
 mol\_type = protein  
 organism = Homo sapiens  
 SEQUENCE: 399

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VKRCPSVCPE

SEQ ID NO: 400 moltype = AA length = 10  
 FEATURE Location/Qualifiers  
 source 1..10  
 mol\_type = protein  
 organism = Homo sapiens  
 SEQUENCE: 400

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VSSCQPSCSE

SEQ ID NO: 401 moltype = AA length = 10  
 FEATURE Location/Qualifiers  
 source 1..10  
 mol\_type = protein  
 organism = Homo sapiens  
 SEQUENCE: 401

10

YEGCRYGCGH

SEQ ID NO: 402 moltype = AA length = 10  
 FEATURE Location/Qualifiers  
 source 1..10  
 mol\_type = protein  
 organism = Homo sapiens  
 SEQUENCE: 402

10

YGRCRHGCHS

SEQ ID NO: 403 moltype = AA length = 10  
 FEATURE Location/Qualifiers  
 source 1..10  
 mol\_type = protein  
 organism = Homo sapiens  
 SEQUENCE: 403

10

GYYCRPSCYG

SEQ ID NO: 404 moltype = AA length = 10  
 FEATURE Location/Qualifiers  
 source 1..10  
 mol\_type = protein  
 organism = Homo sapiens  
 SEQUENCE: 404

10

YRDCQKTCWE

SEQ ID NO: 405 moltype = AA length = 10  
 FEATURE Location/Qualifiers  
 source 1..10  
 mol\_type = protein  
 organism = Homo sapiens

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SEQUENCE: 405 YRGQCQEICWE		10
SEQ ID NO: 406 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 406 YRGCQETCWR		10
SEQ ID NO: 407 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 407 YRGCQQTCWE		10
SEQ ID NO: 408 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 408 YRSCRPSCYG		10
SEQ ID NO: 409 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 409 GGVCGPSPPC		10
SEQ ID NO: 410 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 410 GVCGPSPPCI		10
SEQ ID NO: 411 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 411 VCGPSPPCIT		10
SEQ ID NO: 412 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 412 CGGPSPPCITT		10
SEQ ID NO: 413 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 413 CAPIYCRRTC		10
SEQ ID NO: 414 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 414 CAPSPCQASC		10
SEQ ID NO: 415 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein	

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SEQUENCE: 415 CAPSPCQPAC	organism = Homo sapiens	
		10
SEQ ID NO: 416 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 416 CAPVYCRRTC		10
SEQ ID NO: 417 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 417 CASSPCQQAC		10
SEQ ID NO: 418 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 418 CASSSCQPAC		10
SEQ ID NO: 419 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 419 CASSSCQQSC		10
SEQ ID NO: 420 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 420 CCGNFSSHSC		10
SEQ ID NO: 421 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 421 CCGYGGLGCG		10
SEQ ID NO: 422 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 422 CCNYYGNSCG		10
SEQ ID NO: 423 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 423 CCNYYRNSCG		10
SEQ ID NO: 424 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 424 CCSRNFSSCS		10
SEQ ID NO: 425 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10	

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SEQUENCE: 425 CDAGSCQPSC	mol_type = protein organism = Homo sapiens	
		10
SEQ ID NO: 426 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10	
	mol_type = protein organism = Homo sapiens	
SEQUENCE: 426 CDPCSLQEGC		
		10
SEQ ID NO: 427 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10	
	mol_type = protein organism = Homo sapiens	
SEQUENCE: 427 CDPSPCEPSC		
		10
SEQ ID NO: 428 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10	
	mol_type = protein organism = Homo sapiens	
SEQUENCE: 428 CDPVICEPSC		
		10
SEQ ID NO: 429 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10	
	mol_type = protein organism = Homo sapiens	
SEQUENCE: 429 CDQGLCQETC		
		10
SEQ ID NO: 430 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10	
	mol_type = protein organism = Homo sapiens	
SEQUENCE: 430 CEATTCEPSC		
		10
SEQ ID NO: 431 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10	
	mol_type = protein organism = Homo sapiens	
SEQUENCE: 431 CELPCTGTPSC		
		10
SEQ ID NO: 432 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10	
	mol_type = protein organism = Homo sapiens	
SEQUENCE: 432 CEPAICEPSC		
		10
SEQ ID NO: 433 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10	
	mol_type = protein organism = Homo sapiens	
SEQUENCE: 433 CEPPCGTAPC		
		10
SEQ ID NO: 434 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10	
	mol_type = protein organism = Homo sapiens	
SEQUENCE: 434 CEPPCSAPSC		
		10
SEQ ID NO: 435 FEATURE	moltype = AA length = 10 Location/Qualifiers	

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source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 435 CEPRSCASSC		10
SEQ ID NO: 436 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 436 CEPSACQSGC		10
SEQ ID NO: 437 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 437 CEPSCSVNSC		10
SEQ ID NO: 438 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 438 CEPSCSVSSC		10
SEQ ID NO: 439 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 439 CEPSPCQSGC		10
SEQ ID NO: 440 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 440 CEPTACQPTC		10
SEQ ID NO: 441 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 441 CEPTSCQTSC		10
SEQ ID NO: 442 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 442 CEPVCLRPVC		10
SEQ ID NO: 443 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 443 CETSSCQPRC		10
SEQ ID NO: 444 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 444 CETTCFQPTC		10
SEQ ID NO: 445	moltype = AA length = 10	

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FEATURE source	Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 445 CFQPTCVSSC		10
SEQ ID NO: 446 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 446 CFQPTCVTSC		10
SEQ ID NO: 447 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 447 CFQPTCVYSC		10
SEQ ID NO: 448 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 448 CGCGFRLGC		10
SEQ ID NO: 449 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 449 CGCGYRGLDC		10
SEQ ID NO: 450 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 450 CGCNGYYGCY		10
SEQ ID NO: 451 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 451 CGFGSCYCGC		10
SEQ ID NO: 452 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 452 CGGSAGGGSC		10
SEQ ID NO: 453 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 453 CGGSGSSCCV		10
SEQ ID NO: 454 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 454 CGGVSCHTTC		10

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SEQ ID NO: 455	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 455	
CGKGGCGSCG	10
SEQ ID NO: 456	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 456	
CGKRGCGSCG	10
SEQ ID NO: 457	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 457	
CGQDLCQETC	10
SEQ ID NO: 458	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 458	
CGQTSCGSSC	10
SEQ ID NO: 459	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 459	
CGQVLCQETC	10
SEQ ID NO: 460	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 460	
CGRDLCQETC	10
SEQ ID NO: 461	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 461	
CGRVSCHTTC	10
SEQ ID NO: 462	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 462	
CGSCCGFGSCY	10
SEQ ID NO: 463	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 463	
CGSCGGSKGC	10
SEQ ID NO: 464	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 464	
CGSGCGVPVC	10

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SEQ ID NO: 465 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 465 CGSLLCRPTC	10
SEQ ID NO: 466 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 466 CGSRCYVPVC	10
SEQ ID NO: 467 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 467 CGSSSCGPQC	10
SEQ ID NO: 468 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 468 CGSVCSDDQGC	10
SEQ ID NO: 469 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 469 CGSVCSDDQSC	10
SEQ ID NO: 470 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 470 CGSVCSHQGC	10
SEQ ID NO: 471 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 471 CGSYGCSQCS	10
SEQ ID NO: 472 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 472 CGVCLPSTCP	10
SEQ ID NO: 473 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 473 CGYEGCRYGC	10
SEQ ID NO: 474 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 474	

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CGYGCGYGCG	10
SEQ ID NO: 475	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 475	
CGYGGCGYGC	10
SEQ ID NO: 476	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 476	
CGYGSFCGCG	10
SEQ ID NO: 477	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 477	
CGYGSGCGCG	10
SEQ ID NO: 478	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 478	
CHPSCGMSSC	10
SEQ ID NO: 479	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 479	
CHPSCSISSC	10
SEQ ID NO: 480	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 480	
CHPTCYQTIC	10
SEQ ID NO: 481	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 481	
CHTSCSPACQ	10
SEQ ID NO: 482	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 482	
CHTSCSSGCQ	10
SEQ ID NO: 483	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 483	
CHHTCYRPAC	10
SEQ ID NO: 484	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens

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SEQUENCE: 484 CHTTCYRPTC		10
SEQ ID NO: 485 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 485 CIHSPCQASC		10
SEQ ID NO: 486 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 486 CIHSTHCGCN		10
SEQ ID NO: 487 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 487 CIRSPCQASC		10
SEQ ID NO: 488 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 488 CISSCYRPQC		10
SEQ ID NO: 489 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 489 CISSPCQQSC		10
SEQ ID NO: 490 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 490 CKPCSSQSSC		10
SEQ ID NO: 491 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 491 CKPSCSQSSC		10
SEQ ID NO: 492 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 492 CKPVCFKPIC		10
SEQ ID NO: 493 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 493 CKPVCVVPTC		10
SEQ ID NO: 494 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein	

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SEQUENCE: 494 CKPVSCVPVC	organism = Homo sapiens	
		10
SEQ ID NO: 495 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 495 CKPVYCVPVC		10
SEQ ID NO: 496 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 496 CKTVYCKPIC		10
SEQ ID NO: 497 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 497 CLNQSCGSNC		10
SEQ ID NO: 498 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 498 CLNQSCGSSC		10
SEQ ID NO: 499 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 499 CLPGCLNQSC		10
SEQ ID NO: 500 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 500 CLPGSCDSCS		10
SEQ ID NO: 501 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 501 CLPPCYLVSC		10
SEQ ID NO: 502 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 502 CLPTSCQPSC		10
SEQ ID NO: 503 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 503 CLSFLCRPAC		10
SEQ ID NO: 504 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10	

