

## SEQ ID NOs

### 1. DNA sequence of LH<sub>N</sub>/A

ggatccATGGAGTTCGTAAACAAACAGTTCAACTATAAAGACCCAGTTAACGGTGTGACATTGCTTACAT  
CAAAATCCCGAACGCTGGCCAGATGCAGCCGGTAAAGGCATTCAAAATCCACAACAAAATCTGGGTATATCC  
CGGAACGTGATACCTTTACTAACCCGGAAGAAGGTGACCTGAACCCGCCACCGGAAGCGAAACAGGTGCCG  
GTATCTTACTATGACTCCACCTACCTGTCTACCGATAACGAAAAGGACAACCTACCTGAAAGGTGTACTAA  
ACTGTTTCGAGCGTATTTACTCCACCGACCTGGGCCGTATGCTGCTGACTAGCATCGTTTCGCGGTATCCCGT  
TCTGGGGCGGTCTACCATCGATACCGAACTGAAAGTAATCGACACTAACTGCATCAACGTATATCAGCCG  
GACGGTTCCTATCGTTCGGAAGAACTGAACCTGGTGATCATCGGCCCGTCTGCTGATATCATCCAGTTTCGA  
GTGCTGAGCTTTGGTCACGAAGTTCTGAACCTCACCCGTAACGGCTACGGTTCCTCAGTACATCCGTT  
TCTCTCCGGACTTCACCTTCGGTTTTGAAGAATCCCTGGAAGTAGACACGAACCCACTGCTGGGCGCTGGT  
AAATTCGCAACTGATCCTGCGGTACCCCTGGCTCAGCAACTGATTCATGCAGGCCACCGCTGTACGGTAT  
CGCCATCAATCCGAACCGTGTCTTCAAAGTTAACACCAACGCGTATTACGAGATGTCCGGTCTGGAAGTTA  
GCTTCGAAGAACTGCGTACTTTTTGGCGGTACGACGCTAAATTCATCGACTCTCTGCAAGAAAACGAGTTC  
CGTCTGTACTACTATAACAAGTTCAAAGATATCGCATCCACCCTGAACAAAGCGAAATCCATCGTGGGTAC  
CACTGCTTCTCTCCAGTACATGAAGAACGTTTTTAAAGAAAAATACCTGCTCAGCGAAGACACCTCCGGCA  
AATTCCTCTGTAGACAAGTTGAAATTCGATAAACTTTACAAAATGCTGACTGAAATTTACACCGAAGACAAC  
TTCGTTAAGTTCTTTAAAGTTCTGAACCGCAAAACCTATCTGAACTTCGACAAGGCAGTATTCAAAATCAA  
CATCGTGCCGAAAGTTAACTACACTATCTACGATGGTTTTCAACCTGCGTAACACCAACCTGGCTGCTAATT  
TTAACGGCCAGAACACGGAATCAACAACATGAACCTTCACAAAACCTGAAAACTTCACTGGTCTGTTTCGAG  
TTTTACAAGCTGCTGTGCGTCGACGGCATCATTACCTCCAAAACCTAAATCTGACGATGACGATAAAAAACAA  
AGCGCTGAACCTGCAGTGTATCAAGGTAAACAACCTGGGATTTATTCTTCAGCCCGAGTGAAGACAACCTCA  
CCAACGACCTGAACAAAGGTGAAGAAATCACCTCAGATACTAACATCGAAGCAGCCGAAGAAAACATCTCG  
CTGGACCTGATCCAGCAGTACTACCTGACCTTTAATTTTCGACAACGAGCCGGAACATTTCTATCGAAAA  
CCTGAGCTCTGATATCATCGGCCAGCTGGAACCTGATGCCGAACATCGAACGTTTCCCAAACCGTTAAAAAGT  
ACGAGCTGGACAAATATACCATGTTCCACTACCTGCGCGCGCAGGAATTTGAACACGGCAAAATCCCGTATC  
GCACTGACTAACTCCGTAAACGAAGCTCTGCTCAACCCGTCCCGTGTATACACCTTCTTCTCTAGCGACTA  
CGTGAAAAAGGTCAACAAAGCGACTGAAGCTGCAATGTTCTTGGGTTGGGTTGAACAGCTTGTATTATGATT  
TTACCGACGAGACGTCCGAAGTATCTACTACCGACAAAATTGCGGATATCACTATCATCATCCCGTACATC  
GGTCCGGCTCTGAACATTGGCAACATGCTGTACAAAGACGACTTCGTTGGCGCACTGATCTTCTCCGGTGC  
GGTGATCCTGCTGGAGTTCATCCCGGAAATCGCCATCCCGGTACTGGGCACCTTTGCTCTGGTTTCTTACA  
TTGCAACAAAGTTCTGACTGTACAAACCATCGACAACGCGCTGAGCAACGTAACGAAAAATGGGATGAA  
GTTTACAAATATATCGTGACCAACTGGCTGGCTAAGGTTAATACTCAGATCGACCTCATCCGCAAAAAAAT  
GAAAGAAGCACTGGAACAAACAGGCGGAAGCTACCAAGGCAATCATTAACCTACCAGTACAACCACTACCCG  
AGGAAGAAAAAACAACATCAACTTCAACATCGACGATCTGTCTCTAACTGAACGAATCCATCAACAAA  
GCTATGATCAACATCAACAAGTTCTTGAACAGTGCTCTGTAAGCTATCTGATGAACTCCATGATCCCGTA  
CGGTGTTAAACGTTCTGGAGGACTTCGATGCGTCTCTGAAAGACGCCCTGCTGAAATACATTTACGACAAC  
GTGGCACTCTGATCGGTGAGGTTGATCGTCTGAAGGACAAAGTGAACAATACCTTATCGACCGACATCCCT  
TTTCAGCTCAGTAAATATGTCGATAACCAACGCCTTTTGTCCACTctagaataatgaaagctt

### 2. DNA sequence of LH<sub>N</sub>/B

GGATCCATGCCGGTTACCATCAACAACCTTCAACTACAACGACCCGATCGACAACAACAACATCATTATGAT  
GGAACCGCCGTTTCGCACGTGGTACCGGACGTTACTACAAGGCTTTTAAGATCACCGACCGTATCTGGATCA  
TCCCGGAACGTTACACCTTCGGTTACAAACCTGAGGACTTCAACAAGAGTAGCGGGATTTTCAATCGTGAC  
GTCTGCGAGTACTATGATCCAGATTATCTGAATACCAACGATAAGAAGAACATATTCCTTCAGACTATGAT  
TAAACTCTTCAACCGTATCAAAAGCAAACCGCTCGGTGAAAACTCCTCGAAATGATTATCAACGGTATCC  
CGTACCTCGGTGACCGTCTGTCTCCGCTTGAAGAGTTCAACACCAACATCGCAAGCGTCACCGTCAACAAA  
CTCATCAGCAACCCAGGTGAAGTCGAACGTAAAAAAGGTATCTTCGCAACCTCATCTCTCGGTCCGGG  
TCCGGTCTTCAACGAAAAACGAAACCATCGACATCGGTATCCAGAACCCTTCGCAAGCCGTGAAGGTTTCG  
GTGGTATCATGCAGATGAAATTCTGCCCAGAAATACGTCAAGTGTCTTCAACAACGTCCAGGAAAAACAAAGGT  
GCAAGCATCTTCAACCGTCTGTTTACTTCAGCGACCCGGCACTCATCCTCATGCATGAACTCATCCACGT  
CCTCCACGGTCTCTACGGTATCAAAGTTGACGACCTCCCGATCGTCCCGAACGAGAAGAAATCTTCATGC  
AGAGCACCGACGCAATCCAGGCTGAGGAACTCTACACCTTCGGTGGCCAAGACCCAAGTATCATAACCCCG

TCCACCGACAAAAGCATCTACGACAAAAGTCTCCAGAACTTCAGGGGTATCGTGGACAGACTCAACAAAAGT  
 CCTCGTCTGCATCAGCGACCCGAACATCAATATCAACATATACAAGAACAAGTTCAAAGACAAGTACAAAT  
 TCGTCGAGGACAGCGAAGGCAAATACAGCATCGACGTAGAAAGTTTCGACAAGCTCTACAAAAGCCTCATG  
 TTCGGTTTCACCGAAAACCAACATCGCCGAGAACTACAAGATCAAGACAAGGGCAAGTTACTTCAGCGACAG  
 CCTCCCGCCTGTCAAAATCAAGAACCTCTTAGACAACGAGATTTACACAATTGAAGAGGGCTTCAACATCA  
 GTGACAAAAGACATGGAGAAGGAATACAGAGGTCAGAACAAGGCTATCAACAAAACAGGCATACGAGGAGATC  
 AGCAAAGAACACCTCGCAGTCTACAAGATCCAGATGTGCGTCGACGGCATCATTACCTCCAAAACATAATC  
 TGACGATGACGATAAAAAACAAAGCGCTGAACCTGCAGTGCATCGACGTTGACAACGAAGACCTGTTCTTCA  
 TCGCTGACAAAAACAGCTTCAGTGACGACCTGAGCAAAAACGAACGTATCGAATACAACACCCAGAGCAAC  
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 AGAAAATCTTACCGGACGAAAACACCATCTTCCAGTACCTGTACAGCCAGACCTTCCCCTGGACATCCGT  
 GACATCAGTCTGACCAGCAGTTTCGACGACGCTCTGCTGTTTCAGCAACAAAGTTTACAGTTTCTTCAGCAT  
 GGACTACATCAAAAACCGCTAACAAAAGTTGTTGAAGCAGGGCTGTTTCGCTGGTTGGGTAAACAGATCGTTA  
 ACGACTTCGTTATCGAAGCTAACAAAAGCAACACTATGGACAAAATCGCTGACATCAGTCTGATCGTTCCG  
 TACATCGGTCTGGCTCTGAACGTTGGTAACGAAACCGCTAAAGGTAACCTTTGAAAACGCTTTCGAGATCGC  
 TGGTGCAAGCATCTCTGGAGTTTCATCCCGAAACTGCTGATCCCGGTTGTTGGTGCTTTCCTGCTGGAAA  
 GTTACATCGACACAAACAAAGATCATCAAAACCATCGACAACGCTCTGACCAACAGTTCCTGCAAAAAATGG  
 AGTGATATGTACGGTCTGATCGTTGCTCAGTGCGTGAGCACCGTCAACACCCAGTTCTACACCATCAAGA  
 AGGTATGTACAAAGCTCTGAACTACCAGGCTCAGGCTCTGGAAGAGATCATCAAATACCGTTACAACATCT  
 ACAGTGAGAAGGAAAAAGAGTAACATCAACATCGACTTCAACGACATCAACAGCAAACCTGAACGAAGGTATC  
 AACCAGGCTATCGACAACATCAACAACCTTCATCAACGGTTGCAGTGTTAGCTACCTGATGAAGAAGATGAT  
 CCCGCTGGCTGTTGAAAACTGCTGGACTTCGACAACACCCTGAAAAAGAACCTGCTGAACTACATCGACG  
 AAAACAAGCTGTACCTGATCGGTAGTGCTGAATACGAAAAAGTAAAGTGAACAAATACCTGAAGACCATC  
 ATGCCGTTTCGACCTGAGTATCTACACCAACGACACCATCTGATCGAAATGTTCAACAAATACAACCTctct  
 agaataatgaaagctt

