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# FMRP Antibody

Store at -20C  
#4317

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

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

### Application

Western Blotting  
Immunoprecipitation  
Immunofluorescence (Immunocytochemistry)

### Dilution

1:1000  
1:50  
1:50

## Storage

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

## Specificity/Sensitivity

FMRP Antibody detects endogenous levels of total FMRP protein.

## Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Thr559 of human FMRP. Antibodies are purified by protein A and peptide affinity chromatography.

## 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 **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry)

## Cross-Reactivity Key

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

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