

FMRP Monoclonal Antibody (4G9)

Catalog NumberMA5-15499

Product data sheet

Details		Species Reactivity	
Size	100 µL	Species reactivity	Human
Host/Isotope	Mouse / IgG1	Published species	Human, Not Applicable
Class	Monoclonal	Tested Applications	
Type	Antibody	ELISA (ELISA)	Dilution *1:10,000
Clone	4G9	Immunohistochemistry (IHC)	1:200-1:1,000
Immunogen	Purified recombinant fragment of human FMR1 expressed in E. Coli.	Western Blot (WB)	1:500-1:2,000
Conjugate	Unconjugated	Immunocytochemistry (ICC/IF)	1:200-1:1,000
Form	Liquid	Published Applications	
Concentration	Conc. Not Determined	Western Blot (WB)	See 1 publications below
Storage buffer	ascites	* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.	
Contains	0.03% sodium azide		
Storage Conditions	Store at 4°C short term. For long term storage, store at -20°C, avoiding freeze/thaw cycles.		

Product specific information

MA5-15499 targets FMR1 in indirect ELISA, IF, IHC, and WB applications and shows reactivity with Human samples. The MA5-15499 immunogen is purified recombinant fragment of human FMR1 expressed in E. Coli. MA5-15499 detects FMR1 which has a predicted molecular weight of approximately 71kDa.

Background/Target Information

FMR1 binds RNA and is associated with polysomes. The protein may be involved in mRNA trafficking from the nucleus to the cytoplasm. A trinucleotide repeat 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. Expansion of the trinucleotide repeat may also cause one form of premature ovarian failure. Multiple alternatively spliced transcript variants that encode different protein isoforms and which are located in different cellular locations have been described for this gene.

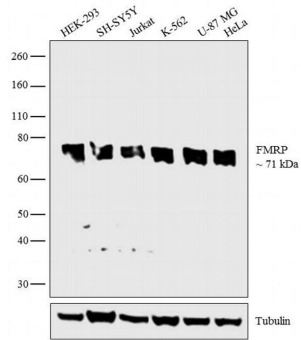
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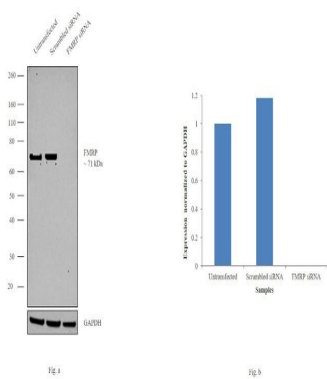
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Product Images For FMRP Monoclonal Antibody (4G9)



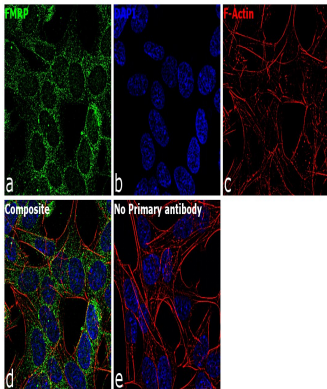
FMRP Antibody (MA5-15499) in WB

Western blot analysis was performed on whole cell extracts (30 µg lysate) of HEK-293 (Lane 1), SH-SY5Y (Lane 2), Jurkat (Lane 3), K-562 (Lane 4), U-87 MG (Lane 5) and HeLa (Lane 6). The blot was probed with Anti-FMRP Monoclonal Antibody (Product # MA5-15499, 1:500 dilution) and detected by chemiluminescence using Goat anti-Mouse IgG (H+L) Superclonal™ Secondary Antibody, HRP conjugate (Product # A28177, 0.25 µg/ml, 1:4000 dilution). A 71 kDa band corresponding to FMRP was observed across the cell lines tested.