### 3. DNA sequence of LH<sub>N</sub>/C

ggatccATGCCGATCACCATCAACAACCTTCAACTACAGCGATCCGGTGGATAACAAAAACATCCTGTACCT  
 GGATACCCATCTGAATACCCTGGCGAACGAACCGGAAAAAGCGTTTTCGTATCACCAGCAACATTTGGGTTA  
 TTCCGGATCGTTTTAGCCGTAACAGCAACCCGAATCTGAATAAACCGCCGCGTGTTACCAGCCCGAAAAAGC  
 GGTATTATTACGATCCGAACATCTGAGCACCGATAGCGATAAAGATACCTTCCTGAAAGAAATCATCAAACT  
 GTTCAAACGCATCAACAGCCGTGAAATTGGCGAAGAACTGATCTATCGCCTGAGCACCGATATTCCGTTTC  
 CGGGCAACAACAACACCCCGATCAACACCTTTGATTTTCGATGTGGATTTCAACAGCGTTGATGTTAAACC  
 CGCCAGGGTAACAATTGGGTGAAAACCGGCAGCATTAAACCCGAGCGTGATTATTACCGGTCCGCGCGAAAA  
 CATTATTGATCCGGAAACCAGCACCTTTAAACTGACCAACAACACCTTTGCGGCGCAGGAAGGTTTTGGCG  
 CGCTGAGCATTATTAGCATTAGCCCGCGCTTTATGCTGACCTATAGCAACGCGACCAACGATGTTGGTGAA  
 GGCCGTTTTACGAAAAAGCAATTTTGCATGGACCCGATCCTGATCCTGATGCATGAACCTGAACCATGCGAT  
 GCATAACCTGTATGGCATCGCGATTCCGAACGATCAGACCATTAGCAGCGTGACCAGCAACATCTTTTACA  
 GCCAGTACAACGTGAACTGGAATATGCGGAAATCTATGCGTTTGGCGGTCCGACCATTGATCTGATTCCG  
 AAAAGCGCGCGCAATACTTCGAAGAAAAAGCGCTGGATTACTATCGCAGCATTGCGAAACGCTGAAACAG  
 CATTACCACCGCGAATCCGAGCAGCTTCAACAAATATATCGGCGAATATAAACAGAAACTGATCCGCAAAAT  
 ATCGCTTTTGTGGTGGAAGCAGCGGCGAAGTTACCGTTAACCGCAATAAATTCGTGGAACGTGACAACGAA  
 CTGACCCAGATCTTACCCGAATTTAACTATGCGAAAATCTATAACGTGCAGAACCGTAAAAATCTACCTGAG  
 CAACGTGTATAACCCCGGTGACCGCGAATATTCTGGATGATAACGTGTACGATATCCAGAACGGCTTTAACA  
 TCCCGAAAAGCAACCTGAACGTTCTGTTTATGGGCCAGAACCTGAGCCGTAATCCGGCGCTGCGTAAAGTG  
 AACC CGGAAAACATGCTGTACCTGTTTACCAAATTTTTCGCTCGACGCGATTGATGGTCTGATGCTGTACAA  
 CAAAACCTTGCAAGTGTGCTGAACTGCTGGTGAAAAACACCGATCTGCCGTTTATTGGCGATATCAGCGATG  
 TGAAAACCGATATCTTCTGCGCAAGATATCAACGAAGAAACCGAAGTGATCTACTACCCGGATAACGTG  
 AGCGTTGATCAGGTGATCCTGAGCAAAAACACCGAGCAACATGGTCAGCTGGATCTGCTGTATCCGAGCAT  
 TGATAGCGAAAGCGAAATTTCTGCCGGGCGAAAACACCGGTGTTTTACGATAACCGTACCCAGAACGTGGATT  
 ACCTGAACAGCTATTACTACCTGGAAGCCAGAACTGAGCGATAACGTGGAAGATTTTACCTTTACCCGC  
 AGCATTGAAGAAGCGCTGGATAACAGCGCGAAAGTTTACACCTATTTTCCGACCTGGCGAACAAAGTTAA  
 TGCGGGTGTTCAGGGCGGTCTGTTTCTGATGTGGGCGAACGATGTGGTGGAAGATTTTACCACCAACATCC  
 TGCGTAAAGATACCCTGGATAAAATCAGCGATGTTAGCGCGATTATTCCGTATATTGGTCCGGCGCTGAAC  
 ATTAGCAATAGCGTGCGTCTGGCAATTTTACCGAAGCGTTTTCGCGTTACCGGTGTGACCATTTCTGCTGGA

AGCGTTTCCGGAATTTACCATTCCGGCGCTGGGTGCGTTTGTGATCTATAGCAAAGTGCAGGAACGCAACG  
AAATCATCAAAACCATCGATAACTGCCTGGAACAGCGTATTAAACGCTGGAAGATAGCTATGAATGGATG  
ATGGGCACCTGGCTGAGCCGTATTATCACCCAGTTCAACAACATCAGCTACCAGATGTACGATAGCCTGAA  
CTATCAGGCGGGTGCATTAAAGCGAAAATCGATCTGGAATACAAAAATACAGCGGCAGCGATAAAGAAA  
ACATCAAAAGCCAGGTTGAAAACCTGAAAAACAGCCTGGATGTGAAAATTAGCGAAGCGATGAATAACATC  
AACAAATTCATCCGCGAATGCAGCGTGACCTACCTGTTCAAAAACATGCTGCCGAAAGTGATCGATGAACT  
GAACGAATTTGATCGCAACACCAAAGCGAAACTGATCAACCTGATCGATAGCCACAACATTATTTCTGGTGG  
GCGAAGTGGATAAACTGAAAGCGAAAGTTAACAACAGCTTCCAGAACACCATCCCGTTTAAACATCTTCAGC  
TATACCAACAACAGCCTGCTGAAAGATATCATCAACGAATACTTCAAtctagaataatgaaagctt

#### 4. DNA sequence of LH<sub>N</sub>/D

ggatccATGACGTGGCCAGTTAAGGATTTCAACTACTCAGATCCTGTAAATGACAACGATATTCTGTACCT  
TCGCATTCCACAAAATAAACTGATCACCACACCAGTCAAAGCATTTCATGATTACTCAAAACATTTGGGTCA  
TTCCAGAACGCTTTTCTAGTGACACAAATCCGAGTTTATCTAAACCTCCGCGTCCGACGTCCAAAATATCAG  
AGCTATTACGATCCCTCATATCTCAGTACGGACGAACAAAAGATACTTTCCTTAAAGGTATCATTTAACT  
GTTTAAAGCTATTAAATGAGCGCGATATCGGGA AAAAGTTGATTAATTATCTTGTGTGGGTCCCGGTACGATAAG  
TGGGCGATGATCTTACCCCCGAAGACACTTTTGAATTTTACCCGTCATACGACAAACATCGCGGTAGAGAAG  
TTTGAGAACGGATCGTGGAAGTCACAAACATCATTACACCTAGCGTCTTAATTTTTTGGTCCGCTGCCAAA  
CATCTTAGATTATACAGCCAGCCTGACTTTGCAGGGGCAACAGTCAATCCGAGTTTGAAGGTTTTGGTA  
CCCTGAGCATTCTGAAAGTTGCCCCGGAATTTCTGCTCACTTTTTTTCAGATGTCACCAGCAACCAGAGCTCA  
GCAGTATTAGGAAAGTCAATTTTTTGCATGGACCCGGTTATTGCACTGATGCACGAACTGACGCACTCTCT  
GCATCAACTGTATGGGATCAACATCCCCAGTGACAAACGTATTTCGTCGCCAGGTGTCTGAAGGATTTTTCT  
CACAGGATGGGCCGAACGTCCAGTTTGAAGAGTTGTATACTTTTCGGAGGCCTGGACGTAGAGATCATTTCC  
CAGATTGAGCGCAGTCAGCTGCGTGAGAAGGCATTGGGGCATTATAAGGATATTGCAAAACGCTGAATAA  
CATTAACAAAACGATTCCATCTTCGTGGATCTCGAATATTGATAAATATAAGAAAATTTTTAGCGAGAAAT  
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TCGTCACCTACCTGCCGGTTTTTCGCAACATCCTTGACGATAATATTTTACACTATTCGTGACGGCTTTAACT  
TGACCAACAAGGGCTTCAATATTGAAAATTGAGCCAGAACATTGAACGCAACCCGGCTTGCGAAACTG  
TCGAGTGAATCCGTGGTTGACCTGTTTACCAAAGTCTGCGTCGACAAAAGCGAAGAGAAGCTGTACGATGA  
CGATGACAAAAGATCGTTGGGGATCGTCCCTGCAGTGTATTAAAGTGAAAAACAATCGGCTGCCTTATGTAG  
CAGATAAAGATAGCATTAGTCAGGAGATTTTCGAAAATAAAATTATCACTGACGAAACCAATGTTGAGAAT  
TATTCAGATAAAATTTTCACTGGACGAAAGCATCTTAGATGGCCAAGTTCCGATTAACCCGGAAATGTTGA  
TCCGTTACTGCCGAACGTGAATATGGAACCGTTAAACCTCCCTGGCGAAGAGATCGTATTTTATGATGACA  
TTACGAAATATGTGGACTACCTTAATTCTTATTACTATTTGGAAAGCCAGAACTGTCCAATAACGTGGAA  
AACATTACTCTGACCACAAGCGTGGAAGAGGCTTTAGGCTACTCAAATAAGATTTATACCTTCTCCCGTC  
GCTGGCGGAAAAAGTAAATAAAGGTGTGCAGGCTGGTCTGTTCCCTCAACTGGGCGAATGAAGTTGTGCAAG  
ACTTTACCACGAATATATGAAAAAGGATACCCTGGATAAAATCTCCGACGTCTCGGTTATTATCCCATAT  
ATTGGCCCTGCGTTAAATATCGGTAATAGTGCGCTGCGGGGGAATTTTAACCAGGCCTTTGCTACCGCGGG  
CGTCGCGTTCCCTCCTGGAGGGCTTTCTGAAATTTACTATCCCGGCGCTCGGTGTTTTTACATTTTACTCTT  
CCATCCAGGAGCGTGAGAAAATTATCAAAACCATCGAAAACCTGCCTGGAGCAGCGGGTGAAACGCTGGAAA  
GATTCTTATCAATGGATGGTGTCAAACCTGGTTATCTCGCATCACGACCCAATTCAACCATATTAATTACCA  
GATGTATGATAGTCTGTCGTACCAAGCTGACGCCATTAAAGCCAAAATTGATCTGGAATATAAAAAAGTACT  
CTGGTAGCGATAAGGAGAACATCAAAAGCCAGGTGGAGAACCTTAAGAATAGTCTGGATGTGAAAATCTCT  
GAAGCTATGAATAACATTAACAAATTCATTTCGTGAATGTTTCGGTGACGTACCTGTTCAAGAATATGCTGCC  
AAAAGTTATTGATGAACGAATAAATTTGATCTGCGTACCAAAACCGAACTTATCAACCTCATCGACTCCC  
ACAACATTATCCTTGTGGGCGAAGTGGATCGTCTGAAGGCCAAAGTAAACGAGAGCTTTGAAAATACGATG  
CCGTTTAAATATTTTTTCATATACCAATAACTCCTTGCTGAAAGATATCATCAATGAATATTTCAATctaga  
ttaataagctt

#### 5. DNA sequence of the CT-CST28 linker

GGATCCGTCGACCTGCAGGGTCTAGAAGGCGGTGGCGGTAGCGGCGGTGGCGGTAGCGGCGGTGGCGGTAG  
CGGCGGTGGCGGTAGCGCACTAGTGACAGGAAAGACCTCCATTACAACAACCTCCACATCGCGATAAGAAAC  
CATGTAAGAATTTCTTTTGGAAAACATTTAGCAGTTGCAAATGATAAAAGCTT

## 6. DNA sequence of the LHD-CT-CST28 fusion

GGATCCATGACGTGGCCAGTTAAGGATTTCAACTACTCAGATCCTGTAAATGACAACGATATTCTGTACCT  
TCGCATTCCACAAAATAAACTGATCACCACACCAGTCAAAGCATTTCATGATTACTCAAAACATTTGGGTCA  
TTCCAGAACGCTTTTCTAGTGACACAAATCCGAGTTTATCTAAACCTCCGCGTCCGACGTCCAAATATCAG  
AGCTATTACGATCCCTCATATCTCAGTACGGACGAACAAAAGATACTTTTCCTTAAAGGTATCATTTAACT  
GTTTAAGCGTATTAATGAGCGCGATATCGGGAAAAAGTTGATTAATTATCTTGTGTGGGTTCCTCGTTCA  
TGGGCGATAGCTCTACCCCGAAGACACTTTTGATTTTACCCGTCATACGACAAACATCGCGGTAGAGAAG  
TTTGAGAACGGATCGTGGAAAGTCACAAACATCATTACACCTAGCGTCTTAATTTTTTGGTCCGCTGCCAAA  
CATCTTAGATTATACAGCCAGCCTGACTTTGCAGGGGCAACAGTCAATCCGAGTTTCGAAGTTTTGGTA  
CCCTGAGCATTCTGAAAGTTGCCCCGGAATTTCTGCTCACTTTTTTCAGATGTCACCAGCAACCAGAGCTCA  
GCAGTATTAGGAAAGTCAATTTTTTGCATGGACCCGGTTATTGCACTGATGCACGAACTGACGCACTCTCT  
GCATCAACTGTATGGGATCAACATCCCCAGTGACAAACGTATTTCGTCCCCAGGTGTCTGAAGGATTTTTCT  
CACAGGATGGGCCGAACGTCCAGTTTGAAGAGTTGTATACTTTTCGGAGGCCTGGACGTAGAGATCATTCCC  
CAGATTGAGCGCAGTCAGCTGCGTGAGAAGGCATTGGGCCATTATAAGGATATTGCAAAACGCCTGAATAA  
CATTAACAAAACGATTCCATCTTCGTGGATCTCGAATATTGATAAATATAAGAAAATTTTTAGCGAGAAAT  
ATAATTTTGATAAAGATAACAGGTAACCTTTGTGGTTAACATTGACAAATTCACTCCCTTTACAGTGAT  
TTGACGAATGTAATGAGCGAAGTTGTGTATTTGCTTCCCAATACAACGTTAAGAATCGTACCCATTACTTCTC  
TCGTCACTACTTCCCGGTTTTTCGCGAACATCCTTGACGATAATATTTACACTATTCGTGACGGCTTTAACT  
TGACCAACAAGGGCTTCAATATTGAAAATTCAGGCCAGAACATTGAACGCAACCCGGCCTTGACAGAACTG  
TCGAGTGAATCCGTGGTTGACCTGTTTACCAAAGTCTGCGTCGACAAAAGCGAAGAGAAGCTGTACGATGA  
CGATGACAAAGATCGTTGGGGATCGTCCCTGCAGTGTATTAAAGTGAAAAACAATCGGCTGCCTTATGTAG  
CAGATAAAGATAGCATTAGTCAGGAGATTTTCGAAAATAAAATTATCACTGACGAAACCAATGTTGAGAAT  
TATTCAGATAAAATTTTCACTGGACGAAAGCATCTTAGATGGCCAAGTTCCGATTAACCCGGAATTTGTTGA  
TCCGTTACTGCCGAACGTGAATATGGAACCGTTAAACCTCCCTGGCGAAGAGATCGTATTTTATGATGACA  
TTACGAAATATGTGGACTACCTTAATTCTTATTACTATTTGGAAGCCAGAACTGTCCAATAACGTGGAA  
AACATTACTCTGACCACAAGCGTGGAAGAGGCTTTAGGCTACTCAAATAAGATTTATACCTTCCTCCCGTC  
GCTGGCGGAAAAAGTAAATAAAGGTGTGCAGGCTGGTCTGTTCCCTCAACTGGGCGAATGAAGTTGTGGAAG  
ACTTTACCACGAATATTATGAAAAAGGATACCCCTGGATAAAATCTCCGACGTCTCGGTTATTATCCCATAT  
ATTGGCCCTGCGTTAAATATCGGTAATAGTGCCTGCGGGGGAATTTTAACCAGGCCCTTGCTACCGCGGG  
CGTCGCGTTCCCTCCTGGAGGGCTTTCTGAATTTACTATCCCGGCGCTCGGTGTTTTTACATTTTACTCTT  
CCATCCAGGAGCGTGAGAAAATTATCAAAACCATCGAAAACCTGCCTGGAGCAGCGGGTGAAACGCTGGAAA  
GATTCTTATCAATGGATGGTGTCAAACCTGGTTATCTCGCATCACGACCCAATTCAACCATATTAATTACCA  
GATGTATGATAGTCTGTCTACCAAGCTGACGCCATTAAAGCCAAAATTGATCTGGAATATAAAAAAGTACT  
CTGGTAGCGATAAGGAGAACATCAAAAGCCAGGTGGAGAACCTTAAGAATAGTCTGGATGTGAAAATCTCT  
GAAGCTATGAATAACATTAACAAATTCATTCGTGAATGTTGCGGTGACGTACCTGTTCAAGAATATGCTGCC  
AAAAGTTATTGATGAACCTGAATAAATTTGATCTGCGTACCAAAACCGAACTTATCAACCTCATCGACTCCC  
ACAACATTATCCTTGTGGGCGAAGTGATCGTCTGAAGGCCAAAGTAAACGAGAGCTTTGAAAATACGATG  
CCGTTTAAATATTTTTTCATATACCAATAACTCCTTGCTGAAAGATATCATCAATGAATATTTCAATCTAGA  
AGGCGGTGGCGGTAGCGGCGGTGGCGGTAGCGGCGGTAGCGCACTAGTGCAGGAAAGACCTCCAT  
TACAACAACCTCCACATCGCGATAAGAAACCATGTAAGAATTTCTTTTGAAAACATTTAGCAGTTGCAAA  
taataagctt

