ARG52281
anti-FMRP phospho (Ser499) antibody

Package: 50 µl
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes FMRP phospho (Ser499)
Tested Reactivity	Rat
Predict Reactivity	Hu, Ms, Bov, Chk, Dog, NHuPrm, Sheep, Xenopus laevis, Zfsh
Tested Application	WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	FMRP
Species	Rat
Immunogen	Synthetic phospho-peptide corresponding to amino acid residues surrounding Ser499 conjugated to KLH
Conjugation	Un-conjugated
Alternate Names	POF1; Fragile X mental retardation protein 1; FRAXA; Protein FMR-1; POF; FMRP

Application Instructions

Application table

Application	Dilution
WB	1:1,000

Application Note: Specific for ~71k FMRP protein phosphorylated at Ser499. Immunolabeling of the FMRP protein is completely eliminated by lambda-phosphatase.
* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

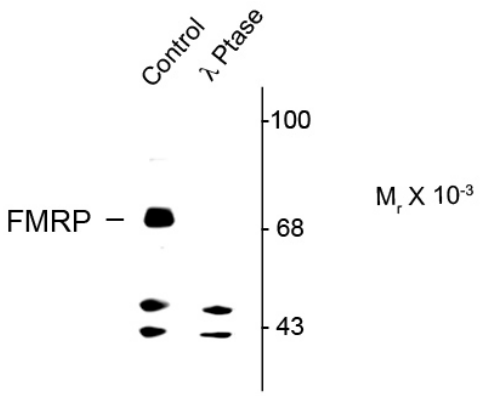
Properties

Form	Liquid
Purification	Affinity Purified
Buffer	10 mM HEPES (pH 7.5), 150 mM NaCl, 0.1 mg/ml BSA and 50% Glycerol
Stabilizer	0.1 mg/ml BSA, 50% Glycerol
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Database links	GeneID: 24948 Rat
	Swiss-port # Q80WE1 Rat
Gene Symbol	FMR1
Gene Full Name	fragile X mental retardation 1
Background	Fragile X Mental Retardation Protein (FMRP) is an RNA-binding protein that plays an essential role in cognitive brain function. Mutations in the FMR1 gene, which codes for FMRP, can result in fragile X syndrome, autism, as well as other cognitive deficits (Brown et al.,1998, Goodlin-Jones et al., 2004). Phosphorylation of the highly conserved Ser499 has been shown to trigger hierarchical phosphorylation of nearby serines and may play a role in suppressing target mRNA translation (Ceman et al., 2003, Narayanan et al. 2008).
Research Area	Gene Regulation antibody; Neuroscience antibody
Calculated Mw	71 kDa
PTM	Phosphorylated (PubMed:14532325). Phosphorylated on several serine residues. Phosphorylation at Ser-500 is required for phosphorylation of other nearby serine residues. Phosphorylation has no effect on the binding of individual mRNA species, but may affect the association with polyribosome. Unphosphorylated FMR1 is associated with actively translating polyribosome, whereas a fraction of phosphorylated FMR1 is associated with apparently stalled polyribosome. Dephosphorylation by an activated phosphatase may release the FMR1-mediated translational repression and allow synthesis of a locally required protein at snypases (By similarity). Monoubiquitinated. Polyubiquitinated. Ubiquitinated and targeted for proteasomal degradation after activation of metabotropic glutamate receptor (mGluR). Methylated; methylation is necessary for heterodimerization with FXR1, association with polyribosomes, recruitment into stress granules and translation of FMR1 target mRNAs (PubMed:16636078). Methylated by PRMT1, PRMT3 and PRMT4, in vitro (PubMed:16922515). Isoform 10: Undergoes proteolytic cleavage; may be specifically cleaved by calpain-1/CAPN1 in cajal bodies (PubMed:24204304).

Images



ARG52281 anti-FMRP phospho (Ser499) antibody WB image

Western blot: Rat hippocampal lysate showing specific immunolabeling of the ~71k FMRP protein phosphorylated at Ser 499 (Control) stained with ARG52281 anti-FMRP phospho (Ser499) antibody.
The phosphospecificity of this labeling is shown in the second lane (lambda-phosphatase: λ-Ptase).
The blot is identical to the control except that the lysate was incubated in λ-Ptase (400 units/100ul lysate for 30 min) before being exposed to the FMRP Ser 499 antibody.
The immunolabeling is completely eliminated by treatment with λ-Ptase.
.