

产品名称: FMRP (1N14) Rabbit Monoclonal Antibody
产品货号: AMRe11049



产品概述 (Summary)

产品名称 (Production Name)	FMRP (1N14) Rabbit Monoclonal Antibody
描述 (Description)	Recombinant rabbit monoclonal antibody
宿主 (Host)	Rabbit
应用 (Application)	WB,IHC,ICC/IF
种属反应性 (Reactivity)	Human,Mouse,Rat

产品性能 (Performance)

偶联物 (Conjugation)	Unconjugated
修饰 (Modification)	Unmodified
同种型 (Isotype)	IgG
克隆 (Clonality)	Monoclonal
形式 (Form)	Liquid
存放说明 (Storage)	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.
储存溶液 (Buffer)	Supplied in 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% New type preservative N and 0.05% protective protein.
纯化方式 (Purification)	Affinity purification

免疫原信息 (Immunogen)

基因名 (Gene Name)	FMR1
别名 (Alternative Names)	FMR1; Fmr1 gene; FMRP; Fragile X mental retardation 1; Fragile X mental retardation 1 protein; FRAXA;POF; POF1; Protein FMR-1; Protein FMR1;
基因 ID (Gene ID)	2332.0
蛋白 ID (SwissProt ID)	Q06787.A synthetic peptide of human FMRP

产品应用 (Application)

稀释比 (Dilution Ratio)	WB 1:1000-1:2000,IHC 1:20-1:500,ICC/IF 1:100-1:200
蛋白分子量 (Molecular Weight)	71kDa

研究背景 (Background)

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The protein encoded by this gene binds RNA and is associated with polysomes. The encoded protein may be involved in mRNA trafficking from the nucleus to the cytoplasm. A trinucleotide repeat (CGG) in the 5' UTR is normally found at 6-53 copies, but an expansion to 55-230 repeats is the cause of fragile X syndrome. Multifunctional polyribosome-associated RNA-binding protein that plays a central role in neuronal development and synaptic plasticity through the regulation of alternative mRNA splicing, mRNA stability, mRNA dendritic transport and postsynaptic local protein synthesis of a subset of mRNAs (PubMed: [16631377](http://www.uniprot.org/citations/16631377), PubMed: [18653529](http://www.uniprot.org/citations/18653529), PubMed: [19166269](http://www.uniprot.org/citations/19166269), PubMed: [23235829](http://www.uniprot.org/citations/23235829), PubMed: [25464849](http://www.uniprot.org/citations/25464849)). Plays a role in the alternative splicing of its own mRNA (PubMed: [18653529](http://www.uniprot.org/citations/18653529)). Plays a role in mRNA nuclear export (By similarity). Together with export factor NXF2, is involved in the regulation of the NXF1 mRNA stability in neurons (By similarity). Stabilizes the scaffolding postsynaptic density protein DLG4/PSD-95 and the myelin basic protein (MBP) mRNAs in hippocampal neurons and glial cells, respectively; this stabilization is further increased in response to metabotropic glutamate receptor (mGluR) stimulation (By similarity). Plays a role in selective delivery of a subset of dendritic mRNAs to synaptic sites in response to mGluR activation in a kinesin-dependent manner (By similarity). Plays a role as a repressor of mRNA translation during the transport of dendritic mRNAs to postsynaptic dendritic spines (PubMed: [11532944](http://www.uniprot.org/citations/11532944), PubMed: [11157796](http://www.uniprot.org/citations/11157796), PubMed: [12594214](http://www.uniprot.org/citations/12594214), PubMed: [23235829](http://www.uniprot.org/citations/23235829)). Component of the CYFIP1-EIF4E-FMR1 complex which blocks cap-dependent mRNA translation initiation (By similarity). Represses mRNA translation by stalling ribosomal translocation during elongation (By similarity). Reports are contradictory with regards to its ability to mediate translation inhibition of MBP mRNA in oligodendrocytes (PubMed: [23891804](http://www.uniprot.org/citations/23891804)). Also involved in the recruitment of the RNA helicase MOV10 to a subset of mRNAs and hence regulates microRNA (miRNA)-mediated translational repression by AGO2 (PubMed: [14703574](http://www.uniprot.org/citations/14703574), PubMed: [17057366](http://www.uniprot.org/citations/17057366), PubMed: [25464849](http://www.uniprot.org/citations/25464849)). Facilitates the assembly of miRNAs on specific target mRNAs (PubMed: [17057366](http://www.uniprot.org/citations/17057366)). Plays also a role as an activator of mRNA translation of a subset of dendritic mRNAs at synapses (PubMed: [19097999](http://www.uniprot.org/citations/19097999), PubMed: [19166269](http://www.uniprot.org/citations/19166269)). In response to mGluR stimulation, FMR1-target mRNAs are rapidly derepressed, allowing for local translation at synapses (By similarity). Binds to a large subset of dendritic mRNAs that encode a myriad of proteins involved in pre- and postsynaptic functions (PubMed: [7692601](http://www.uniprot.org/citations/7692601), PubMed: [7692601](http://www.uniprot.org/citations/7692601)).