## 7. Protein sequence of the LHD-CT-CST28 fusion

TWPVKDFNYSDFVNDNDILYLRIPOKLIITPVKAFMITQNIWVIPERFSSDTNPISLKP RPPTS KYQSY  
DPSYLSDEQKDTFLKGIKLFKRINERDIGKKLINYL VVGSPFMGDSSTPEDTFDFTRHTTNI AVEKFEN  
GSWKVTNIITPSVLIFGLPNILDYASLT LQGQQSNPSFEGFGLSILKVAPEFLTFSDVTSNQSSAVL  
GKSIFCNDPVIALMHELTHSLHQLYGINIPSDKRIRPVSEGGFSQDGNVQFEELYTFGGLDVEIIPQIE  
RSQ LREKALGHYKDI AKRLNNINKTIPSSWISNIDKYKKIFSEKYNFDKDNTGNFVVNIDKFNLSYDLTN  
VMSEVYSSQYNVKNRTHYFSRHYLPVFANILDDNIYTIRDGFNLTKGNFNIENSGQNIERNPALQKLSE  
SVVDLFTKVCVDKSEKLYDDDDKDRWSS LQCIKVKNR LPYVADKDSISQEIFENKIITDETNVQNYSD  
KFS LDESILDGQVPINPEIVDPLLPNVNMEPLNLPGEIIVFYDDITKYVDYLN SYYYYLESQKLSNNVENIT  
LTT SVEEALGYSNKIYTF LPSLA EKVNKG VQAGLFLNWANEVVEDFTTNIMKKDTLDKISDVSVIIPYIGP  
ALNIGNSALRGNFNQAFATAGVAFLL EGFPEFTIPALGVFTFYSSIQEREKI IKT IENCLEQRVKRWKDSY  
QWMVSNWLSRIT TQFNHINYQMYDSL SYQADAIKAKIDLEYKKYSGSDKENIKSQVENLKNSLDVKISEAM

NNINKFIRECSVTYLFKNMLPKVIDELNKFIDLRTKTELINLIDSHNIIILVGEVDRLKAKVNESFENTMPFN  
IFSYTNNSSLKDIINEYFNLEGGGSGGGGSGGGGSALVQERPPLQQPPHRDKKPKCNFFWKTFSSCK

#### 8. DNA sequence of the CP-EGF linker

ggatccGTCGACaacaacaataacaacaacaataacaacaacgacgatgacgataaaaAATTCAGATAGCGA  
ATGTCCACTTAGTCACGACGGGTACTGTTTGCATGATGGTGTGTGTATGTATATAGAAGCTAGACAAAT  
ACGCTTGCAATTGCGTAGTTGGCTATATAGGAGAGCGATGCCAATATAGAGATCTGAAGTGGTGGGAGTTA  
AGGGCAgaagcggcagccaaagaagcagccgctaaggcgctgcagagtctagaataataagctt

#### 9. DNA sequence of the LHA-CP-EGF fusion

ggatccATGGAGTTCGTTAACAACAGTTCAACTATAAAGACCCAGTTAACGGTGTGACATTGCTTACAT  
CAAAATCCCGAACGCTGGCCAGATGCAGCCGGTAAAGGCATTCAAAATCCACAACAAAATCTGGGTATCC  
CGGAACGTGATACCTTTACTAACCCGGAAGAAGGTGACCTGAACCCGCCACCGGAAGCGAAACAGGTGCCG  
GTATCTTACTATGACTCCACCTACCTGTCTACCGATAACGAAAAGGACAACCTACCTGAAAGGTGTTACTAA  
ACTGTTTCGAGCGTATTTACTCCACCGACCTGGGCCGTATGCTGCTGACTAGCATCGTTCGCGGTATCCCGT  
TCTGGGCGCGTTTACCATCGATACCGAAGTAAAGTAATCGACACTAAGTGCATCAACGTTATTCAGCCG  
GACGGTTCTTATCGTTCCGAAGAACTGAACCTGGTGATCATCGGCCCGTCTGCTGATATCATCCAGTTTCGA  
GTGTCTGAGCTTTGGTTCACGAAGTTCTGAACCTCACCCGTAACGGCTACGGTTCCACTCAGTACATCCGTT  
TCTCTCCGACTTCACCTTCGGTTTTGAAGAATCCCTGGAAGTAGACACGAACCCACTGCTGGGCGCTGGT  
AAATTCGCAACTGATCCTGCGGTTACCCTGGCTCACGAAGTATTGATGCAGGCCACCGCCTGTACGGTAT  
CGCCATCAATCCGAACCGTGTCTTCAAAGTTAACACCAACGCGTATTACGAGATGTCCGGTCTGGAAGTTA  
GCTTCGAAGAACTGCGTACTTTTGGCGGTCACGACGCTAAATTCATCGACTCTCTGCAAGAAAACGAGTTC  
CGTCTGTACTACTATAACAAGTTCAAAGATATCGCATCCACCCTGAACAAAGCGAAATCCATCGTGGGTAC  
CACTGCTTCTCTCCAGTACATGAAGAAGCTTTTTTAAAGAAAAATACCTGCTCAGCGAAGACACCTCCGGCA  
AATTCCTCTGTAGACAAGTTGAAATTCGATAAACTTTACAAAATGCTGACTGAAATTTACACCGAAGACAAC  
TTCGTTAAGTTCTTTAAAGTTCTGAACCGCAAAACCTATCTGAACTTCGACAAGGCAGTATTCAAAATCAA  
CATCGTGCCGAAAGTTAACTACACTATCTACGATGGTTTTCAACCTGCGTAACACCAACCTGGCTGCTAATT  
TTTACAGCCGAGAACCGGAAATCAACAACATGAACCTCACAAAACCTGAAAACTTCACCTGGTCTGTTTCGAG  
TTTTTACAAGCTGCTGTGCGTTCGACaacaacaataacaacaacaataacaacaacgacgatgacgataaaaAA  
TTCAGATAGCGAATGTCCACTTAGTCACGACGGGTACTGTTTGCATGATGGTGTGTGTATGTATATAGAAG  
CACTAGACAAATACGCTTGCAATTGCGTAGTTGGCTATATAGGAGAGCGATGCCAATATAGAGATCTGAAG  
TGGTGGGAGTTAAGGGCAgaagcggcagccaaagaagcagccgctaaggcgCTGCAGTGTATCAAGGTTAA  
CAACTGGGATTTATCTTCAGCCCGAGTGAAGACAACCTCACCAACGACCTGAACAAAGGTGAAGAAATCA  
CCTCAGATACTAACATCGAAGCAGCCGAAGAAAACATCTCGCTGGACCTGATCCAGCAGTACTACCTGACC  
TTTTAATTTTCGACAACGAGCCGGAACATTTCTATCGAAAACCTGAGCTCTGATATCATCGGCCAGCTGGA  
ACTGATGCCGAACATCGAACGTTTCCCAAACGGTAAAAAGTACGAGCTGGACAAATATACCATGTTCCACT  
ACCTGCGCGCGCAGGAATTTGAACACGGCAAAATCCCGTATCGCACTGACTAATCCGTTAACGAAGCTCTG  
CTCAACCCGTCCCGTGTATACACCTTCTTCTCTAGCGACTACGTGAAAAAGGTCAACAAAGCGACTGAAGC  
TGCAATGTTCTTGGGTGAGGTTGAACAGCTTGTATGATTTTACCGACGAGACGTCGGAAGTATCTACTA  
CCGACAAAATTCGCGATATCACTATCATCATCCCGTACATCGGTCCGGCTCTGAACATTGGCAACATGCTG  
TACAAAGACGACTTCGTTGGCGCACTGATCTTCTCCGGTGCGGTGATCCTGCTGGAGTTTCATCCCGGAAAT  
CGCCATCCCGGTACTGGGCACCTTTGCTCTGGTTTTCTTACATTGCAACAAGGTTCTGACTGTACAAACCA  
TCGACAACGCGCTGAGCAAACGTAACGAAAAATGGGATGAAGTTTACAAATATATCGTGACCAACTGGCTG  
GCTAAGGTTAATACTCAGATCGACCTCATCCGCAAAAAAATGAAAGAAGCACTGGAAAACCGCGGAAGC  
TACCAAGGCAATCATTAACCTACCAGTACAACCAGTACACCGAGGAAGAAAAAACAACATCAACTTCAACA  
TCGACGATCTGTCTCTAACTGAACGAATCCATCAACAAAGCTATGATCAACATCAACAAGTTCTCTGAAC  
CAGTGCTCTGTAAGCTATCTGATGAACTCCATGATCCCGTACGGTGTAAACGCTCTGGAGGACTTCGATGC  
GTCTCTGAAAGACGCCCTGCTGAAATACATTTACGACAACCGTGGCACTCTGATCGGTGAGGTTGATCGTC  
TGAAGGACAAAGTGAACAATACCTTATCGACCGACATCCCTTTTCAGCTCAGTAAATATGTCGATAACCAA  
CGCCTTTTGTCCACTctagaataatgaaagctt

#### 10. Protein sequence of the LHA-CP-EGF fusion

EFVNKQFNKDPVNGVDIAYIKIPNAGQMOPVKAFKIHNKIWIPIPERDFTNP EEGDLNPPPEAKQVPVSY  
YDSTYLS TDNEKDN YLKGVT KLFERIYSTDLGRMLLTSIVRGIPFWGGSTIDTELKVIDTNCINVIQPDGS

YRSEELNLVIIGPSADIIQFECLSFSGHEVLNLTRNGYGSTQYIRFSPDFTFGFEESLEVDTNPLL GAGKFA  
TDPAVTLAHELHAGHRLYGIAINPNRVFKVNTNAYYEMSGLEVSFEELRTFGGHDADFIDSLQENEFRLY  
YYNKFKDIASTLNKAKSIVGTTASLQYMKNVFKEKYLLEDTSKGKFSVDKLFKDKLYKMLTEIYTEDNFVK  
FFKVLNRKTYLNFDAVFKINIVPKVNYTIYDGFNLRTNLAANFNGQNTTEINNMNFTKLKNFTGLFEFYK  
LLCVDNNNNNNNNNNDDDDKNSDSECLSHDGYCLHDGVCMYIEALDKYACNCVVGYIGERCQYRDLKWW  
LRAEAAAAKEAAAKALQCIKVNNDLFFSPSEDNFTNDLNKGEEITSNTNIEAAEENISLDLIQQYYLTFNF  
DNEPENISIEENLSSDIIGQLELMPNIEFPPNGKKYELDKYTMFHYLRAQEFEGHKSRIALTNSVNEALLNP  
SRVYTFSSDYVKKVKNKATEAAMFLGWVEQLVYDFTDETSEVSTTDKIADITIIIPYIGPALNIGNMLYKD  
DFVGALIFSGAVILLEFIPEIAIPVLGTFALVSYIANKVLTVQTDNALS KRNEKWDEVYKYIVTNWLAKV  
NTQIDLRKKMKEALENQAEATKAIINYQYNQYTEEEKNNINFNIDDLSSKLNESINKAMININKFLNQCS  
VSYLMNSMIPYGVKRLDFDASLKDALLKYIYDNRGTLIGQVDRDKDKVNNTLSTDIPFQLSKYVDNQRL  
ST

