
primers:

1F: 5'-TCTCTGAAGGAGTCGGTAAG -3'

1R: 5'-TAGTCCTGCTGATCCTGTCAA -3'

2R: 5'-TGCACATCTTACCATGCTGA -3'

5F: 5'-TGCTCATCTCTTCTGACAGGA -3'

3599R: 5'-TTGGGCCACTGTTAAGAAGTTC- 3'

3599R-XbaI: 5' **TGCTCTAGAT**TTGGGCCACTGTTAAGAAGTTC -3'

3987R: 5'-AAGAACGGATTCCTGGAGTCA -3'

3564F: 5'-TGGACATACCCAGGAACTTC- 3'

3438F: 5'- TGATCGCAGTGAGGATAGCTC -3'

518R: 5'-AACTTGGGTACCATAGGCACA -3'

159F: 5' -GAGCATATCCTTCATCTTTCTC- 3'

106F: 5'- TCATCTTTCTCTGGCTGGGAT- 3'

106F-ClaI: 5'-**CCATCGAT**TCATCTTTCTCTGGCTGGGAT- 3'

78F: 5' -TCCTGACGAGTGTTTTGAGCA- 3'

656R: 5'- CTCTCATTCTGCTCAATGTGC -3'

911F: 5'-AGCTGGAGTGATTGCAGAAG -3'

1661R: 5'-AGTTCAGTGGTGATGCTTGCA -3'

1425F: 5'-TCTGGAGTATGCAACCATGTTG -3'

2028F: 5'-GAACACCAGTGATCACAACAG -3'

2585F: 5'-AGGTGTTGAACTCTACACTGC -3'

2816F: 5'-ACCGGAGAGGGAATGGGC -3'

2990F: 5'-ACCAAACAGTTGTAGATAATGAG-3'

3009F: 5'-TGAGACTCTGGGTGAGCTGAA-3'

3035F: 5'-TGAACATCTCTGGAGCAGACA- 3'

ISO10-F: 5'-TGCAGCATTCTGCTCAACGT- 3'

ISO10-R: 5'-TGCTAGAAGCTTTCCTGGTCT -3'

ISOuni10-R: 5'-CAGATACCATCACGGTGGTTC- 3'

ISO8-F: 5'-ATGAACCACCGTGATGGTATC -3'

4394R: 5'-GAAGAACGGATTCCTGGACTC-3'

4369R: 5'-GATGTGCTAAAGGCTGCATTC-3'

4333R: 5'-TGGACCTGTCATGTCAGAAGC-3'

4298R: 5'-ACTCATGGCTGAGCAGAAGCA-3'

4263R: 5'-TGTACCTGGCATTTAGTGACC-3'

pE23E25-F: 5'-CTGCAGCATGTGATGGTATCT-3'

pE26E24-R: 5'-GTCTGCTAGAAGGGTGGTTCA-3'

3009F: 5'-TGAGACTCTGGGTGAGCTGAA-3'