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SEQUENCE: 504 CLVSSCQPSC	mol_type = protein organism = Homo sapiens  10
SEQ ID NO: 505 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 505 CMPSPCQPAC	 10
SEQ ID NO: 506 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 506 CMMSGSCQAAC	 10
SEQ ID NO: 507 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 507 CNESSYCLPC	 10
SEQ ID NO: 508 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 508 CPASCVSLLC	 10
SEQ ID NO: 509 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 509 CPMACPGSPC	 10
SEQ ID NO: 510 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 510 CPSSCTAVVC	 10
SEQ ID NO: 511 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 511 CPVTCEPSPC	 10
SEQ ID NO: 512 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 512 CQAACEPSAC	 10
SEQ ID NO: 513 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 513 CQAACEPSPC	 10
SEQ ID NO: 514 FEATURE	moltype = AA length = 10 Location/Qualifiers

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source          1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 514
CQAACGQSVC                                              10

SEQ ID NO: 515      moltype = AA  length = 10
FEATURE          Location/Qualifiers
source           1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 515
CQAPCSTKNC                                              10

SEQ ID NO: 516      moltype = AA  length = 10
FEATURE          Location/Qualifiers
source           1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 516
CQAVCEPSPC                                              10

SEQ ID NO: 517      moltype = AA  length = 10
FEATURE          Location/Qualifiers
source           1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 517
CQDSCGSSC                                              10

SEQ ID NO: 518      moltype = AA  length = 10
FEATURE          Location/Qualifiers
source           1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 518
CQHSSCQPTC                                              10

SEQ ID NO: 519      moltype = AA  length = 10
FEATURE          Location/Qualifiers
source           1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 519
CQISSCGTGC                                              10

SEQ ID NO: 520      moltype = AA  length = 10
FEATURE          Location/Qualifiers
source           1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 520
CQKSSCQPAC                                              10

SEQ ID NO: 521      moltype = AA  length = 10
FEATURE          Location/Qualifiers
source           1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 521
CQPMCSHAAC                                              10

SEQ ID NO: 522      moltype = AA  length = 10
FEATURE          Location/Qualifiers
source           1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 522
CQPCTTALC                                              10

SEQ ID NO: 523      moltype = AA  length = 10
FEATURE          Location/Qualifiers
source           1..10
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 523
CQPSCESSFC                                              10

SEQ ID NO: 524      moltype = AA  length = 10

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FEATURE source	Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 524 CQPSCSESTC		10
SEQ ID NO: 525 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 525 CQPSCTSVLC		10
SEQ ID NO: 526 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 526 CQPTCGGSSC		10
SEQ ID NO: 527 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 527 CQPTCSRSCPSC		10
SEQ ID NO: 528 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 528 CQPVCPTPTC		10
SEQ ID NO: 529 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 529 CQPVLCKSSC		10
SEQ ID NO: 530 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 530 CQPVVCEPSC		10
SEQ ID NO: 531 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 531 CQQPSCQCPAC		10
SEQ ID NO: 532 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 532 CQQSCRVPVC		10
SEQ ID NO: 533 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 533 CQQSCYVPVC		10

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SEQ ID NO: 534	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 534	
CQQSGCQPAC	10
SEQ ID NO: 535	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 535	
CQQSSCHPAC	10
SEQ ID NO: 536	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 536	
CQQSSCKPAC	10
SEQ ID NO: 537	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 537	
CQQSSCQLAC	10
SEQ ID NO: 538	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 538	
CQQSSCQPAC	10
SEQ ID NO: 539	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 539	
CQQSSCQPTC	10
SEQ ID NO: 540	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 540	
CQQSSCQSAC	10
SEQ ID NO: 541	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 541	
CQQSSCVSCV	10
SEQ ID NO: 542	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 542	
CQQSYCVPVC	10
SEQ ID NO: 543	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 543	
CQSGCISSCT	10

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SEQ ID NO: 544 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 544 CQSGCTDSCT	10
SEQ ID NO: 545 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 545 CQSGCTSSCT	10
SEQ ID NO: 546 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 546 CQSSCYRPTC	10
SEQ ID NO: 547 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 547 CQSVCYQPTC	10
SEQ ID NO: 548 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 548 CQSVYCQPTC	10
SEQ ID NO: 549 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 549 CQTACEPSAC	10
SEQ ID NO: 550 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 550 CQTSSCGTGC	10
SEQ ID NO: 551 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 551 CQTTCHPSCG	10
SEQ ID NO: 552 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 552 CQTTCRPSCG	10
SEQ ID NO: 553 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 553	

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## US 12,383,484 B2

**159****160**

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CQTTCYRTTC	10
SEQ ID NO: 554 FEATURE source SEQUENCE: 554 CQTRCRTTC	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 555 FEATURE source SEQUENCE: 555 CQVTCEPSPC	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 556 FEATURE source SEQUENCE: 556 CRNTSCQPTC	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 557 FEATURE source SEQUENCE: 557 CRPACSPLAC	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 558 FEATURE source SEQUENCE: 558 CRPACSRlac	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 559 FEATURE source SEQUENCE: 559 CRPACSRPAC	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 560 FEATURE source SEQUENCE: 560 CRPMCSRpac	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 561 FEATURE source SEQUENCE: 561 CRPSCGQTTc	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 562 FEATURE source SEQUENCE: 562 CRPSCGVSSC	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 563 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens

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SEQUENCE: 563 CRPSCSISSC		10
SEQ ID NO: 564 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 564 CRPSCSQTTC		10
SEQ ID NO: 565 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 565 CRPSYCGQSC		10
SEQ ID NO: 566 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 566 CRPSYCISSC		10
SEQ ID NO: 567 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 567 CRPSYCQTTC		10
SEQ ID NO: 568 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 568 CRPTCSRLAC		10
SEQ ID NO: 569 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 569 CRPTCSSGSC		10
SEQ ID NO: 570 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 570 CRPTSCQNTC		10
SEQ ID NO: 571 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 571 CRPVCRSTYC		10
SEQ ID NO: 572 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 572 CRPVCSRPA		10
SEQ ID NO: 573 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein	

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	organism = Homo sapiens	
SEQUENCE: 573 CRPVTCVPRC		10
SEQ ID NO: 574 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 574 CROSSCOPAC		10
SEQ ID NO: 575 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 575 CRTTCFHPIC		10
SEQ ID NO: 576 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 576 CRTTCFQPTC		10
SEQ ID NO: 577 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 577 CRTTCYRPSC		10
SEQ ID NO: 578 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 578 CRTTYCRPSC		10
SEQ ID NO: 579 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 579 CRVTCEPSPC		10
SEQ ID NO: 580 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 580 CRYGCGHRGC		10
SEQ ID NO: 581 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 581 CSAPCVALLC		10
SEQ ID NO: 582 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 582 CSDDSGSCCQ		10
SEQ ID NO: 583 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10	

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SEQUENCE: 583 CSEDSSSCCQ	mol_type = protein organism = Homo sapiens	
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SEQ ID NO: 584 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 584 CSEDSYSCCQ		10
SEQ ID NO: 585 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 585 CSEGCGSGCG		10
SEQ ID NO: 586 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 586 CSESSPSCCQ		10
SEQ ID NO: 587 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 587 CSESSSSCCQ		10
SEQ ID NO: 588 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 588 CSFDKSCRCG		10
SEQ ID NO: 589 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 589 CSGASSLCCQ		10
SEQ ID NO: 590 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 590 CSGASSPCCQ		10
SEQ ID NO: 591 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 591 CSGASSSSCCQ		10
SEQ ID NO: 592 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 592 CSGASTSCCQ		10
SEQ ID NO: 593 FEATURE	moltype = AA length = 10 Location/Qualifiers	

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source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 593		10
CSGGCGSGCG		
SEQ ID NO: 594	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 594		10
CSGCGSSCG		
SEQ ID NO: 595	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 595		10
CSGISSSSCQ		
SEQ ID NO: 596	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 596		10
CSKDSSSSCQ		
SEQ ID NO: 597	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 597		10
CSKGACGSCG		
SEQ ID NO: 598	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 598		10
CSLSCGSRSC		
SEQ ID NO: 599	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 599		10
CSQDLCQETC		
SEQ ID NO: 600	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 600		10
CSRGCGSAGC		
SEQ ID NO: 601	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 601		10
CSRLSSACCG		
SEQ ID NO: 602	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 602		10
CSSCGKGGCG		
SEQ ID NO: 603	moltype = AA length = 10	

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FEATURE source	Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 603 CSSCGKRGCG		10
SEQ ID NO: 604 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 604 CSSDKSCRCG		10
SEQ ID NO: 605 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 605 CSSGNFSSCC		10
SEQ ID NO: 606 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 606 CSSSGCGSFC		10
SEQ ID NO: 607 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 607 CSSSGCGSSC		10
SEQ ID NO: 608 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 608 CSTPCYQPIC		10
SEQ ID NO: 609 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 609 CSTTCRTSSC		10
SEQ ID NO: 610 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 610 CSWVPACSC		10
SEQ ID NO: 611 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 611 CTFSPCQQAC		10
SEQ ID NO: 612 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 612 CTMSVCSSAC		10

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SEQ ID NO: 613	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 613	
CTRPICEPCR	10
SEQ ID NO: 614	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 614	
CTSSPCQHAC	10
SEQ ID NO: 615	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 615	
CTSSPCQQAC	10
SEQ ID NO: 616	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 616	
CTSSPCQQSC	10
SEQ ID NO: 617	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 617	
CTSSSCQQAC	10
SEQ ID NO: 618	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 618	
CVALLCRPLC	10
SEQ ID NO: 619	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 619	
CVALVCEPVC	10
SEQ ID NO: 620	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 620	
CVFSSCNTTC	10
SEQ ID NO: 621	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 621	
CVGFVCQPMC	10
SEQ ID NO: 622	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 622	
CVPRCTRPI	10

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SEQ ID NO: 623 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 623 CVPSPCQVAC	10
SEQ ID NO: 624 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 624 CVPSRCQASC	10
SEQ ID NO: 625 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 625 CVPSSCQASC	10
SEQ ID NO: 626 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 626 CVPVCNKPVC	10
SEQ ID NO: 627 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 627 CVPVCSKSVC	10
SEQ ID NO: 628 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 628 CVPVRCKPVC	10
SEQ ID NO: 629 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 629 CVSLLCRPAC	10
SEQ ID NO: 630 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 630 CVSLLCRPMC	10
SEQ ID NO: 631 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 631 CVSLLCRPTC	10
SEQ ID NO: 632 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 632	