11. Protein sequence of LH<sub>N</sub>/A

EFVNKQFNYKDPVNGVDIAYIKIPNAGQMOPVKAFKIHNKIWIPIPERDTFTNPEEGDLNPPPEAKQVPVSY  
YDSTYLSTDNEKDNLYLKGVTKLFERIYSTD LGRMLLTSIVRGIPFWGGSTIDTELKVIDTNCINVIQPDGS  
YRSEELNLVIIGPSADIIQFECKSFSGHEVLNLTRNGYGSTQYIRFSPDFTFGFEESLEVDTNPLL GAGKFA  
TDPAVTLAHELHAGHRLYGIAINPNRVFKVNTNAYYEMSGLEVSFEELRTFGGHDADFIDSLQENEFRLY  
YYNKFKDIASTLNKAKSIVGTTASLQYMKNVFKEKYLLEDTSKGKFSVDKLFKDKLYKMLTEIYTEDNFVK  
FFKVLNRKTYLNFDAVFKINIVPKVNYTIYDGFNLRTNLAANFNGQNTTEINNMNFTKLKNFTGLFEFYK  
LLCVDGIITSKTKSDDDDKNKALNLQCIKVNNDLFFSPSEDNFTNDLNKGEEITSNTNIEAAEENISLDL  
IQQYYLTFNFDNEPENISIEENLSSDIIGQLELMPNIEFPPNGKKYELDKYTMFHYLRAQEFEGHKSRIALT  
NSVNEALLNP SRVYTFSSDYVKKVKNKATEAAMFLGWVEQLVYDFTDETSEVSTTDKIADITIIIPYIGPA  
LNIGNMLYKDDFVGALIFSGAVILLEFIPEIAIPVLGTFALVSYIANKVLTVQTDNALS KRNEKWDEVYK  
YIVTNWLAKVNTQIDLRKKMKEALENQAEATKAIINYQYNQYTEEEKNNINFNIDDLSSKLNESINKAMI  
NINKFLNQCSVSYLMNSMIPYGVKRLDFDASLKDALLKYIYDNRGTLIGQVDRDKDKVNNTLSTDIPFQL  
SKYVDNQRLST

12. Protein sequence of LH<sub>N</sub>/B

PVTINNFNYNPIDNNNIMMEPPFARGTG RYYKAFKITDRIWIIPERYTFGYKPEDFNKSSGIFNRDVCE  
YYDPDYLTNDKKNIFLQTMIKLFNRIKSKPLGEKLLMIINGIPYLGDRRVPLEEFNTNIASVTVNKLIS  
NPGEVERKKGIFANLIIFGPGPVLNENETIDIGIQNHFA SREGFGGIMQMKFCPEYVSFVNNVQENKGASI  
FNRRGYFSDPALILMHელიHVLHGLYG IKVDDLPIVPNEKKFFMQSTDAIQAEELYTFGGQDPSIITPSTD  
KSIYDKVLQNFRGIVDRLNKLVCISDPNININIKNFKDKYKFVEDSEGKYSIDVESFDKLYKSLMFGF  
TETNIAENYKIKTRASYFSDSLPPVKIKNLLDNEIYTIIEGFNISDKDMEKEYRGQNKAINQAYEEISKE  
HLAVYKIQMCVDEEKLYDDDDKDRWSSSLQCIDVDNEDLFFIADKNSFSDDL SKNERIEYNTQSNYIENDF  
PINELILD TDLSKIELPSENTESLTDFNVDVPVYEKQPAIKKIFTDENTIFQYLYSQTFFPLDIRDISLTS  
SFDDALLFSNKVYSFFSMDYIKTANKVVEAGLFAGWVKQIVNDFVIEANKSNTMDAIADISLIVPYIGLAL  
NVGNETAKGNFENAFEIAGASILLEFIPELLIPVVGAFLL ESYIDNKNKI IKTIDNALTKRNEKWSDMYGL  
IVAQWLSTVNTQFYTIKEGMYKALNYQAQALEEIIKYRYNIYSEKEKSNINIDFNDINSKLN EGINQAIDN  
INNFINGCSVSYLMKKMIPLAVEKLLDFDNTLKNLLNYIDENKLYLIGSAEYKSKVNKYLKTIMPF DLS  
IYTNDTILIEMFNKYNS

13. Protein sequence of LH<sub>N</sub>/C

PITINNFNYS DPVDNKNILYLDTHLNTLANEPEKA FRITGNIWVIPDRFSRNSNP NLNKP PRTVSPKSGYY  
DPNYLSTDSDKDTFLKEIIKLFKRINSREIGEELIYRLSTDIPFPGNNTPINTFD FVDVFN SVDVKTRQG  
NNWVKTG SINPSVIITGP RENIIDPETSTFKLTNNTFAAQEGFGALSIIISISPRFMLTYSNATNDVGEGRF  
SKSEFCMDPILILMHელიNHAMHNLYGIAIPNDQTISSVTSNIFYSQYNVKLEYAEIYAFGGPTIDLIPKSA  
RKYFEEKALDYRSIAKRLNSITTANPSSFNKYIGEYKQKLIRKYRFVVESSGEVTVNRNKFVELYNELTQ  
IFTEFN YAKIYNVQNRKIYLSNVYTPVTANILDDNVYDIQNGFNIPKSNLNLVFMGQNL SRNPALRKVNPE  
NMLYLFTKFCVDAIDGRSLYNKTLQCRELLVKNTDL PFIGDISDVKTDIFLRKDINEETEVIYYPDNVSVD  
QVILSKNTSEHGQLDLYPSIDSESEILPGENQVFDNRTQNVDY LNSYYLESQKLSDNVEDFTFTRSIE  
EALDNSAKVYTYFPTLANKVNAGVQGGFLMWANDVVEDFTTNILRKDTL DKISDVSAIIPYIGPALNISN  
SVRRGNFTEAFVTVTILLEAFPEFTIPALGAFVIYSKVQERNEIIKTIDNCLEQRIKRWKDSYEWMMGT

WLSRIITQFNNISYQMYDSLNYQAGAIKAKIDLEYKKYSGSDKENIKSQVENLKNSLDVKISEAMNNINKF  
IRECSVTYLFKNMLPKVIDELNEFDRNTKAKLINLIDSHNIIILVGEVDKLKAKVNNSFQNTIPFNIFS YTN  
NSLLKDIINEYFN

14. Protein sequence of LH<sub>N</sub>/D

TWPVKDFNYSDFVNDNDILYLRIPOQNKLITTPVKAFMITQNIWVIPERFSSDTNPSSLKPPRPTSKYQSY  
DPSYLSSTDEQKDTFLKGIKLFKRINERDIGKKLINYLTVGSPFMGDSSTPEDTFDFTRHTTNIAVEKFEN  
GSWKVTNIITPSVLIFGFLPNILDYASLTLOGQQSNPSFEGFGTSLILKVAPEFLLTFSDVTSNQSSAVL  
GKSIFCNDPVIALLMHELTHSLHQLYGINIPSDKRIRPQVSEGGFSQDGNVQFEELYTFGGLDVEIIPQIE  
RSQLEKALGHYKDIKRLNNINKTIPSSWISNIDKYKKIFSEKYNFDKNTGNFVNIDKFNSLYSDLTN  
VMSEVVYSSQYNVKNRTHYFSRHYLPVFANILDDNIYTIRDGFNLTKGFNIENSGQNIERNPALQKLSSE  
SVVDLFTKVCVDKSEEKLYDDDDKDRWGSSSLQCIKVKNNRLPYVADKDSISQEIFENKIITDETQVQNSD  
KFSLDSEILDGQVPINPEIVDPLLPNVNMEPLNLPGEIEIVFYDDITKYVDYLSYSSYQKLSNNVENIT  
LTTSVEEALGYSNKIYTFPLSLAEKVNKGQVAGLFLNWANEVVEDFTTNIMKKDTLTKISDVSVIIPYIGP  
ALNIGNSALRGNFNQAFATAGVAFLLLEGFPFTIPALGVFTFYSSIQEREKI IKTIE NCLEQVRKRWKDSY  
QWMVSNWLSRITTFQFNHINYQMYDSLNYQADAIAKAKIDLEYKKYSGSDKENIKSQVENLKNSLDVKISEAM  
NNINKFIRECSVTYLFKNMLPKVIDELNKFDRKTTELINLIDSHNIIILVGEVDRLKAKVNESFENTMFPFN  
IFS YTNNSLLKDIINEYFN

15. Synthesised GnRH peptide

pGlu-His-Trp-Ser-Tyr-Gly-Cys-Arg-Pro-Gly-NH<sub>2</sub>

16. Protein sequence of the LHB-CT-SST28 fusion

PVTINNFFNYNDPIDNNNIIMMEPPFARGTGRIYKAFKITDRIWIIPERYTFGYKPEDFNKSSGIFNRDVCE  
YYDPDYLTNDKKNIFLQTMIKLFNRIKSKPLGEKLEMIINGIPYLGDRRVPLEEFNTNIASVTVNKLIS  
NPGEVERKKGIFANLIIFGPGPVLNENETIDIGIQNHAFASREGFGGIMQMKFCPEYVSFVNNVQENKGASI  
FNRRGYFSDPALILMHELHVLHGLYGIKVDDLPIVPNEKKFFMQSTDAIQAEELYTFGGQDPSIITPSTD  
KSIYDKVLQNFGRGIVDRNLNKVLVCISDPNINININIKYKFKDKYKFVEDSEGKYSIDVESFDKLYKSLMFGF  
TETNIAENYKIKTRASYFSDSLPPVKIKNLLDNEIYTIIEEGFNISDKDMEKEYRGQNKAINQAYEEISKE  
HLAVYKIQMCVDGIITSTKSDDDDKNKALNLQCIDVDNEDLFFIADKNSFSDDLKNERIEYNTQSNYIE  
NDFPINELIILDTDLISKIELPSENTESLTDNFVDVPVYEKQPAIKKIFTDENTIFQYLYSQTFPLDIRDIS  
LTSSFDALLFSNKVYSFFSMDYIKTANKVVEAGLFAGVWKQIVNDFVIEANKSNTMDKIADISLIVPYIG  
LALNVGNETAKGNFENAFETIAGASILLEFIPELLIPVVGAFLLSYIDNKNKI IKTIDNALTRNEKWSDM  
YGLIVAQWLSTVNTQFYTIKEGMYKALNYQAQALEEIIKYRYNIYSEKEKSNINIDFNDINSKLNENINQA  
IDNINNFINCGSVSYLMKKMIPLAVEKLLDFDNTLTKNLLNYIDENKLYLIGSAEYKSKVNKYLTIMPF  
DLSIYTNDTILIEFMNKYNSLEGGGGSGGGGSGGGGSALDSANSNPAMAPRERKAGCKNFFWKTFSTC

17. Protein sequence of the LHA-CP-SST28 fusion

EFVNKQFNYKDPVNGVDIAYIKIPNAGQMOPVKAFKIHNKIWIPIPERDTFTNP EEGDLNPPPEAKQVPVSY  
YDSTYLSSTNEKDNYLKGVTCLFERIYSTDLGRMLLTSIVRGIPFWGGSTIDTELKVIDTNCINVIQPDGS  
YRSEELNLVIIGPSADIIQFECLSFGEVLNLTRNGYGSTQYIRFSPDFTFGFEESLEVDTNPLLGAAGKFA  
TDPAVTLAHELHAGHRLYGIAINPNRVFKVNTNAYYEMSGLEVSFEELRTFGGHDAKFIDSLQENEFRLY  
YYNFKFDIASTLNKAKSIVGTASLQYMKNVFKEKYLLEDSTSGKFSVDKLLKFDKLYKMLTEIYTEDNFVK  
FFKVLNRKTYLNFDAKAVFKINIVPKVNYTIYDGFNLRTNLAANFNGQNTIINNMMFTKLKNFTGLFEFYK  
LLCVDGIITSTKSDDDDKSANSNPAMAPRERKAGCKNFFWKTFSTCALAGGGGSGGGGSGGGGSALVLQC  
IKVNNWDLFFSPSEDNFTNDLNKGEEITSNTNIEAAEENISLDLIQYLYLTFNFDNEPENISIEENLSSDII  
GQLELMPNIEFNPNGKKYELDKYTMFHYLRAQEFEGHKSRIALTNSVNEALLNPSRVYTFSSDYVKKVNK  
ATEAAMFLGWVEQLVYDFTDETSEVSTTDKIADITIIIPYIGPALNIGNMLYKDDFVGALIFSGAVILLEF  
IPEIAIPVLGTALVSYIANKVLTVQTIDNALS KRNEKWDVEYKYIVTNWLAKVNTQIDILIRKKMKEALEN  
QAEATKAIINYQYNTYEEEEKNNINFNIDDLSSKLNESINKAMININKFLNQCSVSYLMNSMIPYGVKRL  
DFDASLKDALLKYIYDNRGTLIGQVDRLLKDKVNNTLSTDIPFQLSKYVDNQRLST

