

Recombinant Mouse FXR1 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51647

Size: 10ug, 100ug

Protein Name: RNA-binding protein FXR1 (FXR1P) (mFxr1p)

Synonym: Fxr1, Fxr1h

UniProt ID: Q61584

UniProt Link: www.uniprot.org/uniprotkb/Q61584/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 677 AA

Molecular Weight: 76 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MAELTVEVRGSNGAFYKGFIKDVHEDSLTVVFENNWQPERQVPFNEVRLPPPPDIKKEISEGDEVEV
YSRANDQEPGWLAKVRMMKGEFYVIEYAACDATYNEIVTFERLRPVNQNKTVKKNITFFKCTVDV
PEDLREACANENAHKDFKAVGACRIFYHPETTQLMILSASEATVKRVNLSMDHLRSIRTKLMLMSR
NEEATKHLECTKQLAAAFHEEFVREDLMGLAIGTHGSNIQQARKVPGVTAIELDEDTGTFRIYGESA
EAVKKARGFLEFVEDFIQVPRNLVGKVGKNGKVIQEIVDKSGVVRVRIEGDNENKLPREDGMVPFVF
VGTKESIGNVQVLLEYHIAYLKEVEQLRMERLQIDEQLRQIGMGFRPSSTRGPEREKGYATDESTVS
SVQGSRSYSGRGRGRRGPNYTSYGVTNSELNPNSETESERKDELSDWSLAGEDDRETRHQRDSR
RRPGGRGRSVSGGRGRGGPRGGKSSISSVLKDPDSNPYSLLDNTESDQTADTDASESHHSTNRRR
RSRRRRRTDEDAVLMDGLTESDTASVNEGLDDSEKKPQRRNRSSRRRRFRGQAEDRQPVTVDYIS
RAESQSRQRNLPRETLAKNKKEMAKDVIEEHGPSEKAINGPTSASGDEIPKLPRTLGEEKTKTLKED
STQEAAVLNGVS

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.



Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant RNA-binding protein FXR1 (FXR1P) (mFxr1p) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: mRNA-binding protein that acts as a regulator of mRNAs translation and/or stability, and which is required for various processes, such as neurogenesis, muscle development and spermatogenesis (PubMed:15128702, PubMed:25456134, PubMed:32328638, PubMed:35951695). Specifically binds to AU-rich elements (AREs) in the 3'-UTR of target mRNAs (PubMed:25456134). Promotes formation of some phase-separated membraneless compartment by undergoing liquid-liquid phase separation upon binding to AREs-containing mRNAs, leading to assemble mRNAs into cytoplasmic ribonucleoprotein granules that concentrate mRNAs with associated regulatory factors (PubMed:32328638, PubMed:35951695). Required to activate translation of stored mRNAs during late spermatogenesis: acts by undergoing liquid-liquid phase separation to assemble target mRNAs into cytoplasmic ribonucleoprotein granules that recruit translation initiation factor EIF4G3 to activate translation of stored mRNAs in late spermatids (PubMed:35951695). Promotes translation of MYC transcripts by recruiting the eIF4F complex to the translation start site (By similarity). Acts as a negative regulator of inflammation in response to IL19 by promoting destabilization of pro-inflammatory transcripts (By similarity). Also acts as an inhibitor of inflammation by binding to TNF mRNA, decreasing TNF protein production (PubMed:15548538). Acts as a negative regulator of AMPA receptor GRIA2/GluA2 synthesis during long-lasting synaptic potentiation of hippocampal neurons by binding to GRIA2/GluA2 mRNA, thereby inhibiting its translation (PubMed:25456134). Regulates proliferation of adult neural stem cells by binding to CDKN1A mRNA and promoting its expression (PubMed:28204491). Acts as a regulator of sleep and synaptic homeostasis by regulating translation of transcripts in neurons (PubMed:32893934). Required for embryonic and postnatal development of muscle tissue by undergoing liquid-liquid phase separation to assemble target mRNAs into cytoplasmic ribonucleoprotein granules (PubMed:15128702, PubMed:32328638). Involved in the nuclear pore complex localization to the nuclear envelope by preventing cytoplasmic aggregation of nucleoporins: acts by preventing ectopic phase separation of nucleoporins in the cytoplasm via a microtubule-dependent mechanism (By similarity). Plays a role in the stabilization of PKP2 mRNA and therefore protein abundance, via its interaction with PKP3 (By similarity). May also do the same for PKP2, PKP3 and DSP via its interaction with PKP1 (By similarity). Forms a cytoplasmic messenger ribonucleoprotein (mRNP) network by packaging long mRNAs, serving as a scaffold that recruits proteins and signaling molecules. This network facilitates signaling reactions by maintaining proximity between kinases and substrates, crucial for processes like actomyosin reorganization (By similarity).

Subcellular Localization: Cytoplasm, Cytoplasmic ribonucleoprotein granule . Cytoplasm, Stress granule . Cytoplasm . Cell projection, dendrite . Cell projection, dendritic spine . Cell projection, axon . Nucleus envelope . Postsynapse . Note=Specifically localizes to cytoplasmic ribonucleoprotein membraneless compartments (PubMed:35951695). Localizes to stress granules following phosphorylation at Ser-449 by PAK1 (By similarity). Adjacent to Z-lines in muscles (PubMed:30770808).

6. Notes



- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.