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CVSLLCRPVC	10
SEQ ID NO: 633 FEATURE source SEQUENCE: 633 CVSNPCQVTC	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 634 FEATURE source SEQUENCE: 634 CVSRCYRPHC	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 635 FEATURE source SEQUENCE: 635 CVSSCFRPQC	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 636 FEATURE source SEQUENCE: 636 CVSSICQPIC	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 637 FEATURE source SEQUENCE: 637 CVSSPCQPTC	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 638 FEATURE source SEQUENCE: 638 CVVSCTPPSC	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 639 FEATURE source SEQUENCE: 639 CVVSCTPPTC	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 640 FEATURE source SEQUENCE: 640 CYCPKNSIFC	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 641 FEATURE source SEQUENCE: 641 CYEPCLPRGC	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 642 FEATURE source SEQUENCE: 642 CYEPCLPRGC	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens

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SEQUENCE: 642 CYRRCYSSCY	10
SEQ ID NO: 643 FEATURE source	
moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 643 GCCCGYGLGC	10
SEQ ID NO: 644 FEATURE source	
moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 644 GCGGCGSGCA	10
SEQ ID NO: 645 FEATURE source	
moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 645 GCGGCGSGCG	10
SEQ ID NO: 646 FEATURE source	
moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 646 GCGGCGSSCG	10
SEQ ID NO: 647 FEATURE source	
moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 647 GCGGCSSSCG	10
SEQ ID NO: 648 FEATURE source	
moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 648 GCGGSGSSCC	10
SEQ ID NO: 649 FEATURE source	
moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 649 GCGSGCAGCG	10
SEQ ID NO: 650 FEATURE source	
moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 650 GCGSGCGGCG	10
SEQ ID NO: 651 FEATURE source	
moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 651 GCGSGCGGCS	10
SEQ ID NO: 652 FEATURE source	
moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein	

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## US 12,383,484 B2

**179****180**

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SEQUENCE: 652 GCGSSCGGCD	organism = Homo sapiens	
		10
SEQ ID NO: 653 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 653 GCGSSCGGCG		10
SEQ ID NO: 654 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 654 GCGSSCSQCS		10
SEQ ID NO: 655 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 655 GCGYSSSCCG		10
SEQ ID NO: 656 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 656 GCKGGCGSCG		10
SEQ ID NO: 657 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 657 GCGSGCSGGCG		10
SEQ ID NO: 658 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 658 ICSGASSLCC		10
SEQ ID NO: 659 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 659 ICSGASSPCC		10
SEQ ID NO: 660 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 660 MCCNYYGNSC		10
SEQ ID NO: 661 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 661 MCCNYYRNSC		10
SEQ ID NO: 662 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10	

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	mol_type = protein
SEQUENCE: 662	organism = Homo sapiens
MCYGYGCGCG	10
SEQ ID NO: 663	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
SEQUENCE: 663	organism = Homo sapiens
NCCSRNFSSC	10
SEQ ID NO: 664	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
SEQUENCE: 664	organism = Homo sapiens
PCSLQEGCCR	10
SEQ ID NO: 665	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
SEQUENCE: 665	organism = Homo sapiens
PCSSQSSCCV	10
SEQ ID NO: 666	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
SEQUENCE: 666	organism = Homo sapiens
SCCAPASSCQ	10
SEQ ID NO: 667	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
SEQUENCE: 667	organism = Homo sapiens
SCCAPASTCQ	10
SEQ ID NO: 668	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
SEQUENCE: 668	organism = Homo sapiens
SCCAPTSSCQ	10
SEQ ID NO: 669	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
SEQUENCE: 669	organism = Homo sapiens
SCCGYRPLCY	10
SEQ ID NO: 670	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
SEQUENCE: 670	organism = Homo sapiens
SCCVPASSCQ	10
SEQ ID NO: 671	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
SEQUENCE: 671	organism = Homo sapiens
SCCVPTSSCQ	10
SEQ ID NO: 672	moltype = AA length = 10
FEATURE	Location/Qualifiers

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source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 672	SCGCSKGACG	10
SEQ ID NO: 673	moltype = AA length = 10 Location/Qualifiers	
FEATURE	1..10 mol_type = protein organism = Homo sapiens	
source	SEQUENCE: 673	
SCGGCDSSCG	SCGGCGSGCG	10
SEQ ID NO: 674	moltype = AA length = 10 Location/Qualifiers	
FEATURE	1..10 mol_type = protein organism = Homo sapiens	
source	SEQUENCE: 674	
SCGGCGSSCG	SCGGCGSSCG	10
SEQ ID NO: 675	moltype = AA length = 10 Location/Qualifiers	
FEATURE	1..10 mol_type = protein organism = Homo sapiens	
source	SEQUENCE: 675	
SCGGCGSSCG	SCGGCGSSCG	10
SEQ ID NO: 676	moltype = AA length = 10 Location/Qualifiers	
FEATURE	1..10 mol_type = protein organism = Homo sapiens	
source	SEQUENCE: 676	
SCGGCKGGCG	SCGGCKGGCG	10
SEQ ID NO: 677	moltype = AA length = 10 Location/Qualifiers	
FEATURE	1..10 mol_type = protein organism = Homo sapiens	
source	SEQUENCE: 677	
SCGGSKGCCG	SCGGSKGCCG	10
SEQ ID NO: 678	moltype = AA length = 10 Location/Qualifiers	
FEATURE	1..10 mol_type = protein organism = Homo sapiens	
source	SEQUENCE: 678	
SCGSGCRGCG	SCGSGCRGCG	10
SEQ ID NO: 679	moltype = AA length = 10 Location/Qualifiers	
FEATURE	1..10 mol_type = protein organism = Homo sapiens	
source	SEQUENCE: 679	
SCYGCYGYCI	SCYGCYGYCI	10
SEQ ID NO: 680	moltype = AA length = 10 Location/Qualifiers	
FEATURE	1..10 mol_type = protein organism = Homo sapiens	
source	SEQUENCE: 680	
TCCVPVPSCG	TCCVPVPSCG	10
SEQ ID NO: 681	moltype = AA length = 10 Location/Qualifiers	
FEATURE	1..10 mol_type = protein organism = Homo sapiens	
source	SEQUENCE: 681	
TCSDDSGSCC	TCSDDSGSCC	10
SEQ ID NO: 682	moltype = AA length = 10	

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FEATURE source	Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 682 TCSEDDSSCC		10
SEQ ID NO: 683 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 683 TCSEDSYSCC		10
SEQ ID NO: 684 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 684 TCSESSPSCC		10
SEQ ID NO: 685 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 685 TCSESSSSCC		10
SEQ ID NO: 686 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 686 TCSKDSSSCC		10
SEQ ID NO: 687 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 687 TCSRLLSACC		10
SEQ ID NO: 688 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 688 VCCQPTPICD		10
SEQ ID NO: 689 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 689 VCSEDSSSCC		10
SEQ ID NO: 690 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 690 VCSGASSLCC		10
SEQ ID NO: 691 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 691 VCSGASSPCC		10

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SEQ ID NO: 692	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 692	
VCGSGASSCC	10
SEQ ID NO: 693	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 693	
VCGSGASTSCC	10
SEQ ID NO: 694	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 694	
VCGGDSSCCQ	10
SEQ ID NO: 695	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 695	
VCGSISSSCC	10
SEQ ID NO: 696	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 696	
YCVPIPSCCA	10
SEQ ID NO: 697	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 697	
CASSCCTPSC	10
SEQ ID NO: 698	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 698	
CCDNCP PPPCH	10
SEQ ID NO: 699	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 699	
CCEPCLPRGC	10
SEQ ID NO: 700	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 700	
CCGAASSCCR	10
SEQ ID NO: 701	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 701	
CCGCGGGSGCG	10

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SEQ ID NO: 702 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 702 CCGPSSSSCQ	10
SEQ ID NO: 703 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 703 CCGSGCGGCG	10
SEQ ID NO: 704 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 704 CCKPYCSQCS	10
SEQ ID NO: 705 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 705 CCMPVSSCCA	10
SEQ ID NO: 706 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 706 CNYYRNCCG	10
SEQ ID NO: 707 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 707 CCPSCVSSC	10
SEQ ID NO: 708 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 708 CCPSYCVSSC	10
SEQ ID NO: 709 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 709 CCQPICGSSC	10
SEQ ID NO: 710 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 710 CCQPICVTSC	10
SEQ ID NO: 711 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 711	

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CCQPTCLSSC	10
SEQ ID NO: 712 FEATURE source SEQUENCE: 712	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
CCQPTCLTSC	10
SEQ ID NO: 713 FEATURE source SEQUENCE: 713	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
CCQPTCVASC	10
SEQ ID NO: 714 FEATURE source SEQUENCE: 714	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
CCQPTCVTSC	10
SEQ ID NO: 715 FEATURE source SEQUENCE: 715	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
CCQPYCHPTC	10
SEQ ID NO: 716 FEATURE source SEQUENCE: 716	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
CCQSSCVSC	10
SEQ ID NO: 717 FEATURE source SEQUENCE: 717	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
CCQSSCFKPC	10
SEQ ID NO: 718 FEATURE source SEQUENCE: 718	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
CCQSSCSKP	10
SEQ ID NO: 719 FEATURE source SEQUENCE: 719	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
CCQSSCYKPC	10
SEQ ID NO: 720 FEATURE source SEQUENCE: 720	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
CCQTICRSTC	10
SEQ ID NO: 721 FEATURE source SEQUENCE: 721	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens

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SEQUENCE: 721	
CCQTTCHPSC	10
SEQ ID NO: 722	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 722	
CCQTTCRPSC	10
SEQ ID NO: 723	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 723	
CCRVPTCSCS	10
SEQ ID NO: 724	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 724	
CCSPGCQPTC	10
SEQ ID NO: 725	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 725	
CCSSGCGSSC	10
SEQ ID NO: 726	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 726	
CCSSSGCGSCG	10
SEQ ID NO: 727	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 727	
CCTQEQNCE	10
SEQ ID NO: 728	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 728	
CCVPIPSCCA	10
SEQ ID NO: 729	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 729	
CCVPISSCCA	10
SEQ ID NO: 730	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 730	
CCVPVCYQCK	10
SEQ ID NO: 731	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein

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	organism = Homo sapiens	
SEQUENCE: 731 CCVPVPSCCA		10
SEQ ID NO: 732 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 732 CCVPVPSCCV		10
SEQ ID NO: 733 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 733 CCVPVSSCCA		10
SEQ ID NO: 734 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 734 CDSSCCQPSC		10
SEQ ID NO: 735 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 735 CDTCPPPCCK		10
SEQ ID NO: 736 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 736 CEPCCRQPVCC		10
SEQ ID NO: 737 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 737 CEPSCCQPVC		10
SEQ ID NO: 738 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 738 CEPSCCSAVC		10
SEQ ID NO: 739 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 739 CETSCCQPSC		10
SEQ ID NO: 740 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 740 CETTCCRTTC		10
SEQ ID NO: 741 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10	

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SEQUENCE: 741	mol_type = protein organism = Homo sapiens	
CFSGCGSSCC		10
SEQ ID NO: 742	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 742	organism = Homo sapiens	
CGCSQSNCK		10
SEQ ID NO: 743	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 743	organism = Homo sapiens	
CGCSQSSCCK		10
SEQ ID NO: 744	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 744	organism = Homo sapiens	
CGGCGGGCGGC		10
SEQ ID NO: 745	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 745	organism = Homo sapiens	
CGGCGGGGCCG		10
SEQ ID NO: 746	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 746	organism = Homo sapiens	
CGGCGSGCCV		10
SEQ ID NO: 747	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 747	organism = Homo sapiens	
CGGCGSSCCV		10
SEQ ID NO: 748	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 748	organism = Homo sapiens	
CGGGCCGSSC		10
SEQ ID NO: 749	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 749	organism = Homo sapiens	
CGGS CGSSCC		10
SEQ ID NO: 750	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10	
	mol_type = protein	
SEQUENCE: 750	organism = Homo sapiens	
CGQSCCRPAC		10
SEQ ID NO: 751	moltype = AA length = 10	
FEATURE	Location/Qualifiers	

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source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 751	CGQSCCRPVC	10
SEQ ID NO: 752	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 752	CGSCGCSQCN	10
SEQ ID NO: 753	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 753	CGSCGCSQCS	10
SEQ ID NO: 754	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 754	CGSFCCQSSC	10
SEQ ID NO: 755	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 755	CGSGCCVPVC	10
SEQ ID NO: 756	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 756	CGSSCCGSGC	10
SEQ ID NO: 757	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 757	CGSSCCQPCY	10
SEQ ID NO: 758	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 758	CGSSCCQPIC	10
SEQ ID NO: 759	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 759	CGSSCCQPSC	10
SEQ ID NO: 760	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 760	CGSSCCQSSC	10
SEQ ID NO: 761	moltype = AA length = 10	

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FEATURE source	Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 761 CGSSCCVPIC		10
SEQ ID NO: 762 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 762 CGSSCCVPVC		10
SEQ ID NO: 763 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 763 CGSSCSQCSC		10
SEQ ID NO: 764 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 764 CGYGSCCGCG		10
SEQ ID NO: 765 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 765 CHPRCCISSC		10
SEQ ID NO: 766 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 766 CHPSGCCESC		10
SEQ ID NO: 767 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 767 CHPSCCISSL		10
SEQ ID NO: 768 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 768 CHPTCCQNTC		10
SEQ ID NO: 769 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 769 CHPTCCQQTIC		10
SEQ ID NO: 770 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 770 CHPVCCQTTTC		10

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SEQ ID NO: 771	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 771	
CHPVCKSTCC	10
SEQ ID NO: 772	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 772	
CHPVCRSTCC	10
SEQ ID NO: 773	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 773	
CISSCCHPSC	10
SEQ ID NO: 774	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 774	
CISSCCKPSC	10
SEQ ID NO: 775	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 775	
CISSCCRPSC	10
SEQ ID NO: 776	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 776	
CISSCTPSCC	10
SEQ ID NO: 777	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 777	
CISSCCPSC	10
SEQ ID NO: 778	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 778	
CKAVCCVPTC	10
SEQ ID NO: 779	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 779	
CKPCCSQASC	10
SEQ ID NO: 780	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 780	
CKPCCSQSRC	10

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SEQ ID NO: 781 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 781 CKPCCSQSSC	10
SEQ ID NO: 782 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 782 CKPCCSSSGC	10
SEQ ID NO: 783 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 783 CKPCSCFSGC	10
SEQ ID NO: 784 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 784 CKPCSCSSGC	10
SEQ ID NO: 785 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 785 CKPCYCSSGC	10
SEQ ID NO: 786 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 786 CKPICCVPVC	10
SEQ ID NO: 787 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 787 CKPQCCQSVC	10
SEQ ID NO: 788 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 788 CKPSCCQTTC	10
SEQ ID NO: 789 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 789 CKPVCCAPTC	10
SEQ ID NO: 790 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 790	

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CKPVVCKPIC	10
SEQ ID NO: 791 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 791 CKPVVCKSIC	10
SEQ ID NO: 792 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 792 CKPVVCLPTC	10
SEQ ID NO: 793 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 793 CKPVCCVPVC	10
SEQ ID NO: 794 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 794 CKPVCCVPVC	10
SEQ ID NO: 795 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 795 CKPYCCVSTC	10
SEQ ID NO: 796 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 796 CKPYCCQSSC	10
SEQ ID NO: 797 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 797 CKPYCSQCSC	10
SEQ ID NO: 798 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 798 CKSNCCKPVC	10
SEQ ID NO: 799 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 799 CKTVVCKPVC	10
SEQ ID NO: 800 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens

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SEQUENCE: 800	
CLPPCCVVSC	10
SEQ ID NO: 801	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 801	
CLTSCCQPSC	10
SEQ ID NO: 802	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 802	
CNPCCSQSSC	10
SEQ ID NO: 803	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 803	
CPESCCELPC	10
SEQ ID NO: 804	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 804	
CPESCCEPHC	10
SEQ ID NO: 805	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 805	
CPESCCEPPC	10
SEQ ID NO: 806	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 806	
CPFSCPPTCC	10
SEQ ID NO: 807	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 807	
CPGDCFTCCT	10
SEQ ID NO: 808	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 808	
CPSCVVSSCC	10
SEQ ID NO: 809	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 809	
CPSYCVSSCC	10
SEQ ID NO: 810	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein

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SEQUENCE: 810 CPTTCCRTTC	organism = Homo sapiens  10
SEQ ID NO: 811 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 811 CQBTCCRSPC	10
SEQ ID NO: 812 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 812 CQHACCVPVC	10
SEQ ID NO: 813 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 813 CQNTCCRRTTC	10
SEQ ID NO: 814 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 814 CQPACCQPTC	10
SEQ ID NO: 815 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 815 CQPACCTASC	10
SEQ ID NO: 816 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 816 CQPACCTSSC	10
SEQ ID NO: 817 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 817 CQPACCTTSC	10
SEQ ID NO: 818 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 818 CQPACCVPVC	10
SEQ ID NO: 819 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 819 CQPACCVSSC	10
SEQ ID NO: 820 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10

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SEQUENCE: 820  
CQPCCHPTCY

SEQ ID NO: 821  
FEATURE  
source

mol\_type = protein  
organism = Homo sapiens

moltype = AA length = 10  
Location/Qualifiers  
1..10

SEQUENCE: 821  
CQPCCRPTSC

SEQ ID NO: 822  
FEATURE  
source

moltype = protein  
organism = Homo sapiens

moltype = AA length = 10  
Location/Qualifiers  
1..10

SEQUENCE: 822  
CQPICCGSSC

SEQ ID NO: 823  
FEATURE  
source

moltype = protein  
organism = Homo sapiens

moltype = AA length = 10  
Location/Qualifiers  
1..10

SEQUENCE: 823  
CQPICCGSSC

SEQ ID NO: 824  
FEATURE  
source

moltype = protein  
organism = Homo sapiens

moltype = AA length = 10  
Location/Qualifiers  
1..10

SEQUENCE: 824  
CQPICVTSCC

SEQ ID NO: 825  
FEATURE  
source

moltype = protein  
organism = Homo sapiens

moltype = AA length = 10  
Location/Qualifiers  
1..10

SEQUENCE: 825  
CQPNCCRPSC

SEQ ID NO: 826  
FEATURE  
source

moltype = protein  
organism = Homo sapiens

moltype = AA length = 10  
Location/Qualifiers  
1..10

SEQUENCE: 826  
CQPRCCETSC

SEQ ID NO: 827  
FEATURE  
source

moltype = protein  
organism = Homo sapiens

moltype = AA length = 10  
Location/Qualifiers  
1..10

SEQUENCE: 827  
CQPSCCRPAC

SEQ ID NO: 828  
FEATURE  
source

moltype = protein  
organism = Homo sapiens

moltype = AA length = 10  
Location/Qualifiers  
1..10

SEQUENCE: 828  
CQPSCCSTPC

SEQ ID NO: 829  
FEATURE  
source

moltype = protein  
organism = Homo sapiens

moltype = AA length = 10  
Location/Qualifiers  
1..10

SEQUENCE: 829  
CQPSCCSTTC

SEQ ID NO: 830  
FEATURE

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source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 830	CQPSCCVPSC	10
SEQ ID NO: 831	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 831	CQPSCCVSSC	10
SEQ ID NO: 832	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 832	CQPTCCGSSC	10
SEQ ID NO: 833	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 833	CQPTCCCHPSC	10
SEQ ID NO: 834	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 834	CQPTCCQPTC	10
SEQ ID NO: 835	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 835	CQPTCCRPRC	10
SEQ ID NO: 836	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 836	CQPTCCRSPC	10
SEQ ID NO: 837	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 837	CQPTCCRTTC	10
SEQ ID NO: 838	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 838	CQPTCLSSCC	10
SEQ ID NO: 839	moltype = AA length = 10	
FEATURE	Location/Qualifiers	
source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 839	CQPTCLTSCC	10
SEQ ID NO: 840	moltype = AA length = 10	