18. Protein sequence of the LHD-CT-EGF fusion

TWPVKDFNYSDPVNDNDILYLRIPOQNKLIITPVKAFMITQNIWVIPERFSSDTNPSSLKPPRPTSKYQSY  
DPSYLSSTDEQKDTFLKGIKLFKRINERDIGKKLINYLTVGSPFMGDSSTPEDTFDFTRHTTNIAVEKFEN  
GSWKVTNIITPSVLIFGFLPNILDYASLTLOQQSNPSFEGFGTSLILKVAPEFLLTFSDVTSNQSSAVL  
GKSIFCMDPVIALMHETHSLHQLYGINIPSDKRIRPQVSEGFSSQDGNVQFEELYTFGGLDVEIIPQIE  
RSQIREKALGHYKDIKRLNNINKTIPSSWISNIDKYKKIFSEKYNFDKDNFTGNFVNIDKFNLSYDLTN  
VMSEVVYSSQYNVKNRTHYFSRHYLPVFANILDDNIYTIRDGFNLTKGFNIENSGQNIERNPALQKLSSE  
SVVDLFTKVCVDKSEKLYDDDDKDRWGSSQCIKVKNNRLPYVADKDSISQEIFENKIITDETNVQNYSD  
KFSLDESILDGQVPINPEIVDPLLPNVNMEPLNLPGEIIVFYDDITKYVDYLSYYYLESQKLSNNVENIT  
LTTSVEEALGYSNKIYTFPLSLAEKVNKGQVAGLFLNWANEVVEDFTTNIMKKDTLDKISDVSVIIPYIGP  
ALNIGNSALRGNFNQAFATAGVAFLLLEGFPFTIPALGVFTFYSSIQEREKI IKTIENCLEQVRKRWKDSY  
QWMVSNWLSRITTFQFNHINYQMYDSLQYQADAIKAKIDLEYKKYSGSDKENIKSQVENLKNSLDVKISEAM  
NNINKFIRECSVTYLFKNMPLPKVIDELNKFIDLRTKTELINLIDSHNIIILVGEVDRKAKVNESFENTMPFN  
IFSNTNNSLLKDIINEYFNLEGGGGSGGGGSGGGGSALVNSDSECLSHDGYCLHDGVCMIYALDKYACN  
CVVGYIGERCQYRDLKWWELR

19. Protein sequence of the LHD-CT-VIP fusion

TWPVKDFNYSDPVNDNDILYLRIPOQNKLIITPVKAFMITQNIWVIPERFSSDTNPSSLKPPRPTSKYQSY  
DPSYLSSTDEQKDTFLKGIKLFKRINERDIGKKLINYLTVGSPFMGDSSTPEDTFDFTRHTTNIAVEKFEN  
GSWKVTNIITPSVLIFGFLPNILDYASLTLOQQSNPSFEGFGTSLILKVAPEFLLTFSDVTSNQSSAVL  
GKSIFCMDPVIALMHETHSLHQLYGINIPSDKRIRPQVSEGFSSQDGNVQFEELYTFGGLDVEIIPQIE  
RSQIREKALGHYKDIKRLNNINKTIPSSWISNIDKYKKIFSEKYNFDKDNFTGNFVNIDKFNLSYDLTN  
VMSEVVYSSQYNVKNRTHYFSRHYLPVFANILDDNIYTIRDGFNLTKGFNIENSGQNIERNPALQKLSSE  
SVVDLFTKVCVDKSEKLYDDDDKDRWGSSQCIKVKNNRLPYVADKDSISQEIFENKIITDETNVQNYSD  
KFSLDESILDGQVPINPEIVDPLLPNVNMEPLNLPGEIIVFYDDITKYVDYLSYYYLESQKLSNNVENIT  
LTTSVEEALGYSNKIYTFPLSLAEKVNKGQVAGLFLNWANEVVEDFTTNIMKKDTLDKISDVSVIIPYIGP  
ALNIGNSALRGNFNQAFATAGVAFLLLEGFPFTIPALGVFTFYSSIQEREKI IKTIENCLEQVRKRWKDSY  
QWMVSNWLSRITTFQFNHINYQMYDSLQYQADAIKAKIDLEYKKYSGSDKENIKSQVENLKNSLDVKISEAM  
NNINKFIRECSVTYLFKNMPLPKVIDELNKFIDLRTKTELINLIDSHNIIILVGEVDRKAKVNESFENTMPFN  
IFSNTNNSLLKDIINEYFNLEGGGGSGGGGSGGGGSALVHSDAVFTDNYTRLRKQMAVKKYLSNLSILN

20. Protein sequence of the LHC-CT-IGF1 fusion

PITINNFNYSDPVDNKNILYLDTHLNTLANEPEKAFRITGNIWVIPDRFSRNSNPNLNKPVRVTSKPSGYY  
DPNYLSTDSKDTFLKEIKLFKRINSREIGEELIYRLSTDIFFPGNNNTPIINTFDFDVFNSVDVKTRQG  
NNWVKTGSIINPSVIIITGPENIIDPETSTFKLTNNTFAAQEGFGALSIIISISPRFMLTYSNATNDVGEGRF  
SKSEFCMDPILILMHETHAMHNLGYIAIPNDQTISSVTSNIFYSQYNVKLEYAEIYAFGGPTIDLIPKSA  
RKYFEEKALDYRSIAKRLNSITTANPSSFNKYIGEYKQKLIRKYRFVVESSGEVTVNRNKFVELYNELTQ  
IFTEFNKYAKIYNVQNRKIYLSNVYTPVTANILDDNVYDIQNGFNIPKSNLNVLFMGQNLNRNPALRKVNPE  
NMLYLFTKFCVDAIDGRSLYNKTLQCRELLVKNTDLPFIGDISDVKTDIFLRKDINEETEVIYYPDNVSD  
QVILSKNTSEHGQDLILYPSIDSESEILPGENQVFYDNRTQNVLYLSYYYLESQKLSNVNEDFTFTRISIE  
EALDNSAKVYTYFPTLANKVNAGVQGGFLMWANDVVEDFTTNILRKDTLDKISDVSAIIPYIGPALNISN  
SVRRGNFTEAFVAVTGVTILLEAFPEFTIPALGAFVIYSKVQERNEI IKTIDNCLEQRIKRWKDSYEWMMGT  
WLSRIITQFNNISYQMYDSLNYQAGAIKAKIDLEYKKYSGSDKENIKSQVENLKNSLDVKISEAMNNINKF  
IRECSVTYLFKNMPLPKVIDELNEFDRNTKAKLINLIDSHNIIILVGEVDKLKAKVNNSFQNTIPFNIFSNTN  
NSLLKDIINEYFNLEGGGGSGGGGSGGGGSALVGPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRA  
PQTGIVDECCFRSCDLRRLREMYCAPLKPAKA

21. Protein sequence of the LHD-CT-IGF1 fusion

TWPVKDFNYSDPVNDNDILYLRIPOQNKLIITPVKAFMITQNIWVIPERFSSDTNPSSLKPPRPTSKYQSY  
DPSYLSSTDEQKDTFLKGIKLFKRINERDIGKKLINYLTVGSPFMGDSSTPEDTFDFTRHTTNIAVEKFEN  
GSWKVTNIITPSVLIFGFLPNILDYASLTLOQQSNPSFEGFGTSLILKVAPEFLLTFSDVTSNQSSAVL  
GKSIFCMDPVIALMHETHSLHQLYGINIPSDKRIRPQVSEGFSSQDGNVQFEELYTFGGLDVEIIPQIE



RSQIREKALGHYKDIKRLNNINKTIPSSWISNIDKYKKIFSEKYNFDKDNFTGNFVVDNIDKFNSLYSDLTN  
VMSEVVYSSQYNVKNRTHYFSRHYLPVFANILDDNIYTIRDFGNLTNKGFNIEENSGQNIERNPALQKLSSE  
SVVDLFTKVCVDKSEEKLYDDDDKDRWGSSQLQIKVKNRNLRYVADKDSISQEIFENKIITDETNVQNYSD  
KFSLDESILDGQVPINPEIVDPLLPNVNMEPLNLPGEIEIVFYDDITKYVDYLNSEYSSQKLSNNVENIT  
LTTSVEEALGYSNKIYTFPLSLAEKVNKGQAGLFLNWANEVVEDFTTNIMKKDTLDKISDVSVIIPYIGP  
ALNIGNSALRGNFNQAFATAGVAFLEGFPEFTIPALGVFTFYSSIQEREKI IKTIECNLEQVRKRWKDSY  
QWMVSNWLSRITTFQFNHINYQMYDSLQYQADAIKAKIDLEYKKYSGSDKENIKSQVENLNKSLDVKISEAM  
NNINKFIRECSVTYLFKNMPLPKVIDELNKFDRKTTELINLIDSHNIIILVGEVDRKAKVNESFENTMPFN  
IFSNTNNSLLKDIINEYFNLEGGGGSGGGSGGGGSALVGPETLCGAELVDALQFVCGDRGFYFNKPTGYG  
SSRRAPQTGIVDECCFRSCDLRRLEMYCAPLKPAKSA

22. Protein sequence of the LHC-CT-VIP fusion

PITINNFNYSDFVDNKNILYLDTHLNTLANEPEKAFRITGNIWVIPDRFSRNSNPNLNKPRTVSPKSGYY  
DPNYLSTDSKDTFLKEIKLFRKINSREIGEELIYRLSTDIFFPGNNNTPINTDFDVFNSVDVKTRQG  
NNWVKTGSIINPSVIIITGPENIIDPETSTFKLTNNTFAAQEGFGALSIIISISPRFMLTYSNATNDVGEGRF  
SKSEFCMDPILILMHELNHAMHNLGYIAIPNDQTISSVTSNIFYSQYNVKLEYAEIYAFGGPTIDLIPKSA  
RKYFEEKALDYRSIAKRLNSITTANPSSFNKYIGEYKQKLIRKYRFVVESSGEVTVNRNKFVELYNELTQ  
IFTEFNKYAKIYNVQNRKIYLSNVYTPVTANILDDNVYDIQNGFNIPKSNLNLVFMGQNLNRNLPALRKVNPE  
NMLYLFTHKFCVDAIDGRSLYNKTLQCRELLVKNTDLPIFGDISDVKTDFLRKDINEETEVIYYPDNVSVD  
QVILSKNTSEHGQDLILYPSIDSESEILPGENQVFYDNRTQNVYDLNSEYSSQKLSNVEDFTFTRISIE  
EALDNSAKVYTYFPTLANKVNAGVQGGFLMWANDVVEDFTTNILRKDTLDKISDVSAIIPYIGPALNISN  
SVRRGNFTEAFVGTITILEAFPEFTIPALGAFVIYSKVQERNEIIKTIDNCLEQRIKRWKDSYEWMMGT  
WLSRIITQFNINISYQMYDSLNYQAGAIKAKIDLEYKKYSGSDKENIKSQVENLNKSLDVKISEAMNNINKF  
IRECSVTYLFKNMPLPKVIDELNEFDRNTKAKLINLIDSHNIIILVGEVDKAKVNNSFQNTIPFNIFSNTN  
NSLLKDIINEYFNLEGGGGSGGGSGGGGSALVHSDAVFTDNYTRLRKQMAVKKYLSNLSILN

23. Protein sequence of the LHC-CT-GnRH fusion

PITINNFNYSDFVDNKNILYLDTHLNTLANEPEKAFRITGNIWVIPDRFSRNSNPNLNKPRTVSPKSGYY  
DPNYLSTDSKDTFLKEIKLFRKINSREIGEELIYRLSTDIFFPGNNNTPINTDFDVFNSVDVKTRQG  
NNWVKTGSIINPSVIIITGPENIIDPETSTFKLTNNTFAAQEGFGALSIIISISPRFMLTYSNATNDVGEGRF  
SKSEFCMDPILILMHELNHAMHNLGYIAIPNDQTISSVTSNIFYSQYNVKLEYAEIYAFGGPTIDLIPKSA  
RKYFEEKALDYRSIAKRLNSITTANPSSFNKYIGEYKQKLIRKYRFVVESSGEVTVNRNKFVELYNELTQ  
IFTEFNKYAKIYNVQNRKIYLSNVYTPVTANILDDNVYDIQNGFNIPKSNLNLVFMGQNLNRNLPALRKVNPE  
NMLYLFTHKFCVDAIDGRSLYNKTLQCRELLVKNTDLPIFGDISDVKTDFLRKDINEETEVIYYPDNVSVD  
QVILSKNTSEHGQDLILYPSIDSESEILPGENQVFYDNRTQNVYDLNSEYSSQKLSNVEDFTFTRISIE  
EALDNSAKVYTYFPTLANKVNAGVQGGFLMWANDVVEDFTTNILRKDTLDKISDVSAIIPYIGPALNISN  
SVRRGNFTEAFVGTITILEAFPEFTIPALGAFVIYSKVQERNEIIKTIDNCLEQRIKRWKDSYEWMMGT  
WLSRIITQFNINISYQMYDSLNYQAGAIKAKIDLEYKKYSGSDKENIKSQVENLNKSLDVKISEAMNNINKF  
IRECSVTYLFKNMPLPKVIDELNEFDRNTKAKLINLIDSHNIIILVGEVDKAKVNNSFQNTIPFNIFSNTN  
NSLLKDIINEYFNLEGGGGSGGGSGGGGSALVMKPIQKLLAGLILLTWCVEGCSSQHSYGLRPGGKRDA  
ENLIDSFQEIYKEVGQLAETQRFECTTHQPRSPRLDLKGALESLEEETGQKKI