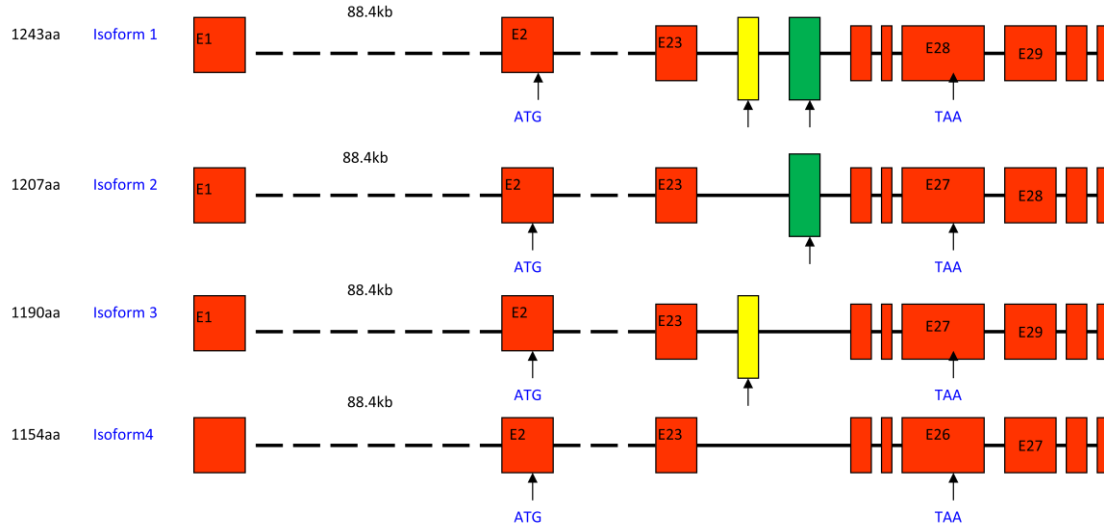
2953F: 5'-GAAACCAACGGCCATCTCACAG-3'

3025F: 5'-CTGAACTCTGTGAACATCTCTGGA-3'

3426R: 5'-CTCTTCAAAAATGCTAGGGACACC-3'

3271R: 5'-AACAGCCGATGAGGACAAGCA-3'

The DNA sequence of camel isoforms



Isoform 1 cDNA sequence

ATTCTGCTCATCTCTTCTGACAGGAGCTTAACGCCGACTTAAATCAGATCTTTCTCTTGAAGGAGTCGG
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Isoform 2 cDNA sequece

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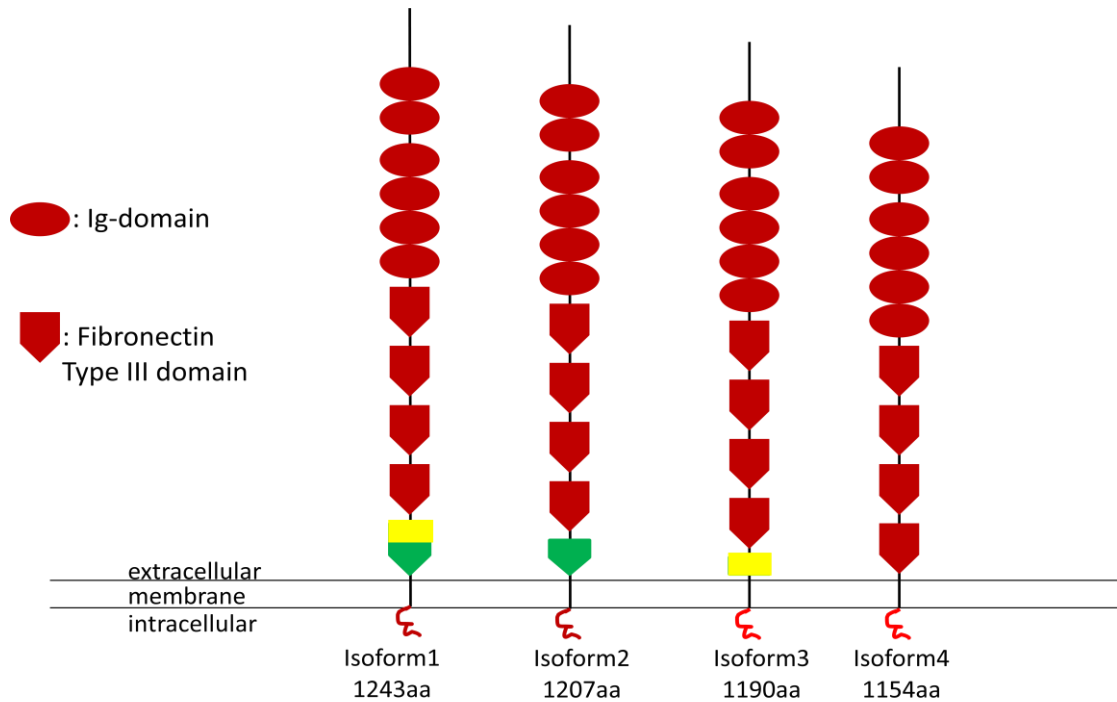
Isoform 3 cDNA sequence

