Bone Morphogenetic Protein 10 (BMP10)

DNA Sequence (5' to 3'):

ATGGGTTCTCTGGTTCTGCCGCTGAGCGCCGTCTTCTGCCTGGTGGCTCGTCTGGCTTCTG GCAGCCCCATCATGGGCCTTGAGCAGTCGCCCCTGGAAGAAGACATGCCCTTCTTTGATGA TATCTTCACAGAACAAGATGGTATTGACTTCAACACACTGCTGCAGAGCATGAAGGACGAGT TTCTCAAGACGTTGAATCTGTCAGACATTCCCCCACAGGACACAGGCAGAGTGGATCCGCC GGAGTACATGCTGGAGCTCTACAACAAATTCGCCACGGACCGGACCTCCATGCCATCTGCT CGGAAGTATCCTCTCCTCTTCAACGTGTCCATCCCTCACCACGAAGAGGTCGTCATGGCTGA ACTGAGGTTGTACACGCTGGTGCAGAGAGATCGTTTGATGTATGATGGTGTGGACCGTAAAA TAATCATCTTTGAGGTTCTAGAGAGTGCCGATGGTAGCGAGGATGAGAGGAGCATGCTGGT CTTGGTATCAACAGAGATCTACGGAACCAACAGTGAGTGGGAGACATTTGACATCACGGATG CCACCAGACGTTGGCAAAAGTCAGGCCCATCAACCCACCAGCTGGAGATCCACATCGAAAG CAGACAAAACCAAGCTGAGGACACCGGAAGGGGACAACTGGAAATAGATATGAGTGCTCAG AATAAGCACGACCCTTTGCTTGTTGTTTTCTGATGACCAAGCGGTGACAAGGAGCAGAA AGAAGAGCTGAATGAACTGATCTCCCACGAGCAGGATCTGGACCTGGGCACCGATGGTTTC TTTGGTGGGCCTGATGAAGAGGCTCTCCTGCAGATGAGGTCAAACATGATCGATGACTCTAC CGCTCGGATCAGGAGGAACGCCAAGGGGAACTACTGCAAGAAGACTCCACTGTACATCGAC TTCAAGGAGATCGGCTGGGACTCCTGGATCATCGCGCCTCCTGGTTACGAGGCCTATGAGT GCCGCGGTGTGTGCAACTACCCTCTGGCGGAGCACCTCACACCTACGAAACACGCAATTAT CCAGGCCTTGGTCCACCTCAAGAATTCCCAGAAAGCCTCCAAAGCCTGCTGCGTGCCCACG AAGCTGGATCCCATCTCCATCCTCTATTTAGATAAAGGTGTTGTCACCTATAAGTTTAAATAC GAAGGAATGGCCGTGTCTGAATGTGGCTGTAGATAG

Protein Sequence:

MGSLVLTLCALFCLAAYLVSGSPIMNLEQSPLEEDMSLFGDVFSEQDGVDFNTLLQSMKD EFLKTLNLSDIPTQDSAKVDPPEYMLELYNKFATDRTSMPSANIIRSFKNEDLFSQPVSF NGLRKYPLLFNVSIPHHEEVIMAELRLYTLVQRDRMIYDGVDRKITIFEVLESKGDNEGE RNMLVLVSGEIYGTNSEWETFDVTDAIRRWQKSGSSTHQLEVHIESKHDEAEDASSGRLE IDTSAQNKHNPLLIVFSDDQSSDKERKEELNEMISHEQLPELDNLGLDSFSSGPGEEALL QMRSNIIYDSTARIRRNAKGNYCKRTPLYIDFKEIGWDSWIIAPPGYEAYECRGVCNYPL AEHLTPTKHAIIQALVHLKNSQKASKACCVPTKLEPISILYLDKGVVTYKFKYEGMAVSECGCR

Chloramphenicol Acetyltransferase (CAT)