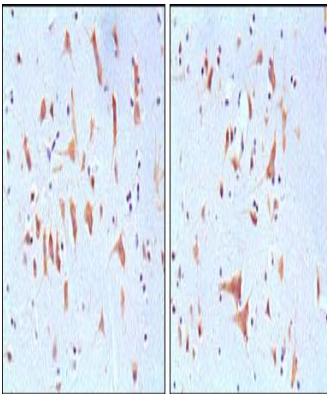
FMRP Antibody (MA5-15499)

Antibody specificity was demonstrated by siRNA mediated knockdown of target protein. SH-SY5Y cells were transfected with FMRP siRNA and reduction of signal was observed in Western Blot using FMRP Monoclonal Antibody (Product # MA5-15499). {KD}



FMRP Antibody (MA5-15499) in ICC/IF

Immunofluorescence analysis of FMRP was performed using 70% confluent log phase SH-SY5Y cells. The cells were fixed with 4% paraformaldehyde for 10 minutes, permeabilized with 0.1% Triton™ X-100 for 15 minutes, and blocked with 1% BSA for 1 hour at room temperature. The cells were labeled with FMRP Mouse Monoclonal Antibody (Product # MA5-15499) at 1:100 dilution in 0.1% BSA, incubated at 4 degree Celsius overnight and then labeled with Goat anti-Mouse IgG (H+L) Superclonal™ Secondary Antibody, Alexa Fluor® 488 conjugate (Product # A28175) at a dilution of 1:2000 for 45 minutes at room temperature (Panel a: green). Nuclei (Panel b: blue) were stained with ProLong™ Diamond Antifade Mountant with DAPI (Product # P36962). F-actin (Panel c: red) was stained with Rhodamine Phalloidin (Product # R415, 1:300). Panel d represents the merged image showing cytoplasmic localization. Panel e represents control cells with no primary antibody to assess background. The images were captured at 60X magnification.



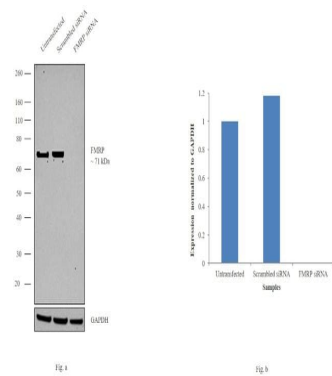
FMRP Antibody (MA5-15499) in IHC (P)

Immunohistochemical analysis of paraffin-embedded human brain tissues using FMR1 monoclonal antibody (Product # MA5-15499) followed with DAB staining

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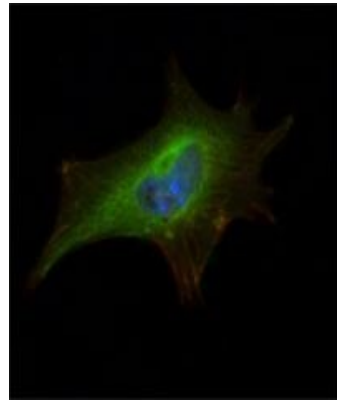
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FMRP Antibody (MA5-15499) in WB

Knockdown of FMRP was achieved by transfecting SH-SY5Y with FMRP specific siRNAs (Silencer® select Product # s5317, s5316). Western blot analysis (Fig. a) was performed using whole cell extracts from the FMRP knockdown cells (lane 3), non-specific scrambled siRNA transfected cells (lane 2) and untransfected cells (lane 1). The blot was probed with FMRP Monoclonal Antibody (Product # MA5-15499, 1:2000 dilution) and Goat anti-Mouse IgG (H+L) Superclonal™ Secondary Antibody, HRP conjugate (Product # A28177, 0.25µg/ml, 1:4000 dilution). Densitometric analysis of this western blot is shown in histogram (Fig. b). Decrease in signal upon siRNA mediated knock down confirms that antibody is specific to FMRP.



FMRP Antibody (MA5-15499) in ICC/IF

Immunofluorescence analysis of NIH/3T3 cells using FMR1 monoclonal antibody (Product # MA5-15499) (Green). Blue: DRAQ5 fluorescent DNA dye. Red: actin filaments have been labeled with phalloidin.

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PubMed References For FMRP Monoclonal Antibody (4G9)

1 Western Blot References

Species / Dilution	Summary
Human / 1:1000	<p>MA5-15499 was used in Western Blotting to show that identifying PTPRK substrates provides insight into its downstream signaling and a potential molecular explanation for its proposed tumor suppressor function.</p> <p>eLife (2019; 8:)</p> <p>"The homophilic receptor PTPRK selectively dephosphorylates multiple junctional regulators to promote cell-cell adhesion."</p> <p>Author(s):Fearnley GW,Young KA,Edgar JR,Antrobus R,Hay IM,Liang WC,Martinez-Martin N,Lin W,Deane JE,Sharpe HJ</p> <p>PubMed Article URL:http://dx.doi.org/10.7554/eLife.44597</p>

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