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FMRP (D14F4) Rabbit mAb

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W, IF-IC	Reactivity: H M R Mk	Sensitivity: Endogenous	MW (kDa): 80	Source/Isotype: Rabbit IgG	UniProt ID: #Q06787	Entrez-Gene Id: 2332
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Product Usage Information

Application

Western Blotting
Immunofluorescence (Immunocytochemistry)

Dilution

1:1000
1:100 - 1:200

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

FMRP (D14F4) Rabbit mAb recognizes endogenous levels of total FMRP protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly552 of human FMRP protein.

Background

Fragile X syndrome, a frequent cause of inherited mental retardation, often results from expansion of the CGG trinucleotide repeat in the gene that encodes the fragile X mental retardation protein (FMRP) (1). FMRP (also known as FMR1) and its two autosomal homologs (FXR1 and FXR2) all bind RNA and play a role in the pathogenesis of fragile X syndrome (1-3). Each of these related proteins can associate with one another as well as form homodimers (3). FMRP can act as a translation regulator and is a component of RNAi effector complexes (RISC), suggesting a role in gene silencing (4). In *Drosophila*, dFMRP associates with Argonaute 2 (Ago2) and Dicer and coimmunoprecipitates with miRNA and siRNA. These results suggest that fragile X syndrome is related to abnormal translation caused by a defect in RNAi-related pathways (5). In addition, FMRP, FXR1, and FXR2 are components of stress granules (SG) and have been implicated in the translational regulation of mRNAs (6).

Background References

1. Verkerk, A.J. et al. (1991) *Cell* 65, 905-14.
2. Siomi, M.C. et al. (1995) *EMBO J* 14, 2401-8.
3. Zhang, Y. et al. (1995) *EMBO J* 14, 5358-66.
4. Caudy, A.A. et al. (2002) *Genes Dev* 16, 2491-6.
5. Siomi, H. et al. (2004) *Ment Retard Dev Disabil Res Rev* 10, 68-74.
6. Linder, B. et al. (2008) *Hum Mol Genet* 17, 3236-46.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween@ 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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