DNA Sequence (5' to 3'):

Protein Sequence:

MEKKITGYTTVDISQWHRKEHFEAFQSVAQCTYNQTVQLDITAFLKTVKKNKHKFYPAFI HILARLMNAHPEFRMAMKDGELVIWDSVHPCYTVFHEQTETFSSLWSEYHDDFRQFLHIY SQDVACYGENLAYFPKGFIENMFFVSANPWVSFTSFDLNVANMDNFFAPVFTMGKYYTQG DKVLMPLAIQVHHAVCDGFHVGRMLNELQQYCDEWQGGA

Caspase 9 (CASP9)

DNA Sequence (5' to 3'):

ATGGACGAAGCGGATCGGCGGCTCCTGCGGCGGTGCCGGCTGCGGCTGGAAGAGCT
GCAGGTGACCAGCTCTGGGACGCCCTGCTGAGCCGCGAGCTGTTCAGGCCCCATATGAT
CGAGGACATCCAGCGGGCAGGCTCTGGATCTCGGCGGGATCAGGCCAGGCAGCTGATCAT
AGATCTGGAGACTCGAGGGAGTCAGGCTCTTCCTTTGTTCATCTCCTGCTTAGAGGACACAG
GCCAGGACATGCTGGCTTCGTTTCTGCGAACTAACAGGCAAGCAGCAAAGTTGTCGAAGCC
AACCCTAGAAAACCTTACCCCAGTGGTGCTCAGACCAGAGATTCGCAAACCAGAGGTTCTCA
GACCGGAAACACCCAGACCAGTGGACATTGGTTCTGGAGGATTTGGTGATGTCGAGCAGAA
AGACCATGGGTTTGAGGTGGCCTCCACTTCCCCTGAAGACCAGCTGGACGCCATAT
CTAGTTTGCCCACACCCCGTTCCAGGAAGGTTTGAGGACCTTCCAGGTTTTTCCT
GGAGGGACCCCAAGAGTGGCTCCTGGTACGTTGAGACCCTGGACGACATCTTTGAGCAGTG
GGCTCACTCTGAAGACCTGCAGTCCCTCCTGCTTAGGTCGCTAATGCTGTTTCGGTGAAA
GGGATTTATAAACAGATGCCTGGTTGCTTTAATTTCCTCCGGAAAAAACCTTTTCTTTAAAACAT
CATAA

Protein Sequence:

MDEADRRLLRRCRLRLVEELQVDQLWDALLSRELFRPHMIEDIQRAGSGSRRDQARQLII DLETRGSQALPLFISCLEDTGQDMLASFLRTNRQAAKLSKPTLENLTPVVLRPEIRKPEV LRPETPRPVDIGSGGFGDVGALESLRGNADLAYILSMEPCGHCLIINNVNFCRESGLRTR TGSNIDCEKLRRRFSSLHFMVEVKGDLTAKKMVLALLELAQQDHGALDCCVVVILSHGCQ ASHLQFPGAVYGTDGCPVSVEKIVNIFNGTSCPSLGGKPKLFFIQACGGEQKDHGFEVAS TSPEDESPGSNPEPDATPFQEGLRTFDQLDAISSLPTPSDIFVSYSTFPGFVSWRDPKSG SWYVETLDDIFEQWAHSEDLQSLLLRVANAVSVKGIYKQMPGCFNFLRKKLFFKTS

Dual Emission Green Fluorescent Protein (deGFP)

DNA Sequence (5' to 3'):