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Notes: The sequence and diagram are color-to-color matching

The protein sequence of camel isoforms



Isoform 1 protein sequence 1243aa

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Isoform 2 -proteins sequence 1207aa

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NHPPLILTRNYLEYATMLGKSVIMDCNVFSSPPATLNWRREDPEGSVDGERYSLLKNGSLQIHKVEMED
MGQYKCLANNSEGSASITTELFIKDSTRIVEAPQDMKIVIRGSVAELECQVECDPSLRRELEFVWLKDGINI
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NTSDHNSPITEFIIQYEESHWEPEKWKDLLRVSSRKFSAPLALYCHINYQFRVIAVNEIGRSHPSMPSGRYK
TPPCAPDRNPENIKIEGHLPHQMDISWEPLLPVEHNGPGLEYKLSYRLLGVEDSWKEQMVKRHSFVVR
DTPTFVPEYVKIQAFNRHGWAPGPKVVTGYSGEDLPLVAPDNVSAEVLNSTLLKVSWSVPPQTTLRGHL
GGYTVNYWQTQSLTSSKIPSERQSLTIPGNRSHTMVPGLKPFSEYSLTVNVFNRRNGPQAAVPSLSQL
HKGVPPEQPHNLKATNFQKDAITLVWAPPHTNGHLLTGYLLQYQTVVDNETLGELNSVNISGADTTQWV
LRDLQEDNSYKFYLSACTQVGCESAISEKGGTDPAACDGIWQLSEALNTSKGFHLVEGLSPGTVYTVRLQ
ASRRVGVPSIFEEVFKTRKASSRQEMGSQEWVFGMMCAVALLTLVLIGCFVLKKNKGGKYAVKEKENIPA
DPESHGMDEETPCEYSDNDEKPLKSSQQLFRDATEDDRSEDSSEISEDDCEFNEDGSGFIGEYSGYMRRT
STAVNGLNGHTPGTS

Isoform 3 protein sequence 1190aa

MRGLRSLVGLLSAFFSTTFGLYFPPHVEQLPTITAQTSGTIIALPYDERYIFKCEAKGNPRPTFRWTKDGM
DFDPHKDPQVTTEENTGTFEIPNKKDKVKYQGKYRCYASNKLGATSEEAEFIVPMVPKFPKEKIEPIVTE
GDSVVLECNPPQGIPPWQLYWMTNDLRHIEQNERVSMGLSGNLYFSNTLVSDSHDDYCCFASFFKIRTI
VQKPRMVLKVKPVDKQEDGDAKIVQERKPSILVSSHSTTFLLKKGEELEECIAEGLPTPEVEWIKIWD
LPKRTQIKNFGKLLTIPNIREEDEGKYMCKAKNQHGEDVHHFQVEVEEPPSWQKEPLKSQLAWIGSDIHI
NCSATGKQPPTITWKRNGKPLDDFPSTHHKMLDDRIILKAEQKDTAVYQCEASNKHGSLLANANVLM
NHPPLILTRNYLEYATMLGKSVIMDCNVFSSPPATLNWRREDPEGSVDGERYSLLKNGSLQIHKVEMED
MGQYKCLANNSEGSASITTELFIKDSTRIVEAPQDMKIVIRGSVAELECQVECDPSLRRELEFVWLKDGINI
LSNSSERYFTDEGILQIFNVSHSDQGNVTCIVRTSLDQDTASAYITVLDVDPPEVLLSCLKDRSVKLVHW
NTSDHNSPITEFIIQYEESHWEPEKWKDLLRVSSRKFSAPLALYCHINYQFRVIAVNEIGRSHPSMPSGRYK
TPPCAPDRNPENIKIEGHLPHQMDISWEPLLPVEHNGPGLEYKLSYRLLGVEDSWKEQMVKRHSFVVR
DTPTFVPEYVKIQAFNRHGWAPGPKVVTGYSGEDLPLVAPDNVSAEVLNSTLLKVSWSVPPQTTLRGHL
GGYTVNYWQTQSLTSSKIPSERQSLTIPGNRSHTMVPGLKPFSEYSLTVNVFNRRNGPQAAVPSLSQL
HKGVPPEQPHNLKATNFQKDAITLVWAPPHTNGHLLTGYLLQYQTVVDNETLGELNSVNISGADTTQWV
LRDLQEDNSYKFYLSACTQVGCESAISEKGGTDPAAFVNLNVSTFVRDTSARISWRTRGEHSDSQLYVAIM
NHPSSRQEMGSQEWVFGMMCAVALLTLVLIGCFVLKKNKGGKYAVKEKENIPADPESHGMDEETPCEY
SDNDEKPLKSSQQLFRDATEDDRSEDSSEISEDDCEFNEDGSGFIGEYSGYMRRTSTAVNGLNGHTPGTS

