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FXR1 Blocking Peptide (N-term)

Synthetic peptide
Catalog # BP20184a

Specification

FXR1 Blocking Peptide (N-term) - Product Information

Primary Accession	P51114
Other Accession	Q5XI81, Q61584, O70523, Q2TBT7, NP_005078.2

FXR1 Blocking Peptide (N-term) - Additional Information

Gene ID 8087

Other Names
Fragile X mental retardation syndrome-related protein 1, hFXR1p, FXR1

Target/Specificity
The synthetic peptide sequence is selected from aa 52-66 of HUMAN FXR1

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

FXR1 Blocking Peptide (N-term) - Protein Information

Name FXR1 {ECO:0000303|PubMed:7781595, ECO:0000312|HGNC:HGNC:4023}

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:17382880, PubMed:20417602, PubMed:30067974, PubMed:34731628, PubMed:35989368, PubMed:36306353). Specifically binds to AU-rich elements (AREs) in the 3'-UTR of target mRNAs (PubMed:17382880, PubMed:34731628). 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 (By similarity). 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 (By similarity). Promotes translation of MYC transcripts by recruiting the eIF4F complex to the translation start site (PubMed:34731628). Acts as a negative regulator of inflammation in response to IL19 by promoting destabilization of pro-inflammatory transcripts (PubMed:30067974). Also acts as an inhibitor of inflammation by binding to TNF mRNA, decreasing TNF protein production (By similarity). 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 (By similarity). Regulates proliferation of adult neural stem cells by binding to CDKN1A mRNA and promoting its expression (By similarity). Acts as a regulator of sleep and synaptic homeostasis by regulating translation of transcripts in neurons (By similarity). Required for embryonic and postnatal development of muscle tissue by undergoing liquid-liquid phase separation to assemble target mRNAs into cytoplasmic ribonucleoprotein granules (PubMed:30770808). 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 (PubMed:32706158).

Cellular Location
Cytoplasm, Cytoplasmic ribonucleoprotein granule. Cytoplasm, Stress granule. Cytoplasm. Cell projection, dendrite {ECO:0000250|UniProtKB:Q61584}. Cell projection, dendritic spine {ECO:0000250|UniProtKB:Q61584}. Cell projection, axon {ECO:0000250|UniProtKB:Q61584}. Nucleus envelope. Postsynapse {ECO:0000250|UniProtKB:Q61584}. Note=Specifically localizes to cytoplasmic ribonucleoprotein membraneless compartments (By similarity). Localizes to stress granules following phosphorylation at Ser-420 by PAK1 (PubMed:20417602). Adjacent to Z-lines in muscles (By similarity). {ECO:0000250|UniProtKB:Q61584, ECO:0000269|PubMed:20417602}

Tissue Location
Expressed in all tissues examined including heart, brain, kidney and testis (PubMed:7781595, PubMed:9259278). In brain, present at high level in neurons and especially in the Purkinje cells at the interface between the granular layer and the molecular layer (at protein level) (PubMed:9259278).

FXR1 Blocking Peptide (N-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

FXR1 Blocking Peptide (N-term) - Images

FXR1 Blocking Peptide (N-term) - Background

The protein encoded by this gene is an RNA binding protein that interacts with the functionally-similar proteins FMR1 and FXR2. These proteins shuttle between the nucleus and cytoplasm and associate with polyribosomes, predominantly with the 60S ribosomal subunit. Three transcript variants encoding different isoforms have been found for this gene.

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Coffee, R.L. Jr., et al. Dis Model Mech 3 (7-8), 471-485 (2010) :
Darnell, J.C., et al. Hum. Mol. Genet. 18(17):3164-3177(2009)
Purcell, S.M., et al. Nature 460(7256):748-752(2009)
Davidovic, L., et al. J. Med. Genet. 45(10):679-685(2008)
Vasudevan, S., et al. Cell 128(6):1105-1118(2007)