ATGGAGCTTTTCACTGGCGTTGTTCCCATCCTGGTCGAGCTGGACGCGACGTAAACGGCC
ACAAGTTCAGCGTGTCCGGCGAGGGCGAGGCCGATGCCACCTACGGCAAGCTGACCCTGA
AGTTCATCTGCACCACCGGCAAGCTGCCCGTGCCCTGGCCCACCCTCGTGACCACCCTGAC
CTACGGCGTGCAGTGCTTCAGCCGCTACCCCGACCACATGAAGCAGCACGACTTCTTCAAG
TCCGCCATGCCCGAAGGCTACGTCCAGGAGCGCACCATCTTCTTCAAGGACGACGCAACT
ACAAGACCCGCGCCGAGGTGAAGTTCGAGGGCGACACCCTGGTGAACCGCATCGAGCTGA
AGGGCATCGACTTCAAGGAGGACGCAACATCCTGGGGCACAAGCTGGAGTACAACTACAA
CAGCCACAACGTCTATATCATGGCCGACAAGCAGAAGAACGGCATCAAGGTGAACTTCAAG
ATCCGCCACAACATCGAGGACGCAGCGTGCAGCTCGCCGACCACTACCAGCAGAACACC
CCCATCGGCGACGGCCCCGTGCTGCCCGACAACCACTACCTGAGCACCCCAGTCCGCC
CTGAGCAAAGACCCCAACGAGAAGCGCGATCACATGGTCCTGCCGCC
GCCGGGATCTAA

Protein Sequence:

MELFTGVVPILVELDGDVNGHKFSVSGEGEGDATYGKLTLKFICTTGKLPVPWPTLVTTLTYGVQ CFSRYPDHMKQHDFFKSAMPEGYVQERTIFFKDDGNYKTRAEVKFEGDTLVNRIELKGIDFKED GNILGHKLEYNYNSHNVYIMADKQKNGIKVNFKIRHNIEDGSVQLADHYQQNTPIGDGPVLLPDN HYLSTQSALSKDPNEKRDHMVLLEFVTAAGI

Prothrombin (FII)

DNA Sequence (5' to 3'):

ATGGCGCACGTCCGAGGCTTGCAGCTGCCTGGCTGGCCTGGCTGCCCTGTGTAGC TCCGGCGAGCCAACACCTTCTTGGAGGAGGTGCGCAAGGGCAACCTAGAGCGAGAGTGCG TGGAGGAGACGTGCAGCTACGAGGAGGCCTTCGAGGCTCTGGAGTCCTCCACGGCTACGG ATGTGTTCTGGGCCAAGTACACAGCTTGTGAGACAGCGAGGACGCCTCGAGATAAGCTTGC TGCATGTCTGGAAGGTAACTGTGCTGAGGGTCTGGGTACGAACTACCGAGGGCATGTGAAC ATCACCCGGTCAGGCATTGAGTGCCAGCTATGGAGGAGTCGCTACCCACATAAGCCTGAAA TCAACTCCACTACCCATCCTGGGGCCGACCTACAGGAGAATTTCTGCCGCAACCCCGACAG CAGCACCACGGGACCCTGGTGCTACACTACAGACCCCACCGTGAGGAGGCAGGAATGCAG CATCCCTGTCTGTGGCCAGGATCAAGTCACTGTAGCGATGACTCCACGCTCCGAAGGCTCC AGTGTGAATCTGTCACCTCCATTGGAGCAGTGTGTCCCTGATCGGGGGCAGCAGTACCAGG GGCGCCTGGCGGTGACCACACATGGGCTCCCCTGCCTGGCCTGGGCCAGCGCACAGGCC AAGGCCCTGAGCAAGCACCAGGACTTCAACTCAGCTGTGCAGCTGGTGGAGAACTTCTGCC GCAACCCAGACGGGGATGAGGAGGGCGTGTGGTGCTATGTGGCCGGGAAGCCTGGCGAC TTTGGGTACTGCGACCTCAACTATTGTGAGGAGGCCGTGGAGGAGGAGACAGGAGATGGG CTGGATGAGGACTCAGACAGGGCCATCGAAGGGCGTACCGCCACCAGTGAGTACCAGACT TTCTTCAATCCGAGGACCTTTGGCTCGGGAGAGGCAGACTGTGGGCTGCGACCTCTGTTCG AGAAGAAGTCGCTGGAGGACAAAACCGAAAGAGAGCTCCTGGAATCCTACATCGACGGGCG CATTGTGGAGGGCTCGGATGCAGAGATCGGCATGTCACCTTGGCAGGTGATGCTTTTCCGG AAGAGTCCCCAGGAGCTGCTGTGGGGCCAGCCTCATCAGTGACCGCTGGGTCCTCACC GCCGCCCACTGCCTCCTGTACCCGCCCTGGGACAAGAACTTCACCGAGAATGACCTTCTGG TGCGCATTGGCAAGCACTCCCGCACAAGGTACGAGCGAAACATTGAAAAGATATCCATGTTG GAAAAGATCTACATCCACCCCAGGTACAACTGGCGGGAGAACCTGGACCGGGACATTGCCC TGATGAAGCTGAAGAAGCCTGTTGCCTTCAGTGACTACATTCACCCTGTGTGTCTGCCCGAC AGGGAGACGGCAGCCAGCTTGCTCCAGGCTGGATACAAGGGGCGGGTGACAGGCTGGGG CAACCTGAAGGAGACGTGGACAGCCAACGTTGGTAAGGGGCAGCCCAGTGTCCTGCAGGT GGTGAACCTGCCCATTGTGGAGCGGCCGGTCTGCAAGGACTCCACCCGGATCCGCATCAC TGACAACATGTTCTGTGCTGGTTACAAGCCTGATGAAGGGAAACGAGGGGATGCCTGTGAA GGTGACAGTGGGGGACCCTTTGTCATGAAGAGCCCCTTTAACAACCGCTGGTATCAAATGG GCATCGTCTCATGGGGTGAAGGCTGTGACCGGGATGGGAAATATGGCTTCTACACACATGT GTTCCGCCTGAAGAAGTGGATACAGAAGGTCATTGATCAGTTTGGAGAGTAG

