Recombinant LORF2 protein (His tag)

Catalog Number	544033
Synonyms	ORF2p
Species	Human
Expression System	E. coli
Accession	O00370
Molecular Weight	Predictes a molecular mass of 41.97 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 42 kDa band.

Product Information

Sequence Region	935-1275
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>89%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 935-1275 aa (O00370) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	This recombinant protein is a 341-amino acid fragment (residues 935-1275) of the human LINE-1 retrotransposable element ORF2 protein (ORF2p), encompassing the DUF1725 domain. It serves as a specialized tool for investigating the structural and functional characteristics of this conserved domain within the multifunctional ORF2p, which plays a central role in retrotransposition. The full-length LINE-1 ORF2 protein is a critical enzyme in human retrotransposition, possessing both reverse transcriptase (EC 2.7.7.49) and endonuclease (EC 3.1.21.-) activities. It selectively binds and reverse transcribes poly(A)-tailed RNA and introduces nicks in chromosomal DNA at AT-rich regions between purine and pyrimidine stretches, facilitating LINE-1 integration. Unlike related endonucleases, ORF2p recognizes DNA through conformational properties rather than specific nucleotide sequences and causes DNA compression near cleavage sites without bending the helix. This fragment allows focused study on the DUF1725 domain's contribution to these complex functions.