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FEATURE source	Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 840 CQPTCVASCC		10
SEQ ID NO: 841 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 841 CQPTCVTSCC		10
SEQ ID NO: 842 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 842 CQPVCCQPTC		10
SEQ ID NO: 843 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 843 CQPYCHPTCC		10
SEQ ID NO: 844 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 844 CQQACCMMPVC		10
SEQ ID NO: 845 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 845 CQQACCPIC		10
SEQ ID NO: 846 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 846 CQQACCPVPVC		10
SEQ ID NO: 847 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 847 CQQSCCPVPVC		10
SEQ ID NO: 848 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 848 CQQSCCVSVC		10
SEQ ID NO: 849 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 849 CQSMCCQPTC		10

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SEQ ID NO: 850	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 850	
CQSNCCVPVC	10
SEQ ID NO: 851	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 851	
CQSSCCKPCS	10
SEQ ID NO: 852	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 852	
CQSSCCQSSC	10
SEQ ID NO: 853	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 853	
CQSSCCVPVC	10
SEQ ID NO: 854	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 854	
CQSSCFKPCC	10
SEQ ID NO: 855	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 855	
CQSSCSKPCC	10
SEQ ID NO: 856	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 856	
CQSVCCQPTC	10
SEQ ID NO: 857	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 857	
CQTICRSTCC	10
SEQ ID NO: 858	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 858	
CQTTCCRPSC	10
SEQ ID NO: 859	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 859	
CQTTCCRRTTC	10

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SEQ ID NO: 860 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 860 CRATCCRPSC	10
SEQ ID NO: 861 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 861 CRGCGPSCCA	10
SEQ ID NO: 862 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 862 CRPACCTTC	10
SEQ ID NO: 863 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 863 CRPACCQNTC	10
SEQ ID NO: 864 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 864 CRPCCWATTC	10
SEQ ID NO: 865 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 865 CRPICRPACC	10
SEQ ID NO: 866 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 866 CRPLCCQTTC	10
SEQ ID NO: 867 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 867 CRPQCCQSVC	10
SEQ ID NO: 868 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 868 CRPQCCQTTC	10
SEQ ID NO: 869 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 869	

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CRPRCCISSC	10
SEQ ID NO: 870 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 870 CRPSCCESSC	10
SEQ ID NO: 871 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 871 CRPSCCETTC	10
SEQ ID NO: 872 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 872 CRPSCCISSC	10
SEQ ID NO: 873 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 873 CRPSCCKPQC	10
SEQ ID NO: 874 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 874 CRPSCCMSSC	10
SEQ ID NO: 875 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 875 CRPSCCQTTC	10
SEQ ID NO: 876 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 876 CRPSCCRPSC	10
SEQ ID NO: 877 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 877 CRPSCCVSRC	10
SEQ ID NO: 878 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 878 CRPSCCVSSC	10
SEQ ID NO: 879 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens

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SEQUENCE: 879 CRPTCCETTC	10
SEQ ID NO: 880 FEATURE source	
moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 880 CRPTCCQNTC	10
SEQ ID NO: 881 FEATURE source	
moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 881 CRPTCCQTTC	10
SEQ ID NO: 882 FEATURE source	
moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 882 CRPVCCDPCS	10
SEQ ID NO: 883 FEATURE source	
moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 883 CRPVCCQTTC	10
SEQ ID NO: 884 FEATURE source	
moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 884 CRPVCQPACC	10
SEQ ID NO: 885 FEATURE source	
moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 885 CRPVCRPACC	10
SEQ ID NO: 886 FEATURE source	
moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 886 CRPVCRPTCC	10
SEQ ID NO: 887 FEATURE source	
moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 887 CRPVCRSTCC	10
SEQ ID NO: 888 FEATURE source	
moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 888 CRPYCCESSC	10
SEQ ID NO: 889 FEATURE source	
moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein	

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	organism = Homo sapiens	
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SEQ ID NO: 890 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 890 CRSQCCQSCV		10
SEQ ID NO: 891 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 891 CRTTCCHPSC		10
SEQ ID NO: 892 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 892 CRTTCCQPIC		10
SEQ ID NO: 893 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 893 CRTTCCQPTC		10
SEQ ID NO: 894 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 894 CRTTCCRPS		10
SEQ ID NO: 895 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 895 CRTTCCRTTC		10
SEQ ID NO: 896 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 896 CSCSSCGSCA		10
SEQ ID NO: 897 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 897 CSCSSCGSCG		10
SEQ ID NO: 898 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 898 CSCTSCGSCG		10
SEQ ID NO: 899 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10	

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SEQUENCE: 899 CSPACQPTCC	mol_type = protein organism = Homo sapiens	
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SEQ ID NO: 900 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 900 CSPGCQPTCC		10
SEQ ID NO: 901 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 901 CSPSCCQTTC		10
SEQ ID NO: 902 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 902 CSQCSCYKPC		10
SEQ ID NO: 903 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 903 CSQSNCCKPC		10
SEQ ID NO: 904 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 904 CSQSSCCCKPC		10
SEQ ID NO: 905 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 905 CSSGCGSCCQ		10
SEQ ID NO: 906 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 906 CSSGCGSSCC		10
SEQ ID NO: 907 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 907 CSSGCQPACC		10
SEQ ID NO: 908 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 908 CSSSCCQPSC		10
SEQ ID NO: 909 FEATURE	moltype = AA length = 10 Location/Qualifiers	

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source	1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 909 CSTPCCQPTC		10
SEQ ID NO: 910 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 910 CSTTCCQPIC		10
SEQ ID NO: 911 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 911 CTAVVCRPCC		10
SEQ ID NO: 912 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 912 CTDSCTPSCC		10
SEQ ID NO: 913 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 913 CTPSCCQpac		10
SEQ ID NO: 914 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 914 CTRPICEPCC		10
SEQ ID NO: 915 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 915 CTSSCTPSCC		10
SEQ ID NO: 916 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 916 CVPACSCSSC		10
SEQ ID NO: 917 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 917 CVPACSCTSC		10
SEQ ID NO: 918 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 918 CVPVCCCKPVC		10
SEQ ID NO: 919	moltype = AA length = 10	

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FEATURE source	Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 919 CVPVCCVPTC		10
SEQ ID NO: 920 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 920 CVPVCCVPVC		10
SEQ ID NO: 921 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 921 CVSCVSSPCC		10
SEQ ID NO: 922 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 922 CVSRCCRQPC		10
SEQ ID NO: 923 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 923 CVSSCCKPQC		10
SEQ ID NO: 924 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 924 CVSSCCQHSC		10
SEQ ID NO: 925 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 925 CVSSCCQPFC		10
SEQ ID NO: 926 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 926 CVSSCCQPSC		10
SEQ ID NO: 927 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 927 CVSSCCRPQC		10
SEQ ID NO: 928 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens	
SEQUENCE: 928 CVSTCCRPTC		10

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SEQ ID NO: 929	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 929	
CVTRCCSTPC	10
SEQ ID NO: 930	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 930	
CVTSQQPAC	10
SEQ ID NO: 931	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 931	
CVTSCCQPS	10
SEQ ID NO: 932	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 932	
CVYSCCQPFC	10
SEQ ID NO: 933	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 933	
CVYSCCQPSC	10
SEQ ID NO: 934	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 934	
GCCGCSEGCG	10
SEQ ID NO: 935	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 935	
GCCGCGGGCG	10
SEQ ID NO: 936	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 936	
GCCGCSRGC	10
SEQ ID NO: 937	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 937	
GCCRPIITCCP	10
SEQ ID NO: 938	moltype = AA length = 10
FEATURE	Location/Qualifiers
source	1..10
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 938	
GCGSSCCQCS	10

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SEQ ID NO: 939 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 939 GCGVPVCCS	10
SEQ ID NO: 940 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 940 LCCPCQTTCS	10
SEQ ID NO: 941 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 941 PCCCLRPVCG	10
SEQ ID NO: 942 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 942 PCCCCRPVTCQ	10
SEQ ID NO: 943 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 943 PCCCVRPVCG	10
SEQ ID NO: 944 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 944 PCCSQASCCV	10
SEQ ID NO: 945 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 945 PCCSQSRCCV	10
SEQ ID NO: 946 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 946 PCCSQSSCCK	10
SEQ ID NO: 947 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 947 PCCSQSSCCV	10
SEQ ID NO: 948 FEATURE source	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQUENCE: 948	

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PCCWATTCCQ	10
SEQ ID NO: 949 FEATURE source SEQUENCE: 949 QCSCCKPYCS	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 950 FEATURE source SEQUENCE: 950 RCYVPVCCCK	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 951 FEATURE source SEQUENCE: 951 SCCAPVYCCK	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 952 FEATURE source SEQUENCE: 952 SCCISSSSCP	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 953 FEATURE source SEQUENCE: 953 SCCVSSCRCP	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 954 FEATURE source SEQUENCE: 954 SCGCSQCSCY	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 955 FEATURE source SEQUENCE: 955 SCGLENC CCP	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 956 FEATURE source SEQUENCE: 956 VCCGASSCCQ	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 957 FEATURE source SEQUENCE: 957 VCCGDSSCCQ	moltype = AA length = 10 Location/Qualifiers 1..10 mol_type = protein organism = Homo sapiens
SEQ ID NO: 958 FEATURE source SEQUENCE: 958 VCCGDSSCCQ	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens

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SEQUENCE: 958 CASSCCCTPSC C	11
SEQ ID NO: 959 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 959 CCCPSCVVSS C	11
SEQ ID NO: 960 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 960 CCCPSYCVSS C	11
SEQ ID NO: 961 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 961 CCCSSGCGSS C	11
SEQ ID NO: 962 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 962 CCDTCPPPPCC K	11
SEQ ID NO: 963 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 963 CCEPHCCALS C	11
SEQ ID NO: 964 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 964 CCEPPCCAPS C	11
SEQ ID NO: 965 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 965 CCEPPCCATS C	11
SEQ ID NO: 966 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 966 CCETSCCQPS C	11
SEQ ID NO: 967 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 967 CCGSSCCGSG C	11
SEQ ID NO: 968 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein

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SEQUENCE: 968 CCGSSCCGSS C	organism = Homo sapiens  11
SEQ ID NO: 969 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 969 CCHPRCCISS C	 11
SEQ ID NO: 970 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 970 CCHPSCCESS C	 11
SEQ ID NO: 971 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 971 CCHPSCCIIS C	 11
SEQ ID NO: 972 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 972 CCHPSCCVSS C	 11
SEQ ID NO: 973 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 973 CCHPTCCQNT C	 11
SEQ ID NO: 974 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 974 CCHPTCCQTI C	 11
SEQ ID NO: 975 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 975 CCISSCCKPS C	 11
SEQ ID NO: 976 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 976 CCISSCCRPS C	 11
SEQ ID NO: 977 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 977 CCISSSSCCPS C	 11
SEQ ID NO: 978 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11

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SEQUENCE: 978 CCKAVCCVPT C	mol_type = protein organism = Homo sapiens  11
SEQ ID NO: 979 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 979 CCKPCCSQAS C	 11
SEQ ID NO: 980 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 980 CCKPCCSQSR C	 11
SEQ ID NO: 981 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 981 CCKPCCSQSS C	 11
SEQ ID NO: 982 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 982 CCKPCCSSSG C	 11
SEQ ID NO: 983 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 983 CCKPCSCFSG C	 11
SEQ ID NO: 984 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 984 CCKPCSCSSG C	 11
SEQ ID NO: 985 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 985 CCKPCYCSSG C	 11
SEQ ID NO: 986 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 986 CCKPICCVPV C	 11
SEQ ID NO: 987 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 987 CCKPQCCQSV C	 11
SEQ ID NO: 988 FEATURE	moltype = AA length = 11 Location/Qualifiers

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source	1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 988 CCKPVCCCKPI C		11
SEQ ID NO: 989 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 989 CCKPYCCQSS C		11
SEQ ID NO: 990 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 990 CCKPYCSQCS C		11
SEQ ID NO: 991 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 991 CCMPVCCPKV C		11
SEQ ID NO: 992 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 992 CCMPVCCKTV C		11
SEQ ID NO: 993 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 993 CCMSSCCKPQ C		11
SEQ ID NO: 994 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 994 CCNPCCSQSS C		11
SEQ ID NO: 995 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 995 CCPGDCFTCC T		11
SEQ ID NO: 996 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 996 CCPSCVVSSC C		11
SEQ ID NO: 997 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 997 CCPSYCVSSC C		11
SEQ ID NO: 998	moltype = AA length = 11	

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FEATURE source	Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 998 CCQNTCCRRTT C		11
SEQ ID NO: 999 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 999 CCQPACCVSS C		11
SEQ ID NO: 1000 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1000 CCQPCCHPTC Y		11
SEQ ID NO: 1001 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1001 CCQPCCRPTS C		11
SEQ ID NO: 1002 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1002 CCQPICGSSC C		11
SEQ ID NO: 1003 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1003 CCQPICVTSC C		11
SEQ ID NO: 1004 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1004 CCQPNCCRPS C		11
SEQ ID NO: 1005 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1005 CCQPSCCETS C		11
SEQ ID NO: 1006 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1006 CCQPSCCRPA C		11
SEQ ID NO: 1007 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1007 CCQPSCCSTP C		11

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SEQ ID NO: 1008	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1008	
CCQPSCCSTT C	11
SEQ ID NO: 1009	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1009	
CCQPSCCVPS C	11
SEQ ID NO: 1010	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1010	
CCQPSCCVSS C	11
SEQ ID NO: 1011	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1011	
CCQPTCCHPS C	11
SEQ ID NO: 1012	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1012	
CCQPTCCQPT C	11
SEQ ID NO: 1013	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1013	
CCQPTCCRPR C	11
SEQ ID NO: 1014	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1014	
CCQPTCCRPS C	11
SEQ ID NO: 1015	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1015	
CCQPTCCRPT C	11
SEQ ID NO: 1016	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1016	
CCQPTCCRTT C	11
SEQ ID NO: 1017	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1017	
CCQPTCLSSC C	11

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SEQ ID NO: 1018 moltype = AA length = 11
FEATURE Location/Qualifiers
source 1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1018
CCQPTCLTSC C 11

SEQ ID NO: 1019 moltype = AA length = 11
FEATURE Location/Qualifiers
source 1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1019
CCQPTCVASC C 11

SEQ ID NO: 1020 moltype = AA length = 11
FEATURE Location/Qualifiers
source 1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1020
CCQPTCVTSC C 11

SEQ ID NO: 1021 moltype = AA length = 11
FEATURE Location/Qualifiers
source 1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1021
CCQPYCHPTC C 11

SEQ ID NO: 1022 moltype = AA length = 11
FEATURE Location/Qualifiers
source 1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1022
CCQSMCCQPT C 11

SEQ ID NO: 1023 moltype = AA length = 11
FEATURE Location/Qualifiers
source 1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1023
CCQSNCCVPV C 11

SEQ ID NO: 1024 moltype = AA length = 11
FEATURE Location/Qualifiers
source 1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1024
CCQSSCCKPC S 11

SEQ ID NO: 1025 moltype = AA length = 11
FEATURE Location/Qualifiers
source 1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1025
CCQSSCCKPS C 11

SEQ ID NO: 1026 moltype = AA length = 11
FEATURE Location/Qualifiers
source 1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1026
CCQSSCCKPY C 11

SEQ ID NO: 1027 moltype = AA length = 11
FEATURE Location/Qualifiers
source 1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1027

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CCQSSCCQSS C	11
SEQ ID NO: 1028 FEATURE source SEQUENCE: 1028 CCQSSCCVPV C	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQ ID NO: 1029 FEATURE source SEQUENCE: 1029 CCQSSCFKPC C	11
SEQ ID NO: 1030 FEATURE source SEQUENCE: 1030 CCQSSCSKPC C	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQ ID NO: 1031 FEATURE source SEQUENCE: 1031 CCQSSCYKPC C	11
SEQ ID NO: 1032 FEATURE source SEQUENCE: 1032 CCQSVCCQPT C	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQ ID NO: 1033 FEATURE source SEQUENCE: 1033 CCQTTICRSTC C	11
SEQ ID NO: 1034 FEATURE source SEQUENCE: 1034 CCQTTCCRPS C	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQ ID NO: 1035 FEATURE source SEQUENCE: 1035 CCQTTCCRRT C	11
SEQ ID NO: 1036 FEATURE source SEQUENCE: 1036 CCRPACCTT C	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQ ID NO: 1037 FEATURE source	11
	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens

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SEQUENCE: 1037	
CCRPACCQNT C	11
SEQ ID NO: 1038	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1038	
CCRPLCCQTT C	11
SEQ ID NO: 1039	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1039	
CCRPQCCQSV C	11
SEQ ID NO: 1040	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1040	
CCRPQCCQTT C	11
SEQ ID NO: 1041	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1041	
CCRPSCCESS C	11
SEQ ID NO: 1042	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1042	
CCRPSCCETT C	11
SEQ ID NO: 1043	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1043	
CCRPSCCGSS C	11
SEQ ID NO: 1044	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1044	
CCRPSCCISS C	11
SEQ ID NO: 1045	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1045	
CCRPSCCKPQ C	11
SEQ ID NO: 1046	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1046	
CCRPSCCQTT C	11
SEQ ID NO: 1047	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein

-continued

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SEQUENCE: 1047 CCRPSCCVSR C	organism = Homo sapiens  moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	11
SEQ ID NO: 1048 FEATURE source		
SEQUENCE: 1048 CCRPSCCVSS C		11
SEQ ID NO: 1049 FEATURE source		
SEQUENCE: 1049 CCRPTCCQNT C		11
SEQ ID NO: 1050 FEATURE source		
SEQUENCE: 1050 CCRPTCCQTT C		11
SEQ ID NO: 1051 FEATURE source		
SEQUENCE: 1051 CCRPVCCDPC S		11
SEQ ID NO: 1052 FEATURE source		
SEQUENCE: 1052 CCRTTCCQPT C		11
SEQ ID NO: 1053 FEATURE source		
SEQUENCE: 1053 CCRTTCCRPS C		11
SEQ ID NO: 1054 FEATURE source		
SEQUENCE: 1054 CCRTTCCRRT C		11
SEQ ID NO: 1055 FEATURE source		
SEQUENCE: 1055 CCSCSSCGSC A		11
SEQ ID NO: 1056 FEATURE source		
SEQUENCE: 1056 CCSPGCQPTC C		11
SEQ ID NO: 1057 FEATURE source		

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mol_type = protein
organism = Homo sapiens
SEQUENCE: 1057
CCSQSSCCKP C                                         11

SEQ ID NO: 1058          moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1058
CCSSGCGSCC Q                                         11

SEQ ID NO: 1059          moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1059
CCSSGCGSSC C                                         11

SEQ ID NO: 1060          moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1060
CCSTPCCQPT C                                         11

SEQ ID NO: 1061          moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1061
CCVPACSCSS C                                         11

SEQ ID NO: 1062          moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1062
CCVPACSCTS C                                         11

SEQ ID NO: 1063          moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1063
CCVPICCKPI C                                         11

SEQ ID NO: 1064          moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1064
CCVPICCKPV C                                         11

SEQ ID NO: 1065          moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1065
CCVPVCCCKPI C                                         11

SEQ ID NO: 1066          moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1066
CCVPVCCCKPV C                                         11

SEQ ID NO: 1067          moltype = AA length = 11
FEATURE

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source	1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1067 CCVPVCKSN C		11
SEQ ID NO: 1068 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1068 CCVPVCKTV C		11
SEQ ID NO: 1069 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1069 CCVPVCCSSS C		11
SEQ ID NO: 1070 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1070 CCVPVCCVPV C		11
SEQ ID NO: 1071 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1071 CCVSSCCKPQ C		11
SEQ ID NO: 1072 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1072 CCVSSCCQHS C		11
SEQ ID NO: 1073 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1073 CCVSSCCQPS C		11
SEQ ID NO: 1074 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1074 CCVSSCCRPQ C		11
SEQ ID NO: 1075 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1075 CCVSTCCRPT C		11
SEQ ID NO: 1076 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1076 CCVSVCCKPV C		11
SEQ ID NO: 1077	moltype = AA length = 11	

