**Outgroup**

>GI|158274985| EDP00765.1 collagen-related protein [Chlamydomonas reinhardtii] accession EDP00765

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**Sequence Order**

>gi|HumanCOL1A1|, >gi|Cow|, >gi|Donkey|, >gi|Brandtbat|, >gi|Doggie|, >gi|mouse|, >|rat|, >gi|Cricetulusrodent], >gi|shrew|, >gi|Alligator|, >gi|seaturtle|

**Sequences**

>gi|110349772|ref|NP\_000079.2| collagen alpha-1(I) chain preproprotein [Homo sapiens]

MFSFVDLRLLLLLAATALLTHGQEEGQVEGQDEDIPPITCVQNGLRYHDRDVWKPEPCRICVCDNGKVLC

DDVICDETKNCPGAEVPEGECCPVCPDGSESPTDQETTGVEGPKGDTGPRGPRGPAGPPGRDGIPGQPGL

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PGASGPMGPRGPPGPPGKNGDDGEAGKPGRPGERGPPGPQGARGLPGTAGLPGMKGHRGFSGLDGAKGDA

GPAGPKGEPGSPGENGAPGQMGPRGLPGERGRPGAPGPAGARGNDGATGAAGPPGPTGPAGPPGFPGAVG

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GSRGFPGADGVAGPKGPAGERGSPGPAGPKGSPGEAGRPGEAGLPGAKGLTGSPGSPGPDGKTGPPGPAG

QDGRPGPPGPPGARGQAGVMGFPGPKGAAGEPGKAGERGVPGPPGAVGPAGKDGEAGAQGPPGPAGPAGE

RGEQGPAGSPGFQGLPGPAGPPGEAGKPGEQGVPGDLGAPGPSGARGERGFPGERGVQGPPGPAGPRGAN

GAPGNDGAKGDAGAPGAPGSQGAPGLQGMPGERGAAGLPGPKGDRGDAGPKGADGSPGKDGVRGLTGPIG

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PPSAGFDFSFLPQPPQEKAHDGGRYYRADDANVVRDRDLEVDTTLKSLSQQIENIRSPEGSRKNPARTCR

DLKMCHSDWKSGEYWIDPNQGCNLDAIKVFCNMETGETCVYPTQPSVAQKNWYISKNPKDKRHVWFGESM

TDGFQFEYGGQGSDPADVAIQLTFLRLMSTEASQNITYHCKNSVAYMDQQTGNLKKALLLQGSNEIEIRA

EGNSRFTYSVTVDGCTSHTGAWGKTVIEYKTTKTSRLPIIDVAPLDVGAPDQEFGFDVGPVCFL

>gi|14043011|emb|CAC38832.1| pro alpha 1(I) collagen [Bos taurus]

GPPGPPGPPGPPGPPSGGYDLSFLPQPPQEKAHDGGRYYRADDANVVRDRDLEVDTTLKSLSQQIENIRSPEGSRKNPARTCRDLKMCHSDWKSGEYWIDPNQGCNLDAIKVFCNMETGETCVYPTQPSVAQKNWYISKNPKEKRHVWYGESMTGGFQFEYGGQGSDPADVAIQLTFLRLMSTEASQNITYHCKNSVAYMDQQTGNLKKALLLQGSNEIEIRAEGNSRFTYSVTYDGCTSHTGAWGKTVIEYKTTKTSRLPIIDVAPLDVGAPDQEFGFDVGPACFL

>gi|221665286|gb|ACM24774.1| collagen alpha-1 type I chain [Equus asinus]

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>gi|521027177|gb|EPQ08965.1| Collagen alpha-1(I) chain [Myotis brandtii]

MVSTVSPAPSAPLVLVVALVMLVLLYVAPHPVCSWPFSPEMLKPRRTPLSSLSLQGPPGPPGPPGPPGPPSGGFDFSFMPQPPQEKAHDGGRYYRADDANVVRDRDLEVDTTLKSLSQQIENIRSPEGSRKNPARTCRDLKMWNSDWKSGEYWIDPNQGCNLDAIKVFCNMETGETCVYPTQPTVAQKNWYISKNPKEKKHVWFGESMTGGFQFEYGGQDSDPADVAIQLTFLRLMSTEASQNLTYHCKNSVAYLDQQTGNLKKSLLLQGSNEIELRSEGNSRFTYTVTYDGCTSHTGAWGKTVIEYKTTKTSRLPIIDVAPLDIGAPDQEFGMNVGPVCFL