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[11719189](http://www.uniprot.org/citations/11719189) PubMed: [11157796](http://www.uniprot.org/citations/11157796) PubMed: [12594214](http://www.uniprot.org/citations/12594214) PubMed: [17417632](http://www.uniprot.org/citations/17417632) PubMed: [23235829](http://www.uniprot.org/citations/23235829) PubMed: [24448548](http://www.uniprot.org/citations/24448548)). Binds to 5'-ACU[GU]-3' and/or 5'-[AU]GGA-3' RNA consensus sequences within mRNA targets, mainly at coding sequence (CDS) and 3'-untranslated region (UTR) and less frequently at 5'-UTR (PubMed: [23235829](http://www.uniprot.org/citations/23235829)). Binds to intramolecular G-quadruplex structures in the 5'- or 3'-UTRs of mRNA targets (PubMed: [11719189](http://www.uniprot.org/citations/11719189) PubMed: [18579868](http://www.uniprot.org/citations/18579868) PubMed: [25464849](http://www.uniprot.org/citations/25464849) PubMed: [25692235](http://www.uniprot.org/citations/25692235)). Binds to G-quadruplex structures in the 3'-UTR of its own mRNA (PubMed: [7692601](http://www.uniprot.org/citations/7692601) PubMed: [11532944](http://www.uniprot.org/citations/11532944) PubMed: [12594214](http://www.uniprot.org/citations/12594214) PubMed: [15282548](http://www.uniprot.org/citations/15282548) PubMed: [18653529](http://www.uniprot.org/citations/18653529)). Binds also to RNA ligands harboring a kissing complex (kc) structure; this binding may mediate the association of FMR1 with polyribosomes (PubMed: [15805463](http://www.uniprot.org/citations/15805463)). Binds mRNAs containing U-rich target sequences (PubMed: [12927206](http://www.uniprot.org/citations/12927206)). Binds to a triple stem-loop RNA structure, called Sod1 stem loop interacting with FMRP (SoSLIP), in the 5'-UTR region of superoxide dismutase SOD1 mRNA (PubMed: [19166269](http://www.uniprot.org/citations/19166269)). Binds to the dendritic, small non-coding brain cytoplasmic RNA 1 (BC1); which may increase the association of the CYFIP1-EIF4E-FMR1 complex to FMR1 target mRNAs at synapses (By similarity). Associates with export factor NXF1 mRNA-containing ribonucleoprotein particles (mRNPs) in a NXF2-dependent manner (By similarity). Binds to a subset of miRNAs in the brain (PubMed: [14703574](http://www.uniprot.org/citations/14703574) PubMed: [17057366](http://www.uniprot.org/citations/17057366)). May associate with nascent transcripts in a nuclear protein NXF1-dependent manner (PubMed: [18936162](http://www.uniprot.org/citations/18936162)). In vitro, binds to RNA homomer; preferentially on poly(G) and to a lesser extent on poly(U), but not on poly(A) or poly(C) (PubMed: [7688265](http://www.uniprot.org/citations/7688265) PubMed: [7781595](http://www.uniprot.org/citations/7781595) PubMed: [12950170](http://www.uniprot.org/citations/12950170) PubMed: [15381419](http://www.uniprot.org/citations/15381419) PubMed: [8156595](http://www.uniprot.org/citations/8156595)). Moreover, plays a role in the modulation of the sodium-activated potassium channel

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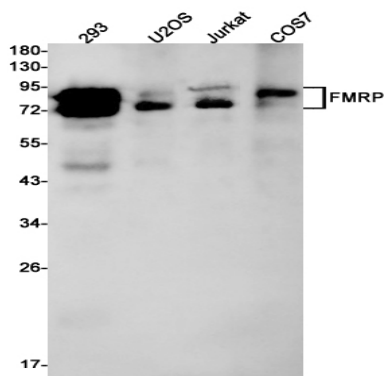


KCNT1 gating activity (PubMed:20512134). Negatively regulates the voltage- dependent calcium channel current density in soma and presynaptic terminals of dorsal root ganglion (DRG) neurons, and hence regulates synaptic vesicle exocytosis (By similarity). Modulates the voltage- dependent calcium channel CACNA1B expression at the plasma membrane by targeting the channels for proteosomal degradation (By similarity). Plays a role in regulation of MAP1B-dependent microtubule dynamics during neuronal development (By similarity). Recently, has been shown to play a translation-independent role in the modulation of presynaptic action potential (AP) duration and neurotransmitter release via large- conductance calcium-activated potassium (BK) channels in hippocampal and cortical excitatory neurons (PubMed:25561520). Finally, FMR1 may be involved in the control of DNA damage response (DDR) mechanisms through the regulation of ATR-dependent signaling pathways such as histone H2AX/H2A.x and BRCA1 phosphorylations (PubMed:24813610).

研究领域 (Research Area)

Neuroscience

图片 (Image Data)



Western blot detection of FMRP in 293,U2OS,Jurkat,COS7 cell lysates using FMRP antibody(1:1000 diluted).

注意事项 (Note)

For research use only .