24. Protein sequence of the LHD-CT-GnRH fusion

TWPVKDFNYSDFVNDNDILYLRIPQNKLIITPVKAFMITQNIWVIPERFSSDTNPSLSKPPRPTSKYQSY  
DPSYLSDEQKDTFLKGIKLFKRINERDIGKKLINYLTVGSPFMGDSSTPEDTFDFTRHTTNI AVEKFEN  
GSWKVTNIIITPSVLIFGPLNILDYASLTQGGQSNPSFEGFGTSLIKVAPEFLTFSDVTSNQSSAVL  
GKSIFCMDPVIALMHELTHSLHQLYGINIPSDKRIRPVSEGFSSQDGPVQFEELYTFGGDLVETIPQIE  
RSQIREKALGHYKDIKRLNNINKTIPSSWISNIDKYKKIFSEKYNFDKDNFTGNFVVDNIDKFNSLYSDLTN  
VMSEVVYSSQYNVKNRTHYFSRHYLPVFANILDDNIYTIRDFGNLTNKGFNIEENSGQNIERNPALQKLSSE  
SVVDLFTKVCVDKSEEKLYDDDDKDRWGSSQLQIKVKNRNLRYVADKDSISQEIFENKIITDETNVQNYSD  
KFSLDESILDGQVPINPEIVDPLLPNVNMEPLNLPGEIEIVFYDDITKYVDYLNSEYSSQKLSNNVENIT  
LTTSVEEALGYSNKIYTFPLSLAEKVNKGQAGLFLNWANEVVEDFTTNIMKKDTLDKISDVSVIIPYIGP  
ALNIGNSALRGNFNQAFATAGVAFLEGFPEFTIPALGVFTFYSSIQEREKI IKTIECNLEQVRKRWKDSY  
QWMVSNWLSRITTFQFNHINYQMYDSLQYQADAIKAKIDLEYKKYSGSDKENIKSQVENLNKSLDVKISEAM

NNINKFIRECSVTYLFKNMLPKVIDELNKFIDLRTKTELINLIDSHNIIILVGEVDRLKAKVNESFENTMFPFN  
IFS YTNNSLLKDI INEYFNLEGGGGSGGGGSGGGGSGGGGSALVMKPIQKLLAGLILLTWCVEGCSSQHWS  
YGLRPGGKRDAENLIDSFQEI VKEVGQLAETQRFECTTHQPRSPRLDLKGALLESLEEETGQKKI

25. Protein sequence of the LHD-CT-GRP fusion

TWPKDFNYSDFVNDNDILYLRI PQNKLITTPVKAFMITQNIWVIPERFSSDTNPSLSKPPRPTSKYQSY  
DPSYLTDEQKDTFLKGIKLFKRINERDIGKKLINYL VVGSPFMGDSSTPEDTFDFTRHTTNIAVEKFEN  
GSWKVTNIITPSVLIFGFLPNILDYASLT LQGQQSNPSFEGFGTSLILKVAPEFLLTFSDVTSNQSSAVL  
GKSIFCMDPVIALMHETHSLHQLYGINIPSDKRIRPQVSEGGFSQDGPVQFEELYTFGGLDVEIIPQIE  
RSQ LREKALGHYKDI AKRLNNINKTIPSSWISNIDKYKKIFSEKYNFDKDN TGNFVVDNDFNSLYSDLTN  
VMSEVVYSSQYNVKNRTHYFSRHYLPVFANILDDNIYTIRDGFNLTNKG FNIENTSGQNIERNPALQKLSSE  
SVVDLFTKVCVDKSEEKLYDDDDKDRWGSSLQCIKVKNRRLPYVADKDSISQEIFENKIITDET NVQNYSD  
KFSLDESILDGQVPINPEIVDPLLPNVNMEPLNLPGE EIVFYDDITKYVDYLSY YLESQKLSNNVENIT  
LTTSVEEALGYSNKIYTFPLSLAEKV NKG VQAGLFLNWANEVVEDFTTNIMKKDTL DKISDVSVIIPYIGP  
ALNIGNSALRGNFNQAFATAGVAFLL EGFPEFTIPALGVFTFYSSIQEREKI IKTIENTCLEQRVKRWKDSY  
QWMVSNWLSRITTFQFNHINYQMYDSL SYQADAIKAKIDLEYKKYSGSDKENIKSQVENLKNSLDVKISEAM  
NNINKFIRECSVTYLFKNMLPKVIDELNKFIDLRTKTELINLIDSHNIIILVGEVDRLKAKVNESFENTMFPFN  
IFS YTNNSLLKDI INEYFNLEGGGGSGGGGSGGGGSGGGGSALVGNHWAVGHLM

26. Protein sequence of the LHB-CT-GRP fusion

PVTINNFNYNDPIDNNNIIMMEPPFARGTG RYYKAFKITDRIWIIPERYTFGYKPEDFNKSSGIFNRDVCE  
YYDPDYLTNDKKNIFLQTMIKLFNRIKSKPLGEKLL EMIINGIPYLGDRRVPLEEFNTNIA SVTVNKLIS  
NPGEVERKKGIFANLIIFGPGPVLNENETIDIGIQNH FASREGFGGIMQMKFCPEYVSFNNVQENKGASI  
FNRRGYFSDPALILMHELIHVLHGLYG IKVDDLPIVPNEKKFFMQSTD AIQAEELYTFGGQDPSIITPSTD  
KSIYDKVLQNFGRGIVDRNLNKLVCISDPNININIYKNKFKDKYKFVEDSEGKYSIDVESFDKLYKSLMFGF  
TETNIAENYKIKTRASYFSDSLPPVKIKNLLDNEIY TIEEGFNISDKDMEKEYRGQNKAINKQAYEEISKE  
HLAVYKIQMCVDEEKLYDDDDKDRWGSSLQCIDVDNEDLFFIADKNSFSD DLSKNERIEYNTQSNYIENDF  
PINELILD TDLISKIELPSENTESLTDFNVDVPVY EKQPAIKKI FTDENTIFQYLYSQTFFLDIRDISLTS  
SFDDALLFSNKVYSFFSMDYIKTANKVVEAGL FAGWVKQIVNDFVIEANKSNTMDAIADISLIVPYIGLAL  
NVGNETAKGNFENAFEIAGASILLEFIPELLIPVVGAF LLESYIDNKNKI IKTIDNALTKRNEKWSDMYGL  
IVAQWLSTVNTQFYTIKEGMYKALNYQAQALEE I IKYRYNIYSEKEKSNINIDFNDINSKLN EGINQAIDN  
INN FINGCSVSYLMKKMIPLAVEKLLDFDNTL KKNLLNYIDENKLYLIGSAEYKSKVNKYLKTIMPFDLS  
IYTNDTILIE MFNKYNSLEGGGGSGGGGSGGGGSGGGGSALVGNHWAVGHLM

27. Protein sequence of the LHC-CT-LIF fusion

PITINNFNYSDPVDNKNILYLDTHLNTLANEPEKA FRITGNIWVIPDRFSRNSNP NLNKP RPTSPKSGYY  
DPNYLSTDSDKDTFLKEI KLFKRINSREIGEELIYRLSTD IFFPGNNNTPINTFDFDVFNSVDVKTRQG  
NNWVKTGSINPSV IITGPRENIDPETSTFKLTNN TFAAQEGFGALSIIISIPRFMLTYSNATNDVGEGRF  
SKSEFCMDPILILMHELNHAMHNLYGAI PNDQTISSVTSNIFYSQYNVKLEYAEIYAFGGPTIDLIPKSA  
RKYFEEKALDYRSIAKRLNSITTANPSSFNKYIGEYKQKLIRKYRFVVESSGEVTVNRNKFVELYNELTQ  
IFTEFN YAKIYNVQNRKIYLSNVYTPVTANILDDNVYDIQNGFNIPKSNLNLVLFMGQNL SRNPALRKVNPE  
NMLYLFTKFCVDAIDGRSLYNKTLQCRELLVKNTDLPFIGDISDVKTDIFLRKDINEETEVIYYPDNVSVD  
QVILSKNTSEHGQLDLLYPSIDSESEILPGENQVFYDNRTQNV DYLSY YLESQKLSDNVEDFTFTRSIE  
EALDNSAKVYTYFPTLANKVNAGVQGGFLFMWANDVVEDFTTNILRKDTL DKISDVSAIIPYIGPALNISN  
SVRRGNFTEAFVAVTGVTILLEAFPEFTIPALGAFVIYSKVQERNEI IKTIDNCLEQRIKRWKDSYEWMMGT  
WLSRIITQFNNISYQMYDSLNYQAGAIKAKIDLEYKKYSGSDKENIKSQVENLKNSLDVKISEAMNNINKF  
IRECSVTYLFKNMLPKVIDELNEFDRNTKAKLINLIDSHNIIILVGEVDKLKAKVNNSFQNTIPFNIFS YTN  
NSLLKDI INEYFNLEGGGGSGGGGSGGGGSGGGGSALV SPLIPITPVNATCAIRHPC HNNLMNQIRSQAQLNGSAN  
ALFILIYYTAQGEPPFNLDKLCGPNVTDFFPFHANGTEKAKLVELYRIVVYLGTSLGNITRDQKILNPSAL  
SLH SKLNATADILRGLLSNVLCRLCSKYHVGHVDV TYGPDTS GKDVFQKKLGCQLLGKYKQIIA VLAQAF

28. Protein sequence of the LHB-CP-LIF fusion



TDPAVTLAHELIIHAGHRLYGIAINPNRVFKVNTNAYYEMSGLEVSFEELRTFGGHDAKFIDSLQENEFRLY  
 YYNFKFDIASTLNKAKSIVGTTASLQYMKNVFKEKYLLEDSTSGKFSVDKLFKFDKLYKMLTEIYTEDNFVK  
 FFKVLNRKTYLNFDAKAVFKINIVPKVNYTIYDGFNLNNTNLAANFNGQNTTEINNMNFTKLKNFTGLFEFYK  
 LLCVDGIITSKTKSDDDDKNKALNLQCIKVNNDLFFSPSEDNFTNDLNKGEEITSNTNIEAAEENISLDL  
 IQQYYLTFNFDNEPENISIENLSSDIIGQLELMPNIEFPPNGKKYELDKYTMFHYLRAQEFEGHKSRIALT  
 NSVNEALLNPSRVYTFSSDYVKKNKATEAAMFLGWVEQLVYDFTDETSEVSTTDKIADITIIIPYIGPA  
 LNIGNMLYKDDFVGALIFSGAVILLEFIPEIAIPVLGTFALVSYIANKVLTQVTDNLSKRNEKWDEVYK  
 YIVTNWLAKVNTQIDLRKKMKEALENQAEATKAIINYQYQYTEEEKNNINFNIDDLSSKLNESINKAMI  
 NINKFLNQCSVSYLMNSMIPYGVKRLDFDASLKDALLKYIYDNRGTLIGQVDRDKDKVNNNTLSTDIPFQL  
 SKYVDNQRLSTLEGGGSGGGGSGGGGSGGGGSGGGGSGGGGSGGGGSGGGGSGGGGSGGGGSGGGGSGGGG  
 RTGFHLEIFPNGTIQGTQTRKDHRSRFGILEFISIAVGLVSIIRGVDSGLYLGGMNEKGELYGSEKLTQECVFREQ  
 FEENWYNTYSSNLYKHVDTGRRYYVALNKDGTREGTRTKRHQKFTHFLPRPVPDPKVPPELYKDILSQS

### 32. Protein sequence of the LHC-CP-FGF9 fusion

PITINNFNYSDFVDNKNILYLDTHLNTLANEPEKAFRITGNIWVIPDRFSRNSNPNLNKPVRVTSFKSGYY  
 DPNYLSTDSKDTLKEIKLFRKINSREIGEELIYRLSTDIPFPGNNNTPINTDFDVFDFNSVDVKTRQG  
 NNWVKTGSIINPSVITGPRENIDPETSTFKLTNNTFAAQEGFGALSIIISISPRFMITYSNATNDVGEGRF  
 SKSEFCMDPILILMHENLHAMHNLGYIAIPNDQTISSVTSNIFYSQYNVKLEYAEIYAFGGPTIDLIPKSA  
 RKYFEEKALDYRSIAKRLNSITTANPSSFNKYIGEYKQKLIRKYRFVVESSGEVTVNRNKFVELYNELTQ  
 IFTEFNKYAKIYNVQNRKIYLSNVYTPVTANILDDNVYDIQNGFNIKPSNLNVLFMGQNLNRNPAKRVNPE  
 NMLYLFTKFCVDNNNNNNNNNNDDDDKDLHGQSEAGGLPRGPAVTDLDHLKGILRRRQLYCRGTGFHLEIFP  
 NGTIQGTQTRKDHRSRFGILEFISIAVGLVSIIRGVDSGLYLGGMNEKGELYGSEKLTQECVFREQFEENWYNTYS  
 SNLYKHVDTGRRYYVALNKDGTREGTRTKRHQKFTHFLPRPVPDPKVPPELYKDILSQSAEAAAKEAAAAKA  
 LQCRELLVKNTDLPFIDISDVKTDFILRKDINEETEVIYYPDNVSVDQVILSKNTSEHGQLDILYPSIDS  
 ESEILPGENQVFYDNRTQNVYDLSYYSQKLSDNVEDFTFTRSIEEALDNSAKVYTYFPTLANKVNAG  
 VQGGFLMWANDVVEDFTTNILRKDTLDKISDVSAIIPYIGPALNISNSVRRGNFTEAFVGTIVILLEAF  
 PEFTIPALGAFVIYSKVQERNEIKTIDNCLEQRIKRWKDSYEWMMGTWLSRIITQFNNISYQMYDSLNYQ  
 AGAIKAKIDLEYKKYSGSDKENIKSQVENLKNSLDVKISEAMNNINKFIRECSVTYLFKNMLPKVIDELNE  
 FDRNTKAKLINLIDSHNIIIVGEVDKDKAKVNNNSFQNTIPFNIFSYTNNSLKDIINEYFN