>gi|50978774|ref|NP\_001003090.1| collagen alpha-1(I) chain precursor [Canis lupus familiaris] MFSFVDLRLLLLLAATALLTHGQEEGQEEDIPPVTCVQNGLRYYDRDVWKPEACRICVCDNGNVLCDDVICDETKNCPGAQVPPGECCPVCPDGEASPTDQETTGVEGPKGDTGPRGPRGPAGPPGRDGIPGQPGLPGPPGPPGPPGPPGLGGNFAPQMSYGYDEKSTGGISVPGPMGPSGPRGLPGPPGAPGPQGFQGPPGEPGEPGASGPMGPRGPPGPPGKNGDDGEAGKPGRPGERGPPGPQGARGLPGTAGLPGMKGHRGFSGLDGAKGDAGPAGPKGEPGSPGENGAPGQMGPRGLPGERGRPGAPGPAGARGNDGATGAAGPPGPTGPAGPPGFPGAVGAKGEAGPQGARGSEGPQGVRGEPGPPGPAGAAGPAGNPGADGQPGAKGANGAPGIAGAPGFPGARGPSGPQGPSGPPGPKGNSGEPGAPGNKGDTGAKGEPGPTGIQGPPGPAGEEGKRGARGEPGPTGLPGPPGERGGPGSRGFPGADGVAGPKGPAGERGSPGPAGPKGSPGEAGRPGEAGLPGAKGLTGSPGSPGPDGKTGPPGPAGQDGRPGPPGPPGARGQAGVMGFPGPKGAAGEPGKAGERGVPGPPGAVGPAGKDGEAGAQGPPGPAGPAGERGEQGPAGSPGFQGLPGPAGPPGEAGKPGEQGVPGDLGAPGPSGARGERGFPGERGVQGPPGPAGPRGANGAPGNDGAKGDAGAPGAPGSQGAPGLQGMPGERGAAGLPGPKGDRGDAGPKGADGSPGKDGVRGLTGPIGPPGPAGAPGDKGEAGPSGPAGPTGARGAPGDRGEPGPPGPAGFAGPPGADGQPGAKGEPGDAGAKGDAGPPGPAGPTGPPGPIGNVGAPGPKGARGSAGPPGATGFPGAAGRVGPPGPSGNAGPPGPPGPAGKEGGKGARGETGPAGRPGEVGPPGPPGPAGEKGSPGADGPAGAPGTPGPQGIAGQRGVVGLPGQRGERGFPGLPGPSGEPGKQGPSGTSGERGPPGPMGPPGLAGPPGESGREGSPGAEGSPGRDGSPGPKGDRGETGPAGPPGAPGAPGAPGPVGPAGKNGDRGETGPAGPAGPIGPVGARGPAGPQGPRGDKGETGEQGDRGIKGHRGFSGLQGPPGPPG

SPGEQGPSGASGPAGPRGPPGSAGSPGKDGLNGLPGPIGPPGPRGRTGDAGPVGPPGPPGPPGPPGPPSGGFDFSFLPQPPQEKAHDGGRYYRADDANVVRDRDLEVDTTLKSLSQQIENIRSPEGSRKNPARTCRDLKMCHSDWKSGEYWIDPNQGCNLDAIKVFCNMETGETCVYPTQPQVAQKNWYISKNPKEKRHVWYGESMTDGFQFEYGGQGSDPADVAIQLTFLRLMSTEASQNITYHCKNSVAYMDQQTGNLKKALLLQGSNEIEIRAEGNSRFTYSVTYDGCTSHTGAWGKTVIEYKTTKTSRLPIIDVAPLDVGAPDQEFGMDIGPVCFL

>gi|13096810|gb|AAH03198.1| Col1a1 protein [Mus musculus]