Protein Sequence:

MAHVRGLQLPGCLALAALCSLVHSQHVFLAPQQARSLLQRVRRANTFLEEVRKGNLEREC VEETCSYEEAFEALESSTATDVFWAKYTACETARTPRDKLAACLEGNCAEGLGTNYRGHV NITRSGIECQLWRSRYPHKPEINSTTHPGADLQENFCRNPDSSTTGPWCYTTDPTVRRQE CSIPVCGQDQVTVAMTPRSEGSSVNLSPPLEQCVPDRGQQYQGRLAVTTHGLPCLAWASA QAKALSKHQDFNSAVQLVENFCRNPDGDEEGVWCYVAGKPGDFGYCDLNYCEEAVEEETG DGLDEDSDRAIEGRTATSEYQTFFNPRTFGSGEADCGLRPLFEKKSLEDKTERELLESYI DGRIVEGSDAEIGMSPWQVMLFRKSPQELLCGASLISDRWVLTAAHCLLYPPWDKNFTEN DLLVRIGKHSRTRYERNIEKISMLEKIYIHPRYNWRENLDRDIALMKLKKPVAFSDYIHP VCLPDRETAASLLQAGYKGRVTGWGNLKETWTANVGKGQPSVLQVVNLPIVERPVCKDST RIRITDNMFCAGYKPDEGKRGDACEGDSGGPFVMKSPFNNRWYQMGIVSWGEGCDRDGKY GFYTHVFRLKKWIQKVIDQFGE

Coagulation Factor 10 (FX)

DNA Sequence (5' to 3'):