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FEATURE source	Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1077 CDSSCCQFSC C		11
SEQ ID NO: 1078 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1078 CEPCCRVPVCC D		11
SEQ ID NO: 1079 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1079 CFKPCCCQSS C		11
SEQ ID NO: 1080 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1080 CGDGCCCCPSC Y		11
SEQ ID NO: 1081 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1081 CGGGGCCGSSC C		11
SEQ ID NO: 1082 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1082 CGGSCCGSSC C		11
SEQ ID NO: 1083 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1083 CGLENCCCP S		11
SEQ ID NO: 1084 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1084 CGQSCCRPAC C		11
SEQ ID NO: 1085 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1085 CGQSCCRPVC C		11
SEQ ID NO: 1086 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1086 CGSCCQSSCC N		11

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SEQ ID NO: 1087      moltype = AA  length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1087
CGSCGCSQCN C                                11

SEQ ID NO: 1088      moltype = AA  length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1088
CGSCGCSQCS C                                11

SEQ ID NO: 1089      moltype = AA  length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1089
CGSGCCGPVC C                                11

SEQ ID NO: 1090      moltype = AA  length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1090
CGSGCCVPVC C                                11

SEQ ID NO: 1091      moltype = AA  length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1091
CGSNCCQPCC R                                11

SEQ ID NO: 1092      moltype = AA  length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1092
CGSSCCQPCC H                                11

SEQ ID NO: 1093      moltype = AA  length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1093
CGSSCCQPCC R                                11

SEQ ID NO: 1094      moltype = AA  length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1094
CGSSCCQPXY C                                11

SEQ ID NO: 1095      moltype = AA  length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1095
CGSSCCQPSC C                                11

SEQ ID NO: 1096      moltype = AA  length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1096
CGSSCCQSSC C                                11

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SEQ ID NO: 1097      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1097
CGSSCCVPIC C

SEQ ID NO: 1098      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1098
CGSSCCVPVC C

SEQ ID NO: 1099      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1099
CGSSCSQCSC C

SEQ ID NO: 1100      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1100
CGVPVCCSC S

SEQ ID NO: 1101      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1101
CHPRCCISSC C

SEQ ID NO: 1102      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1102
CHPSCCESSC C

SEQ ID NO: 1103      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1103
CHPSCCISSC C

SEQ ID NO: 1104      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1104
CHPTCCQNTC C

SEQ ID NO: 1105      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1105
CISSCCHPSC C

SEQ ID NO: 1106      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1106

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11

11

11

11

11

11

11

11

11

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CISSCCKPSC C	11
SEQ ID NO: 1107 FEATURE source SEQUENCE: 1107 CISSCCRPSC C	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQ ID NO: 1108 FEATURE source SEQUENCE: 1108 CISSSCCPSC C	11
SEQ ID NO: 1109 FEATURE source SEQUENCE: 1109 CKPCCCSSGC G	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQ ID NO: 1110 FEATURE source SEQUENCE: 1110 CKPCCSQASC C	11
SEQ ID NO: 1111 FEATURE source SEQUENCE: 1111 CKPCCSQSRC C	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQ ID NO: 1112 FEATURE source SEQUENCE: 1112 CKPCCSQSSC C	11
SEQ ID NO: 1113 FEATURE source SEQUENCE: 1113 CKPQCCQSMC C	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQ ID NO: 1114 FEATURE source SEQUENCE: 1114 CKPQCCQSVC C	11
SEQ ID NO: 1115 FEATURE source SEQUENCE: 1115 CKPVCCCVPA C	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQ ID NO: 1116 FEATURE source	11
	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens

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SEQUENCE: 1116	
CKPVCCCKPIC C	11
SEQ ID NO: 1117	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1117	
CKPVCCMPVC C	11
SEQ ID NO: 1118	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1118	
CKPVCCVPVC C	11
SEQ ID NO: 1119	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1119	
CKPVCCVSVC C	11
SEQ ID NO: 1120	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1120	
CKPYCSQCSC C	11
SEQ ID NO: 1121	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1121	
CLPCCRPTCC Q	11
SEQ ID NO: 1122	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1122	
CLTSCCQPSC C	11
SEQ ID NO: 1123	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1123	
CMSSCCKPQC C	11
SEQ ID NO: 1124	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1124	
CNPCCSQSSC C	11
SEQ ID NO: 1125	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1125	
CPACCVSSCC Q	11
SEQ ID NO: 1126	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein

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SEQUENCE: 1126	organism = Homo sapiens	
CPESCCEPHC C		11
SEQ ID NO: 1127	moltype = AA length = 11	
FEATURE	Location/Qualifiers	
source	1..11	
	mol_type = protein	
SEQUENCE: 1127	organism = Homo sapiens	
CPESCCEPPC C		11
SEQ ID NO: 1128	moltype = AA length = 11	
FEATURE	Location/Qualifiers	
source	1..11	
	mol_type = protein	
SEQUENCE: 1128	organism = Homo sapiens	
CPSCESSCC R		11
SEQ ID NO: 1129	moltype = AA length = 11	
FEATURE	Location/Qualifiers	
source	1..11	
	mol_type = protein	
SEQUENCE: 1129	organism = Homo sapiens	
CPSCCQTTCC R		11
SEQ ID NO: 1130	moltype = AA length = 11	
FEATURE	Location/Qualifiers	
source	1..11	
	mol_type = protein	
SEQUENCE: 1130	organism = Homo sapiens	
CSPCCVSSCC R		11
SEQ ID NO: 1131	moltype = AA length = 11	
FEATURE	Location/Qualifiers	
source	1..11	
	mol_type = protein	
SEQUENCE: 1131	organism = Homo sapiens	
CQCSCCKPYC S		11
SEQ ID NO: 1132	moltype = AA length = 11	
FEATURE	Location/Qualifiers	
source	1..11	
	mol_type = protein	
SEQUENCE: 1132	organism = Homo sapiens	
CQETCCRSPC C		11
SEQ ID NO: 1133	moltype = AA length = 11	
FEATURE	Location/Qualifiers	
source	1..11	
	mol_type = protein	
SEQUENCE: 1133	organism = Homo sapiens	
CQNTCCRTTC C		11
SEQ ID NO: 1134	moltype = AA length = 11	
FEATURE	Location/Qualifiers	
source	1..11	
	mol_type = protein	
SEQUENCE: 1134	organism = Homo sapiens	
CQPACCTASC C		11
SEQ ID NO: 1135	moltype = AA length = 11	
FEATURE	Location/Qualifiers	
source	1..11	
	mol_type = protein	
SEQUENCE: 1135	organism = Homo sapiens	
CQPACCTSSC C		11
SEQ ID NO: 1136	moltype = AA length = 11	
FEATURE	Location/Qualifiers	
source	1..11	

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SEQUENCE: 1136 CQPACCTTSC C	mol_type = protein organism = Homo sapiens  11
SEQ ID NO: 1137 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 1137 CQPACCVPVC C	 11
SEQ ID NO: 1138 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 1138 CQPACCVSSC C	 11
SEQ ID NO: 1139 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 1139 CQPCCCHPTCC Q	 11
SEQ ID NO: 1140 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 1140 CQPCCRPACC E	 11
SEQ ID NO: 1141 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 1141 CQPCCRPACC Q	 11
SEQ ID NO: 1142 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 1142 CQPCCRPTCC Q	 11
SEQ ID NO: 1143 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 1143 CQPCYCPACC V	 11
SEQ ID NO: 1144 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 1144 CQPICCGSSC C	 11
SEQ ID NO: 1145 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens
SEQUENCE: 1145 CQPRCCETSC C	 11
SEQ ID NO: 1146 FEATURE	moltype = AA length = 11 Location/Qualifiers

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source	1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1146 CQPSCCETSC C		11
SEQ ID NO: 1147 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1147 CQPSCCRPAC C		11
SEQ ID NO: 1148 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1148 CQPSCCVPSC C		11
SEQ ID NO: 1149 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1149 CQPSCCVSSC C		11
SEQ ID NO: 1150 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1150 CQPTCCCCPSY C		11
SEQ ID NO: 1151 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1151 CQPTCCCGSSC C		11
SEQ ID NO: 1152 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1152 CQPTCCCHPSC C		11
SEQ ID NO: 1153 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1153 CQPTCCQPTC C		11
SEQ ID NO: 1154 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1154 CQPTCCRPSC C		11
SEQ ID NO: 1155 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1155 CQPTCCRPTC C		11
SEQ ID NO: 1156	moltype = AA length = 11	

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FEATURE source	Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1156 CQPTCCRTTC C		11
SEQ ID NO: 1157 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1157 CQQACCMMPVC C		11
SEQ ID NO: 1158 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1158 CQQACCVPIC C		11
SEQ ID NO: 1159 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1159 CQQACCPVPC C		11
SEQ ID NO: 1160 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1160 CQQSCCVPVC C		11
SEQ ID NO: 1161 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1161 CQQSCCVSVC C		11
SEQ ID NO: 1162 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1162 CQSNCCVPVC C		11
SEQ ID NO: 1163 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1163 CQSSCCCPAS C		11
SEQ ID NO: 1164 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1164 CQSSCCKPCC S		11
SEQ ID NO: 1165 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1165 CQSSCCKPCS C		11

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SEQ ID NO: 1166	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1166	
CQSSCCKPYC C	11
SEQ ID NO: 1167	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1167	
CQSSCCNPCC S	11
SEQ ID NO: 1168	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1168	
CQSSCCQSSC C	11
SEQ ID NO: 1169	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1169	
CQSSCCVPVC C	11
SEQ ID NO: 1170	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1170	
CQSSCFKPCC C	11
SEQ ID NO: 1171	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1171	
CQSSCSKPCC C	11
SEQ ID NO: 1172	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1172	
CQSSCYKPCC C	11
SEQ ID NO: 1173	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1173	
CQSVCCQPTC C	11
SEQ ID NO: 1174	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1174	
CQTTCCCPSC V	11
SEQ ID NO: 1175	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1175	
CQTTCCRPSC C	11