### 33. Protein sequence of the IgA-H<sub>ntet</sub>-CT-SST14 Fusion

ESNQPEKNGTATKPENSGNTTSENGQTEPEKKLELRNVSDIELYSQTNGTYRQHVSLDGIPENTDTYFVKV  
 KSSAFKDVYIPVASITEEKRNQSVYKITAKAEKLQOELENKYVDNFTFYLDKKAKEENTNFTSFSNLVKA  
 INQNPSGTYHLAASLANEVELGPDERSYIKDTFTGRLIGEKDGKNYAIYNLKKPLFENLSGATVEKLSLK  
 NVAISGKNDIGSLANEATNGTKIKQVHVDGCVDGIITSKTKSDDDDKNKALNLQCIKIKNEDLTFIAEKNS  
 FSEEPFQDEIVSYNTKNKPLNFNYSLDKIIVDYNLQSKITLPNDRTTPVTKGIPYAPEYKSNAASTIEIHN  
 IDNTIYQYLYAQKSPTTLQORITMTNSVDDALINSTKIYSYFSPVISKVNQGAQGILFLQWVRDIIDDFTN  
 ESSQKTTIDKISDVSTIVPYIGPALNIVKQGYEGNFIGALETTGVVLLLEYIPEITLPVIAALSIAESSTQ  
 KEKIIKTIDNFLEKRYEKWIEVYKLVKAKWLGTVNTQFQKRSYQMYRSLEYQVDAIKKIIDYEYKIYSGPD  
 KEQIADEINNLKNKLEEKANKAMININIFMRESSRSFLVNQMINEAKKQLLEFDTQSKNIMQYIKANSKF  
 IGITELKKLESKINKVFSTPIPFSSYSKNLDCWVDNEEDIDVLEGGGSGGGGSGGGGSGGGGSGGGGSGGGG  
 FTSC

### 34. Protein sequence of the IgA-H<sub>ntet</sub>-CP-SST14 fusion

ESNQPEKNGTATKPENSGNTTSENGQTEPEKKLELRNVSDIELYSQTNGTYRQHVSLDGIPENTDTYFVKV  
 KSSAFKDVYIPVASITEEKRNQSVYKITAKAEKLQOELENKYVDNFTFYLDKKAKEENTNFTSFSNLVKA  
 INQNPSGTYHLAASLANEVELGPDERSYIKDTFTGRLIGEKDGKNYAIYNLKKPLFENLSGATVEKLSLK  
 NVAISGKNDIGSLANEATNGTKIKQVHVDGCVDGIITSKTKSDDDDKAGCKNFFWKFTFTSCALAGGGGSGG  
 GGGGGGSGGGGSGGGGSGGGGSGGGGSGGGGSGGGGSGGGGSGGGGSGGGGSGGGGSGGGGSGGGGSGGGG  
 PNDRTTPVTKGIPYAPEYKSNAASTIEIHNIDNTIYQYLYAQKSPTTLQORITMTNSVDDALINSTKIYSY  
 FPSVISKVNQGAQGILFLQWVRDIIDDFTNESSQKTTIDKISDVSTIVPYIGPALNIVKQGYEGNFIGALE  
 TTGVVLLLEYIPEITLPVIAALSIAESSTQKEKIIKTIDNFLEKRYEKWIEVYKLVKAKWLGTVNTQFQKR  
 SYQMYRSLEYQVDAIKKIIDYEYKIYSGPDKEQIADEINNLKNKLEEKANKAMININIFMRESSRSFLVNQ  
 MINEAKKQLLEFDTQSKNIMQYIKANSKF IGITELKKLESKINKVFSTPIPFSSYSKNLDCWVDNEEDIDV

35. Protein sequence of the LHA-CT-SST14 fusion

EFVVKQFNYKDPVNGVDIAYIKIPNAGQMOPVKAFKIHNKIWIPIPERDTFTNP EEGDLNPPPEAKQVPVSY  
YDSTYLSTDNEKDNYLKGVTKLFERIYSTDLGRMLLTSIVRGIPFWGGSTIDTELKVIDTNCINVIQPDGS  
YRSEELNLVIGPSADIIQFECLSFGEVLNLTRNGYGSTQYIRFSPDFTFGFEESLEVDTNPLLGAGKFA  
TDPAVTLAHELIIHAGHRLYGIAINPNRVFKVNTNAYYEMSGLEVSFEELRTFGGHDAKFIDSLQENEFRLY  
YYNKFKDIASTLNKAKSIVGTTASLQYMKNVFKEKYLLEDSTSGKFSVDKLFKDKLYKMLTEIYTEDNFVK  
FFKVLNRKTYLNFDAKAVFKINIVPKVNYTIYDGFNLRTNLAANFNGQNTNINNMNFTKLKNFTGLFEFYK  
LLCVDGIITSKTKSDDDDKNKALNLQCIKVNNDLFFSPSEDNFTNDLNKGEEITSDTNIEAAEENISLDL  
IQQYYLTFNFDNEPENISIENLSSDIIGQLELMPNIEFPNGKKYELDKYTMFHYLRAQEFHKGSRIALT  
NSVNEALLNPSRVYTFSSDYVKKVNKATEAAMFLGWVEQLVYDFTDETSEVSTTDKIADITIIIPYIGPA  
LNIGNMLYKDDFVGALIFSGAVILLEFIPEIAIPVLGTFALVSYIANKVLTQVTDNLSKRNEKWDEVYK  
YIVTNWLAKVNTQIDLIRKKMKEALENQAEATKAIINYQYNQYTEEEKNNINFNIDDLSSKLNESINKAMI  
NINKFLNQCSVSYLMNSMIPYGVKRLEDFDASLKDALLKYIYDNRGTLIGQVDRDKDVNNTLSTDIPFQL  
SKYVDNQRLSTLEGGGGSGGGSGGGGSALVAGCKNFFWKTFTSC

36. Protein sequence of the LHA-CT-EGFv3 fusion

EFVVKQFNYKDPVNGVDIAYIKIPNAGQMOPVKAFKIHNKIWIPIPERDTFTNP EEGDLNPPPEAKQVPVSY  
YDSTYLSTDNEKDNYLKGVTKLFERIYSTDLGRMLLTSIVRGIPFWGGSTIDTELKVIDTNCINVIQPDGS  
YRSEELNLVIGPSADIIQFECLSFGEVLNLTRNGYGSTQYIRFSPDFTFGFEESLEVDTNPLLGAGKFA  
TDPAVTLAHELIIHAGHRLYGIAINPNRVFKVNTNAYYEMSGLEVSFEELRTFGGHDAKFIDSLQENEFRLY  
YYNKFKDIASTLNKAKSIVGTTASLQYMKNVFKEKYLLEDSTSGKFSVDKLFKDKLYKMLTEIYTEDNFVK  
FFKVLNRKTYLNFDAKAVFKINIVPKVNYTIYDGFNLRTNLAANFNGQNTNINNMNFTKLKNFTGLFEFYK  
LLCVDGIITSKTKSDDDDKNKALNLQCIKVNNDLFFSPSEDNFTNDLNKGEEITSDTNIEAAEENISLDL  
IQQYYLTFNFDNEPENISIENLSSDIIGQLELMPNIEFPNGKKYELDKYTMFHYLRAQEFHKGSRIALT  
NSVNEALLNPSRVYTFSSDYVKKVNKATEAAMFLGWVEQLVYDFTDETSEVSTTDKIADITIIIPYIGPA  
LNIGNMLYKDDFVGALIFSGAVILLEFIPEIAIPVLGTFALVSYIANKVLTQVTDNLSKRNEKWDEVYK  
YIVTNWLAKVNTQIDLIRKKMKEALENQAEATKAIINYQYNQYTEEEKNNINFNIDDLSSKLNESINKAMI  
NINKFLNQCSVSYLMNSMIPYGVKRLEDFDASLKDALLKYIYDNRGTLIGQVDRDKDVNNTLSTDIPFQL  
SKYVDNQRLSTLEGGGGSGGGSGGGGSALVDNSDKCPLSHEGYCLNDGVCMYIGTLDRIYACNC  
VVGYGGERCQYRDLKLAELR

37. Protein sequence of the LHE-CT-IL6 fusion

PKINSFNYNPVDNRTILYIKPGGCQEFYKSFNIMKNIWIIPERNVIGTTPQDFHPPTSLKNGDSSYYDPN  
YLQSDDEEKDRFLKIVTKIFNRINNNLSGGILLEELSKANPYLGNDNTPDNQFHIGDASAVEIKFSNGSQHI  
LLPNVIMGAEPDLFETNSSNISLRNNYMPSNHGFGSIAIVTFSPEYSFRFNDNSINEFIQDPALTMHEL  
IHSLHGLYGAGKITTCIITQQNPLITNRKGINIEEFLTFGGNDLNIITVAQYNDIYTNNLNDYRKIASK  
LSKVQVSNPQLNPYKDFQEKYGLDKDASGIYSVNINKFDDILKKLYSFTFEDLATKFQVKCRETYIGQYK  
YFKLSNLLNDSIYNISEGYNINNLKVNFRGQANLNPNRIIPITGRGLVKKIIRFCVDGIITSKTKSLIEG  
RNKALNLQCIENNGELFFVASSENSYNDNINTPKEIDDTVTSNNNYENDLDQVILNFNSESAPGLSDEKL  
NLTIQNDAYIPKYDSNGTSDIEQHDVNELNVFFYLDAQKVPPEGNNVNLTSSIDTALLEQPKIYTFSSSEF  
INNPNKPVQAALFVSWIQQVLVDFTTEANQKSTVDKIADISIVVPYIGLALNIGNEAQKGNFKDALELLGA  
GILLEFEPELLIPTILVFTIKSFLGSSDNKNKVIKAINNALKERDEKWKEVYSFIVSNWMTKINTQFNKRK  
EQMYQALQNQVNAIKTIESKYSYTLLEEKNELTNKYDIKQIENELNQKVSIAMNNIDRFLTESSISYLMK  
INEVKINKLREYDENVKTYLLNYIIQHGSILGESQQELNSMVTDTLNNISIPFKLSSYTDDKILISYFNKF  
FKLEGGGGSGGGSGGGSGGGGSALVPPGEDSKDVAAPHRQPLTSSERIDKQIRYILDGISALRKETCNK  
SNMCESSKEALAENNLNLPKMAEKDGCQSGFNEETCLVKIITGLLEFEVYLEYLQNRFESSEEQARAVQM  
STKVLIIQFLQKKAKNLDAITTPDPTTNASLLTKLQAQNQLQDMTTHLILRSFKEFLQSSLRALRQM

38. Protein sequence of the LHB-CT-IL8 fusion

PVTINNFNNDPIDNNNIIMMEPPFARGTGRIYKAFKITDRIWIIPERYTFGYKPEDFNKSSGIFNRDVCE  
YYDPDYLNTNDKKNIFLQTMIKLFNRIKSKPLGEKLLLEMIINGIPYLGDRRVPLEEFNTNIASVTVNKLIS  
NPGEVERKKGIFANLIIFGPGPVLNENETIDIGIQNHFASREGFGGIMQMKFCPEYVSFNNVQENKGASI

FNRRGYFSDPALILMHELIVLHGLYGIKVDDLPIVPNEKKFFMQSTDALQAEELYTFGGQDPSIITPSTD  
KSIYDKVLQNFGRGIVDRLNKLVCISDPNININIKNFKDKYKFVEDSEGKYSIDVESFDKLYKSLMFGF  
TETNIAENYKIKTRASYFSDSLPPVKIKNLLDNEIYTIIEEGFNISDKDMEKEYRGQNKAINKQAYEEISKE  
HLAVYKIQMCVDGIITSKTKSLIEGRNKALNLQCIDVDNEDLFFIADKNSFSDDLKNERIEYNTQSNYIE  
NDFPINELILDITLISKIELPSENTESLTDNFVDVPVYEKQPAIKKIFTDENTIFQYLYSQTFFPLDIRDIS  
LTSSFDDALLFSNKVYSFFSMDYIKTANKVVEAGLFAGWVKQIVNDFVIEANKSNTMDKIADISLIVPYIG  
LALNVGNETAKGNFENAFEIAGASILLEFIPELLIPVVGAFLLSYIDNKNKI IKTIDNALTKRNEKWSDM  
YGLIVAQWLSTVNTQFYTIKEGMYKALNYQAQALEEIIKYRYNIYSEKEKSNINIDFNDINSKLNEGINQA  
IDNINNFINCGSVSYLMKKMIPLAVEKLLDFDNTLKKNLLNYIDENKLYLIGSAEYEKSKVNKYLTIMPF  
DLSIYTNDTILIEFMNKYNSLEGGGGSGGGSGGGGSALVAKELRCQCIKTYSKPFHPKFIKELRVIESGP  
HCANTEIIVKLSDGRELCLDPKENWVQRVVEKFLKRAENS