GGGGAAAGTCTGTTCATCCGCAGGGAGCCGACCAACAACATCCTGGCGAGGGTCACGAGG GCCAATTCCTTTCTTGAAGAGATGAAGAAAGGACACCTCGAAAGAGAGTGCATGGAAGAGA GAATAAATACAAAGATGGCGACCAGTGTGAGACCAGTCCTTGCCAGAACCAGGGCAAATGT AAAGACGGCCTCGGGGAATACACCTGCACCTGTTTAGAAGGATTCGAAGGCAAAAACTGTG AATTATTCACACGGAAGCTCTGCAGCCTGGACAACGGGGACTGTGACCAGTTCTGCCACGA GGAACAGAACTCTGTGGTGTGCTCCTGCGCCCGCGGGTACACCCTGGCTGACAACGGCAA GGCCTGCATTCCCACAGGGCCCTACCCCTGTGGGAACAGACCCTGGAACGCAGGAAGAG GTCAGTGGCCCAGGCAGCAGCAGCGGGGAGGCCCCTGACAGCATCACATGGAAGCC ATATGATGCAGCCGACCTGGACCCCACCGAGAACCCCTTCGACCTGCTTGACTTCAACCAG ACGCAGCCTGAGAGGGGCGACAACAACCTCACCAGGATCGTGGGAGGCCAGGAATGCAAG GACGGGGAGTGTCCCTGGCAGGCCCTGCTCATCAATGAGGAAAACGAGGGTTTCTGTGGT GGAACTATTCTGAGCGAGTTCTACATCCTAACGGCAGCCCACTGTCTCTACCAAGCCAAGAG ACGAGGTGGAGGTCATCAAGCACAACCGGTTCACAAAGGAGACCTATGACTTCGACAT CCCGAGCGTGACTGGGCCGAGTCCACGCTGATGACGCAGAAGACGGGGATTGTGAGCGGC TTCGGGCGCACCCACGAGAAGGGCCGGCAGTCCACCAGGCTCAAGATGCTGGAGGTGCCC TACGTGGACCGCAACAGCTGCAAGCTGTCCAGCAGCTTCATCATCACCCAGAACATGTTCTG TGCCGGCTACGACACCAAGCAGGAGGATGCCTGCCAGGGGGACAGCGGGGGCCCGCACG TCACCCGCTTCAAGGACACCTACTTCGTGACAGGCATCGTCAGCTGGGGAGAGGGCTGTGC CCGTAAGGGGAAGTACGGGATCTACACCAAGGTCACCGCCTTCCTCAAGTGGATCGACAGG TCCATGAAAACCAGGGCTTGCCCAAGGCCAAGAGCCATGCCCCGGAGGTCATAACGTCCT **CTCCATTAAAGTGA**

Protein Sequence:

MGRPLHLVLLSASLAGLLLLGESLFIRREQANNILARVTRANSFLEEMKKGHLERECMEE
TCSYEEAREVFEDSDKTNEFWNKYKDGDQCETSPCQNQGKCKDGLGEYTCTCLEGFEGKN
CELFTRKLCSLDNGDCDQFCHEEQNSVVCSCARGYTLADNGKACIPTGPYPCGKQTLERR
KRSVAQATSSSGEAPDSITWKPYDAADLDPTENPFDLLDFNQTQPERGDNNLTRIVGGQE
CKDGECPWQALLINEENEGFCGGTILSEFYILTAAHCLYQAKRFKVRVGDRNTEQEEGGE
AVHEVEVVIKHNRFTKETYDFDIAVLRLKTPITFRMNVAPACLPERDWAESTLMTQKTGI
VSGFGRTHEKGRQSTRLKMLEVPYVDRNSCKLSSSFIITQNMFCAGYDTKQEDACQGDSG
GPHVTRFKDTYFVTGIVSWGEGCARKGKYGIYTKVTAFLKWIDRSMKTRGLPKAKSHAPEVITSS
PLK

Fibroblast Growth Factor 21 (FGF21)

DNA Sequence (5' to 3'):

Protein Sequence:

MDSDETGFEHSGLWVSVLAGLLLGACQAHPIPDSSPLLQFGGQVRQRYLYTDDAQQTEAH LEIREDGTVGGAADQSPESLLQLKALKPGVIQILGVKTSRFLCQRPDGALYGSLHFDPEA CSFRELLLEDGYNVYQSEAHGLPLHLPGNKSPHRDPAPRGPARFLPLPGLPPALPEPPGI LAPQPPDVGSSDPLSMVGPSQGRSPSYAS

Single Chain Variable Fragment R4 (scFvR4)

DNA Sequence (5' to 3'):

Protein Sequence:

MAEVQLVESGGSLVKPGGSLRLSCAASGFTFSNYSMNWVRQAPGKGLEWISSISGSSRYIYYAD FVKGRFTISRDNATNSLYLQMNSLRAEDTAVYCVRSSITTFGGGMDVWGRGTLVTVSSGGGGS GGGGSGGGGSQSVLTQPASVSGSPGQSITISCAGTSSDVGGYNYVSWYQQHPGKAPKLMIYE DSKRPSGVSNRFSGSKSGNTASLTISGLQAEDEADYYCSSYTTRSTRVFGGGTKLAVLGAAAEQ KLISEEDLNGAAHHHHHH

Maltose Binding Protein (MBP)

DNA Sequence (5' to 3'):

ATGAAAATGAATAAAAGTCTCATCGTCCTCTGTTTATCAGCAGGGTTACTGGCAAGCGCG CCTGGAATTAGCCTTGCCGATGTTAACTACGTACCGCAAAACACCAGCGACGCGCCAGCC ATTCCATCTGCTGCGCTGCAACAACTCACCTGGACACCGGTCGATCAATCTAAAACCCAG ACCACCCAACTGGCGACCGGCGGCCAACAACTGAACGTTCCCGGCATCAGTGGTCCGGTT GCTGCGTACAGCGTCCCGGCAAACATTGGCGAACTGACCCTGACGCTGACCAGCGAAGTG AACAAACAACCAGCGTTTTTGCGCCGAACGTGCTGATTCTTGATCAGAACATGACCCCA TCAGCCTTCTTCCCCAGCAGTTATTTCACCTACCAGGAACCAGGCGTGATGAGTGCAGAT CGGCTGGAAGGCGTTATGCGCCTGACACCGGCGTTGGGGCAGCAAAAACTTTATGTTCTG GTCTTTACCACGGAAAAAGATCTCCAGCAGACGACCCAACTGCTCGACCCGGCTAAAGCC TATGCCAAGGGCGTCGGTAACTCGATCCCGGATATCCCCGATCCGGTTGCTCGTCATACC ACCGATGGCTTACTGAAACTGAAAGTGAAAACGAACTCCAGCTCCAGCGTGTTGGTAGGA GTGGCTGCACCCGCTCCGGCACCGGTGAAGAAAAGCGAGCCGATGCTCAACGACACGGAA AGTTATTTTAATACCGCGATCAAAAACGCTGTCGCGAAAGGTGATGTTGATAAGGCGTTA AAACTGCTTGATGAAGCTGAACGCCTGGGATCGACATCTGCCCGTTCCACCTTTATCAGC AGTGTAAAAGGCAAGGGGTAA

Protein Sequence:

MKMNKSLIVLCLSAGLLASAPGISLADVNYVPQNTSDAPAIPSAALQQLTWTPVDQSKTQTTQLA TGGQQLNVPGISGPVAAYSVPANIGELTLTLTSEVNKQTSVFAPNVLILDQNMTPSAFFPSSYFTY QEPGVMSADRLEGVMRLTPALGQQKLYVLVFTTEKDLQQTTQLLDPAKAYAKGVGNSIPDIPDP VARHTTDGLLKLKVKTNSSSSVLVGPLFGSSAPAPVTVGNTAAPAVAAPAPAPVKKSEPMLNDT ESYFNTAIKNAVAKGDVDKALKLLDEAERLGSTSARSTFISSVKGKG