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>gi|2894106|emb|CAB01633.1| Collagen alpha1 [Rattus norvegicus]

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SGASGPAGPRGPPGSAGSPGKDGLNGLPGPIGPPGPRGRTGDSGPAGPPGPPGPPGPPGPPSGGYDFSFLPQPPQEKSQDGGRYYRADDANVVRDRDLEVDTTLKSLSQQIENIRSPEGSRKNPARTCRDLKMCHSDWKSGEYWIDPNQGCNLDAIKVYCNMETGQTCVFPTQPSVPQKNWYISPNPKEKKHVWFGESMTDGFQFEYGSEGSDPADVAIQLTFLRLMSTEASQNITYHCKNSVAYMDQQTGNLKKSLLLQGSNEIELRGEGNSRFTYSTLVDGCTSHTGTWGKTVIEYKTTKTSRLPIIDVAPLDIGAPDQEFGMDIGPACFV

>gi|537145313|gb|ERE69281.1| collagen alpha-1(I) chain-like protein [Cricetulus griseus]

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>gi|444517738|gb|ELV11756.1| Collagen alpha-1(I) chain [Tupaia chinensis]

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>gi|944432555|gb|KQL74538.1| collagen, type I, alpha 1 [Alligator mississippiensis]

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>gi|465974344|gb|EMP33745.1| Collagen alpha-1(I) chain [Chelonia mydas]

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GDQQSLAWRPDTPSSPLGPRGEPGPRGDRGPPGPPGRDGIPGQPGLPGPPGPPGPPGLGGNFAPQLAYGYDEKSVGGLSMPGPMGPAGPRGLPGPPGSPGPQGFQGPPGEPGEPGASGPMGPRGPAGPPGKNGDDGEAGKPGRPGERGAPGPQGARGLPGTAGLPGMKGHRGFSGLDGAKGDTGPAGPKGEPGSPGENGAPGQIGPRGLPGERGRPGPSGSAGARGNDGAPGAAGPTGAPGIAGAPGFPGARGPSGPQGPSGAPGPKGNSGEPGAPGNKGDAGAKGEPGPVGVQGPPGPSGEEGKRGSRGEPGPAGLPGPAGERGAPGSRGFPGSDGISGPKGPTGERGSPGPVGPKGSPGESGRPGEPGLPGAKGLTGSPGSPGPDGKTGPTGPAGQDGRPGAAGPPGSRGPAGVMGFPGPKGAAGDGGPKGADGAPGKDGPRGLTGPIGPPGPAGAPGDKGEAGPSGPSGSTGARGAPGDRGEPGPPGPAGFAGPPGADGQPGAKGETGDAGAKGDAGAPGPAGPTGAPGPSGAVGAPGPKGARGSAGPPGATGFPGAAGRVGPPGPSGNIGLPGPPGPSGKEGSKGPRGETGPIGRTGEPGPAGAPGPSGEKGSPGADGAPGAPGTPGPQGISGQRGVVGLPGQRGERGFPGLPGPSGEPGKQGPSGSSGERGPPGPVGPPGLAGPPGEAGREGSPGAEGAPGRDGAAGPKGDRGETGPAGPPGAPGAPGAPGPIGPAGKNGDRGETGPAGPAGPAGPAGPRGAAGPQGPRGDKGETGEHGDRGLKGHRGFSGLQGPPGPPGSPGEQGPSGASGPAGPRGPPGSSGSPGKDGLNGLPGPIGPPGPRGRTGDVGPAGPPGPPGPPGPPGPPSGGFDFSFLPQPPQEKAHTDSRYYRADDANVMRDRDLEVDTTLKSLSLQIENIRSPEGTRKNPARTCRDLRLSRRNDWRSGEYWIDPNQGCNLDAIKVYCNMETGETCVYPTQATTAQKNWYISKNPKEKKHVWFGETMSDGFQFEYGGEGSNPADVAIQLTFLRLMSTEASQNITYHCKNSVAYMDQETGNLKKALLLQGSNEIEIRAEGNSRFTYGVTEDGCTSHTGTWGKTVIEYKTTKTSRLPVIDVALMDVGAPDQEFGIDIGPVCFL