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SEQ ID NO: 1176      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1176
CQTTCCRTTC C

SEQ ID NO: 1177      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1177
CRPACCETTC C

SEQ ID NO: 1178      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1178
CRPACCQNTC C

SEQ ID NO: 1179      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1179
CRPCCCLRPV C

SEQ ID NO: 1180      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1180
CRPCCCVRPV C

SEQ ID NO: 1181      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1181
CRPCCWATTC C

SEQ ID NO: 1182      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1182
CRPLCCQTTC C

SEQ ID NO: 1183      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1183
CRPQCCQSVC C

SEQ ID NO: 1184      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1184
CRPQCCQTTC C

SEQ ID NO: 1185      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1185

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CRPRCCISSC C	11
SEQ ID NO: 1186	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1186	
CRPSCCESSC C	11
SEQ ID NO: 1187	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1187	
CRPSCCISSC C	11
SEQ ID NO: 1188	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1188	
CRPSCCKPQC C	11
SEQ ID NO: 1189	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1189	
CRPSCCPSCC Q	11
SEQ ID NO: 1190	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1190	
CRPSCCQTTTC C	11
SEQ ID NO: 1191	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1191	
CRPSCCRPQC C	11
SEQ ID NO: 1192	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1192	
CRPSCCVSRC C	11
SEQ ID NO: 1193	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1193	
CRPSCCVSSC C	11
SEQ ID NO: 1194	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens
SEQUENCE: 1194	
CRPTCCQNTC C	11
SEQ ID NO: 1195	moltype = AA length = 11
FEATURE	Location/Qualifiers
source	1..11
	mol_type = protein
	organism = Homo sapiens

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SEQUENCE: 1195 CRPVCCCEPT C	11
SEQ ID NO: 1196 FEATURE source	
moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1196 CRPVCCCYSC E	11
SEQ ID NO: 1197 FEATURE source	
moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1197 CRTTCCHPSC C	11
SEQ ID NO: 1198 FEATURE source	
moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1198 CRTTCCRPSC C	11
SEQ ID NO: 1199 FEATURE source	
moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1199 CSCCKPYCSQ C	11
SEQ ID NO: 1200 FEATURE source	
moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1200 CSKPCCQCSS C	11
SEQ ID NO: 1201 FEATURE source	
moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1201 CSPCCQPTCC R	11
SEQ ID NO: 1202 FEATURE source	
moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1202 CSPCCVSSCC Q	11
SEQ ID NO: 1203 FEATURE source	
moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1203 CSQCSCCKPC Y	11
SEQ ID NO: 1204 FEATURE source	
moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1204 CSQCSCYKPC C	11
SEQ ID NO: 1205 FEATURE source	
moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein	

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SEQUENCE: 1205 CSQSNCCKPC C	organism = Homo sapiens	
		11
SEQ ID NO: 1206 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1206 CSQSSCCCKPC C		11
SEQ ID NO: 1207 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1207 CSSSSCCQPS C		11
SEQ ID NO: 1208 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1208 CTPSCCQPAC C		11
SEQ ID NO: 1209 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1209 CVASCCQPS C		11
SEQ ID NO: 1210 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1210 CVPICCCCKPV C		11
SEQ ID NO: 1211 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1211 CVPSCCQPCC H		11
SEQ ID NO: 1212 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1212 CVPVCCCKPM C		11
SEQ ID NO: 1213 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1213 CVPVCCCKPV C		11
SEQ ID NO: 1214 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1214 CVPVCCCKPVC C		11
SEQ ID NO: 1215 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11	

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mol_type = protein
organism = Homo sapiens
SEQUENCE: 1215
CVSSCCKPQC C                                              11

SEQ ID NO: 1216      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1216
CVSSCCQHSC C                                              11

SEQ ID NO: 1217      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1217
CVSSCCQPCC H                                              11

SEQ ID NO: 1218      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1218
CVSSCCQPCC R                                              11

SEQ ID NO: 1219      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1219
CVSSCCQPFC C                                              11

SEQ ID NO: 1220      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1220
CVSSCCQPSC C                                              11

SEQ ID NO: 1221      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1221
CVSSCCRQPC C                                              11

SEQ ID NO: 1222      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1222
CVTRCCSTPC C                                              11

SEQ ID NO: 1223      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1223
CVTSCCQPAC C                                              11

SEQ ID NO: 1224      moltype = AA length = 11
FEATURE
source
1..11
mol_type = protein
organism = Homo sapiens
SEQUENCE: 1224
CVTSCCQPSC C                                              11

SEQ ID NO: 1225      moltype = AA length = 11
FEATURE

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source          1..11
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 1225
CVYSCCQPFC C                           11

SEQ ID NO: 1226      moltype = AA  length = 11
FEATURE           Location/Qualifiers
source            1..11
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 1226
CVYSCCQPSC C                           11

SEQ ID NO: 1227      moltype = AA  length = 11
FEATURE           Location/Qualifiers
source            1..11
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 1227
CYCPACCVSS C                           11

SEQ ID NO: 1228      moltype = AA  length = 11
FEATURE           Location/Qualifiers
source            1..11
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 1228
CYKPCCQSS C                           11

SEQ ID NO: 1229      moltype = AA  length = 11
FEATURE           Location/Qualifiers
source            1..11
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 1229
CYKPCCCSSG C                           11

SEQ ID NO: 1230      moltype = AA  length = 11
FEATURE           Location/Qualifiers
source            1..11
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 1230
MCCCVVPACSC S                           11

SEQ ID NO: 1231      moltype = AA  length = 11
FEATURE           Location/Qualifiers
source            1..11
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 1231
NCCCPVCCQC K                           11

SEQ ID NO: 1232      moltype = AA  length = 11
FEATURE           Location/Qualifiers
source            1..11
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 1232
QCSCCKPCYC S                           11

SEQ ID NO: 1233      moltype = AA  length = 11
FEATURE           Location/Qualifiers
source            1..11
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 1233
QCSCYKPCCC S                           11

SEQ ID NO: 1234      moltype = AA  length = 11
FEATURE           Location/Qualifiers
source            1..11
               mol_type = protein
               organism = Homo sapiens
SEQUENCE: 1234
SCCCVPICQC K                           11

SEQ ID NO: 1235      moltype = AA  length = 11

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FEATURE source	Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1235 SCCVPVCCQC K		11
SEQ ID NO: 1236 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1236 SCGCSQCNCC K		11
SEQ ID NO: 1237 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1237 SCGCSQCSCC K		11
SEQ ID NO: 1238 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1238 VCCCCVPACSC S		11
SEQ ID NO: 1239 FEATURE source	moltype = AA length = 11 Location/Qualifiers 1..11 mol_type = protein organism = Homo sapiens	
SEQUENCE: 1239 VCCCCVPACSC T		11

## What is claimed:

1. A hair composition comprising:  
a keratin peptide fragment having about 15% to about 30% cysteine amino acid content, wherein the keratin peptide fragment comprises a peptide sequence at least 90% identical to SEQ ID NO: 412 or SEQ ID NO: 409; wherein the hair composition is a lotion or cream.
2. The hair composition of claim 1, wherein the peptide sequence of the keratin peptide fragment is at least 95% identical to SEQ ID NO: 412.
3. The hair composition of claim 1, wherein the peptide sequence of the keratin peptide fragment is at least 95% identical to SEQ ID NO: 409.
4. The hair composition of claim 1, wherein the peptide sequence of the keratin peptide fragment is identical to SEQ ID NO: 412.
5. The hair composition of claim 1, wherein the peptide sequence of the keratin peptide fragment is identical to SEQ ID NO: 409.
6. The hair composition of claim 1, wherein the keratin peptide fragment forms one or more molecular interactions with hair.
7. The hair composition of claim 6, wherein the one or more molecular interactions is one or more disulfide bonds.
8. The hair composition of claim 1, wherein the total number of cysteine amino acids in the keratin peptide fragment is 2 cysteine amino acids.
9. A hair composition comprising:  
a keratin peptide fragment having about 15% to about 30% cysteine amino acid content, wherein the keratin peptide fragment comprises a peptide sequence at least 90% identical to SEQ ID NO: 412 or SEQ ID NO: 409; and

- 35
- at least one excipient comprising propylene glycol, polysorbate 20, hydrolyzed wheat protein, hydrolyzed wheat starch, potassium sorbate, or an alcohol, or a combination of two or more thereof, wherein the total number of cysteine amino acids in the keratin peptide fragment is 2 cysteine amino acids.
  - 40 10. The hair composition of claim 9, wherein the at least one excipient further comprises ether dicaprylic, cetyl ester, behentrimonium chloride, or tocopherol, or a combination of two or more thereof.
  - 45 11. The hair composition of claim 9, wherein the at least one excipient further comprises potassium hydroxide, acrylate, or phenoxyethanol, or a combination or two or more thereof.
  - 50 12. The hair composition of claim 9, wherein the peptide sequence of the keratin peptide fragment is identical to SEQ ID NO: 412.
  - 55 13. The hair composition of claim 9, wherein the peptide sequence of the keratin peptide fragment is identical to SEQ ID NO: 409.
  14. A hair composition comprising:  
a keratin peptide fragment having about 15% to about 30% cysteine amino acid content, wherein the keratin peptide fragment comprises a peptide sequence at least 90% identical to SEQ ID NO: 412 or SEQ ID NO: 409; and  
at least one excipient comprising an oil and/or an alcohol, wherein the total number of cysteine amino acids in the keratin peptide fragment is 2 cysteine amino acids.
  - 60 15. The hair composition of claim 14, comprising the oil and the alcohol.

**299**

16. The hair composition of claim 14, wherein the peptide sequence of the keratin peptide fragment is identical to SEQ ID NO: 412.

17. The hair composition of claim 14, wherein the peptide sequence of the keratin peptide fragment is identical to SEQ ID NO: 409.

\* \* \* \* \*

**300**