Isoform 4 protein sequence 1154aa

MRGLRSLVGLLSAFFSTTFGLYFPPHVEQLPTITAQTSGTIIALPYDERYIFKCEAKGNPRPTFRWTKDGM
DFDPHKDPQVTTEENTGTFEIPNKKDKVKYQGKYRCYASNKLGATSEEAEFIVPMVPKFPKEKIEPIVTE

GDSVVLECNPPQGIPPWQLYWMTNDRHIEQNERVSMGLSGNLYFSNTLVSDSHDDYCCFASFFKIRTI
VQKPRMVLKVKPVDKQEDGDAKIVQERKPSILVSSHSTTFLKKGEELEECIAEGLPTPEVEWIKIWGD
LPKRTQIKNFGKLLTIPNIREEDEGKYMCKAKNQHGEDVHHFQVEVEPPSWQKEPLKSQQLAWIGSDIHI
NCSATGKPQPTITWKRNGKPLDDFPSTHHKMLDDRIILKAEQKDTAVYQCEASNKHGSLLANANVLM
NHPPLILTRNYLEYATMLGKSVIMDCNVFSSPPATLNWRREDPEGSVDGERYSLLKNGSLQIHKVEMED
MGQYKCLANNSEGSASITTELFIKDSTRIVEAPQDMKVIRGSVAELECQVECDPSLRRELEFVWLKGINI
LSNSSERYFTDEGILQIFNVSHSDQGNVTCIVRTSLDQDTASAYITVLDVDPPEVLLLSDLKDRSVKLHWV
NTSDHNSPITEFIIQYEESHWEPEKWKDLLRVSSRKFSAPLALYCHINYQFRVIAVNEIGRSHPSMPSGRYK
TPPCAPDRNPENIKIEGHLPHQMDISWEPLLPVEHNGPGLEYKLSYRLLGVEDSWKEQMVKRHSFVVR
DTPTFPYEVKIQAFNRHGWAPGPKVVTGYSGEDLPLVAPDNVSAEVLNSTLLKVSWSVPVQTTLRGHL
GGYTVNYWQTQSLTSSKIPSERQSLTIPGNRSHTMVPGLKPFSEYSLTVNVFNRRGNGPQAAVPSLSQL
HKGVPEQPHNLKATNFQKDAITLVWAPPHETNGHLLTYLLQYQTVVDNETLGELNSVNISSGADTTQWV
LRDLQEDNSYKFYLSACTQVGCESAISEKGGTDPAAASSRQEMGSQEFVFGMMCAVALLTLLVLIGCFV
LKNKGGKYAVKEKENIPADPESHGMDEETPCEYSDNDEKPLKSSQQLFRDATEDDRSEDSSEISDDCE
FNEDGSFIGEYSGYMRRTSTAVNGLNGHTPGTS