39. Protein sequence of the LHF-CP-GRAN4 fusion

PVAINSFNYNDPVNDTILYMQIPYEEKSKKYYKA FEIMRNWIIIPERNITIGTNP SDFDPPASLKN GSSAY  
YDPNYLTDAEKDRYLKTTIKLFRKINSNPAGKVLQ EISYAKPYLGNDHTPIDEFSPVTRTTSVNIKLST  
NVESMLNLNLVLGAGPDI FESCCYPVRKLIDPDVVDPSNYGFGSINIVTFSP EYETFDNISGGHNSST  
ESFIADPAISLAHELIALHGLYGARGVTYEETIEVKQAPLMIAEKPIRLEEFLTFGGQDLNII TSAMKEK  
IYNLLANYEKIATRLSEVNSAPPEYDINEYKDYFQWKYGLDKNADGSYTVNENKFNEIYKKLYSFTESDL  
ANKFKVKARNTYFIKYEFLKVPNLLDDDIYTVSEGFNIGNLAVNNRGQSIKLNPKIIDSIPDKGLVEKIVK  
FAVENNNNNNNNNNLGCV DGIITSKTKSLIEGRDVKCDMEVSCPDGYTCCRLQSGAWGCCPFTQAVCCEDH  
IHCCPAGFTCDTQKGTCEALAGGGGSGGGSGGGGSALVLQCI EVNNSELFFVASESSYNENDINTPK EID  
DTTNLNNNYENNLDEVILDYNSQTIPQISNIENLNTLVQD NSYVPEYDSNGTSEIEEYDVVDNFNVFFYLHA  
QKVPEGETNISLTSSIDTALLEESKDIFFSSEFIDTINKPVNAALFIDWISKVIRDFTTEATQKSTVDKIA  
DISLIVPYVGLALNIIIEAEKGNFEEAFELLGVGILLEFVPELTIPVILVFTIKSYIDSYENKNKA IKA IAIN  
NSLIEREAKWEIYSWIVSNWLTRINTQFNKRKEQMYQALQNVDAIKTAIEYKNNYTSDEKNRLESEYN  
INNIEEELNKKVSLAMKNIERFMTESISYLMKLINEAKVGK LKKYDNHVKS DLLNYILDHRSILGEQTNE  
LSDLVTSTLNSSIPFELSSYTNDKILIIYFNRLYKT

40. Protein sequence of the LHD-CP-TGFa fusion

TWPVKDFNYSDPVNDNDILYLRIPQNK LITTPVKAFMITQNIWVIPERFSSDTNP SLSKPPRPTS KYQSY  
DPSYLTDEQKDTFLKGIIKLFKRINERDIGKKLINYL VVGSPFMGDSSTPEDTFDFTRHTTNI AVEKFEN  
GSWKVTNIITPSVLIFGPLPNILDYASLT LQGQQSNPSFEGFGTLSILKVAPEFLLTFSDVTSNQSSAVL  
GKSIFCMDPVIALMHETHSLHQLYGINIPSDKRIRPQVSEGFFSQDGPVQFEELYTFGGLDVEIIPQIE  
RSQ LREKALGHYKDI AKRLNNINKTIPSSWISNIDKYKKIFSEKYNFDKDN TGNFVVDNIDKFN SLYSDLTN  
VMSEVVYSSQYNVKNRTHYFSRHYPVFANILDDNIYTIR DGFNL TNKGFNIENSGQNIERNPALQKLSSE  
SVVDLFTKVCVDGGGGSGGGGSADDDDKVVS HFND CPDSHTQFCFHGT CRFLVQEDKPACVCHSGYVGARC  
EHADLLALAGGGSGGGSGGGGSALALQCIKVKNNR LPYVADKDSISQEIFENKIITDET NVQNYSDKFS  
LDESILDGQVPINPEIVDPLLPNVNMEPLNLPGE EIVFYDDITKYVDYLN SYYYLESQKLSNNVENITLTT  
SVEEALGYSNKIYTF LPSLA EKVNKG VQAGLFLNWANEVVEDFTTNIMKKDTL DKISDVSVIIPYIGPALN  
IGNSALRGNFNQAFATAGVAFLLEGFP EFTIPALGVFTFYSSI QEREKIIKTIENCLEQRVKRWKDSYQWM  
VSNWLSRITTFQFNHINYQMYDSLSYQADA IKA KIDLEYKKYSGSDKENIKSQVENLKN SLDVKISEAMNNI  
NKFIRECSVTYLFKNM LPKVIDELNKFDLRKT ELINLIDSHNII L VGEVDRLKAKVNESFENTMPFNIFS  
YTNN SLLKDIINEYFN

41. Protein sequence of the LHD-CP-TGFb fusion

TWPVKDFNYSDPVNDNDILYLRIPQNK LITTPVKAFMITQNIWVIPERFSSDTNP SLSKPPRPTS KYQSY  
DPSYLTDEQKDTFLKGIIKLFKRINERDIGKKLINYL VVGSPFMGDSSTPEDTFDFTRHTTNI AVEKFEN  
GSWKVTNIITPSVLIFGPLPNILDYASLT LQGQQSNPSFEGFGTLSILKVAPEFLLTFSDVTSNQSSAVL  
GKSIFCMDPVIALMHETHSLHQLYGINIPSDKRIRPQVSEGFFSQDGPVQFEELYTFGGLDVEIIPQIE  
RSQ LREKALGHYKDI AKRLNNINKTIPSSWISNIDKYKKIFSEKYNFDKDN TGNFVVDNIDKFN SLYSDLTN  
VMSEVVYSSQYNVKNRTHYFSRHYPVFANILDDNIYTIR DGFNL TNKGFNIENSGQNIERNPALQKLSSE  
SVVDLFTKVCVDGGGGSGGGGSADDDKALD TNYCFSSTEKNCCVRQLYIDFRKDLGWKWIHEPKGYHANF

CLGPCPYIWSLDTQYSKVLALYNQHNP GASAAPCCVPQALEPLPIVYVGRKPKVEQLSNMIVRSCKCSAL  
AGGGGSGGGGSGGGGSALALQCIKVKNNRLPYVADKDSISQEIFENKIITDETNVQNYSDKFSLDESILDG  
QVPINPEIVDPLLPNVNMEPLNLPGEIIVFYDDITKYVDYLNSSYYLESQKLSNNVENITLTTSVEEALGY  
SNKIYTFPLSLAEKVNKG VQAGLFLNWANEVVEDFTTNIMKKDTLDKISDVSVIIPYIGPALNIGNSALRG  
NFNQAFATAGVAFLLLEGFP EFTIPALGVFTFYSSIQEREKI IKT IENCLEQRVKRWKDSYQWMVSNWLSRI  
TTQFNHINYQMYDSL SYQADAIKAKIDLEYKKYSGSDKENIKSQVENLKNSLDVKISEAMNNINKFIRECS  
VTYLFKNMLPKVIDELNKF DLRTKTELINLIDSHNII LVGEVDRLKAKVNESFENTMPFNIFS YTNNSLLK  
DIINEYFN

42. Protein sequence of the LHB-CT-TNF $\alpha$  fusion

PVTINNFNYNDPIDNNNIIMMEPPFARGTG RYYKAFKITDRIWIIPERYTFGYKPEDFNKSSGIFNRDVCE  
YYDPDYLTNDKKNIFLQTMIKLFNRIKSKPLGEKLL EMIINGIPYLGDRRVPLEEFNTNIA SVTVNKLIS  
NPGEVERKKGIFANLIIFGPGPVLNENETIDIGIQNH FASREGFGGIMQMKFCPEYVSVFNNVQENKGASI  
FNRRGYFSDPALILMH ELIHLHGLYGIKVDDLPIVPNEKKFFMQSTDAIQAEELYTFGGQDPSIITPSTD  
KSIYDKVLQNF RGIVDRLNKLVCISDPNININIYKNKFKDKYKFVEDSEGKYSIDVESFDKLYKSLMFGF  
TETNIAENYKIKTRASYFSDSLPPVKIKNLLDNEIY TIEEGFNISDKDMEKEYRGQNKAINKQAYEEISKE  
HLAVYKIQMCVDEEKLYDDDDKDRWGSSLQCIDVDNEDLFFIADKNSFDDLSKNERIEYNTQSNYIENDF  
PINELIILDTDLISKIELPSENTESLTDFNVDVPVYEKQPAIKKI FT DENTIFQYLYSQTFFLDIRDISLTS  
SFDDALLFSNKVYSFFSMDYIKTANKVVEAGLFAGWVKQIVNDFVIEANKSNTMDAIADISLIVPYIGLAL  
NVGNETAKGNFENAFEIAGASILLEFIPELLIPVVGAF LLESYIDNKNKI IKTIDNALTKRNEKWSDMYGL  
IVAQWLSTVNTQFYTIKEGMYKALNYQAQALEE I IKYRYNIYSEKEKSNINIDFNDINSKLNEGINQAI DN  
INN FINGCSVSYLMKKMIPLAVEKLLDFDNTLKKNLLNYIDENKLYLIGSAEYKSKVNKYLKTIMPF DLS  
IYTNDTILIE MFNKYNSLEGGGGSGGGGSGGGGSALVRSSSRTPSDKPVAHVVANPQAEQQLQWLNRRANA  
LLANGVELRDNLVVPSEGLYLIYSQVLFKGQGC PSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETP  
EGAEAKPWYEP IYLGGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL

43. Protein sequence of the LHD-CT-SDF1 fusion

TWPVKDFNYS D PVDNDILYLRI PQNKLIITPVKAFMITQNIWVIPERFSSDTNP SLSKPPRPTSKYQSY Y  
DPSYLTDEQKDTFLKGI IKLFKRINERDIGKKLIN YLVVGS PFMGDSSTPEDTFDFTRHTTNIAVEKFEN  
GSWKVTNIITPSVLIFG PLPNILDYASLT LQGQQSNPSFEGFGTLSILKVAPEFLLTFSDVTSNQSSAVL  
GKSIFCMDPVIALMH ELTHSLHQLYGINIPSDKRIRPQVSEGF FSQDGPVQFEELYTFGGLDVEIIPQIE  
RSQ LREKALGHYKDI AKRLNNINKTIPSSWISNIDKYKKI FSEKYNFDKDN TGNFVNIDKFNSLYSDLTN  
VMSEVVYSSQYNVKNRTHYFSRH YLPVFANILDDNIYTIR DGFNL TNKGFN IENSGQNIERNPALQKLSSE  
SVVDLFTKVCVDKSEEKLYDDDDKDRWGSSLQCIKVKNNRLPYVADKDSISQEIFENKIITDETNVQNYSD  
KFSLDESILDGQVPINPEIVDPLLPNVNMEPLNLPGEIIVFYDDITKYVDYLNSSYYLESQKLSNNVENIT  
LTTSVEEALGYSNKIYTFPLSLAEKVNKG VQAGLFLNWANEVVEDFTTNIMKKDTLDKISDVSVIIPYIGP  
ALNIGNSALRG NFNQAFATAGVAFLLLEGFP EFTIPALGVFTFYSSIQEREKI IKT IENCLEQRVKRWKDSY  
QWMVSNWLSRIT TQFNHINYQMYDSL SYQADAIKAKIDLEYKKYSGSDKENIKSQVENLKNSLDVKISEAM  
NNINKFIRECSVTYLFKNMLPKVIDELNKF DLRTKTELINLIDSHNII LVGEVDRLKAKVNESFENTMPFN  
IFS YTNNSLLKDIINEYFNLEGGGGSGGGGSGGGGSALKPVSLSYRCPCRFFESHVARANVKHLKILNTPN  
CALQIVARLKNNNRQVCIDPKLKWIQEYLEKALNKR FKM

44. Protein sequence of the LHC-CT-VEGF fusion

PITINNFNYSDPVDNKNILYLDTHLNTLANEPEKA FRITGNIWVIPDRFSRNSNP NLNKP RVTSPKSGYY  
DPNYLSTDSKDKDTFLKEI IKLFKRINSREIGEELIYRLSTDI PFPGNNTPTINTFDFDVFNSVDVKTRQG  
NNWVKTSINPSVII TGPRENIIDPETSTFKLTNNTFAAQEGFGALSII SISPRFMLTYSNATNDVGEGRF  
SKSEFCMDPILILMH ELNHAMHNLYGIAIPNDQT ISSVTSNIFYSQYNVKLEYAEIYAFGGPTIDLIPKSA  
RKYFEEKALDYRSIAKRLNSITTANPSSFNKYIGEYKQKLIRKYRFVVESSGEVTVNRNKFVELYNELTQ  
IFTEFNYAKIYNVQNRKIYLSNVYTPVTANILDDNVYDIQNGFNI PKSNLNLVFMGQNL SRNPALRKVNPE  
NMLYLFTKFCVDAIDGRSLYNTLQCRELLVKNTDL PFIGDISDVKT DIFLRKDINEETEVIYYPDNVSVD  
QVILSKNTSEHGQLDLLYPSIDSESEILPGENQVFYDNRTQNV DYLNSSYYLESQKLSDNVEDFTFTRSIE  
EALDNSAKVYTYFPTLANKVNAGVQGGFLMWANDVVEDFTTNILRKDTLDKISDVSAIIPYIGPALNISN  
SVRRGNFTEAFAVTGVTILLEAFPEFTIPALGAFVIYSKVQERNEI IKTIDN CLEQRIKRWKDSYEWMMGT

WLSRIITQFNNISYQMYDSLNYQAGAIKAKIDLEYKKYSGSDKENIKSQVENLKNSLDVKISEAMNNINKF  
IRECSVTYLFKNMLPKVIDELNEFDRNTKAKLINLIDSHNIIILVGEVDKLKAKVNNSFQNTIPFNIFS YTN  
NSLLKDIINEYFNLEGGGSGGGGSGGGGSALAPMAEGGGQNHHEVVKFMDVYQRSYCHPIETLVDIFQ EY  
PDEIEYIFKPSCVPLMRCGGCCNDEGLECVPTESNITMQIMRIKPHQGQHIGEMSFLQHNKCECRPKKDR  
ARQEKKSVRGKGKGQKRKRKKSRYKSWSVYVGARCCLMPWSLPGPHPCGPCSERRKHLFVQDPQTCKCSCK  
NTDSRCKARQLELNERTCRCDKPRR