

CDK5 Monoclonal Antibody (4E4)

Catalog Number **MA5-17053**

Product data sheet

Details		Species Reactivity	
Size	100 µL	Species reactivity	Human, Mouse, Non-human primate, Rat
Host/Isotope	Mouse / IgG1		
Class	Monoclonal	Tested Applications	Dilution *
Type	Antibody	ELISA (ELISA)	1:10,000
Clone	4E4	Flow Cytometry (Flow)	1:200-1:400
Immunogen	Purified recombinant fragment of human CDK5 expressed in E. Coli.	Immunohistochemistry (Paraffin) (IHC (P))	1:200-1:1,000
Conjugate	Unconjugated	Western Blot (WB)	1:500-1:2,000
Form	Liquid	Immunocytochemistry (ICC/IF)	1:100
Concentration	Conc. Not Determined	* 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.	
Storage buffer	ascites		
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

MA5-17053 targets CDK5 in indirect ELISA, FACS, ICC, IHC, IF and WB applications and shows reactivity with Human, Non-human primate, and Rat samples. The MA5-17053 immunogen is purified recombinant fragment of human CDK5 expressed in E. Coli. MA5-17053 detects CDK5 which has a predicted molecular weight of approximately 35kDa.

Background/Target Information

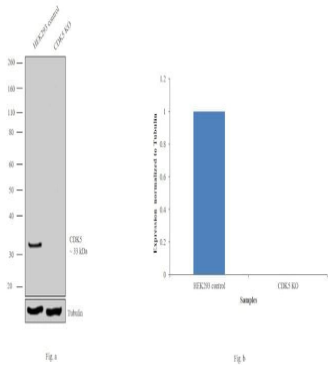
CDK5 is a member of the Cyclin-Dependent Kinase family that is most abundant in the mammalian brain. Active form of CDK5, which has also been called neuronal cdc2-like kinase, is a heterodimer of CDK5 and a 25 kDa protein which is derived proteolytically from a 35 kDa brain and neuron-specific protein and is essential for the kinase activity of CDK5. CDK5 has emerged as a crucial regulator of neuronal migration in the developing central nervous system. CDK5 phosphorylates a diverse list of substrates, implicating it in the regulation of a range of cellular processes - from adhesion and motility, to synaptic plasticity and drug addiction.

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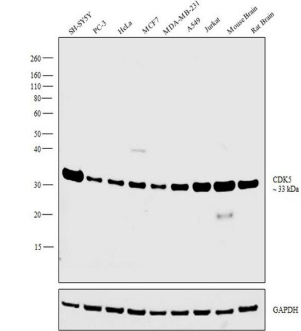


CDK5 Antibody (MA5-17053)

Antibody specificity was demonstrated by CRISPR-Cas9 mediated knockout of target protein. A loss of signal was observed for target protein in CDK5 knockout (KO) cell line compared to control cell line using CDK5 Monoclonal Antibody (4E4) (Product #MA5-17053). {KO}

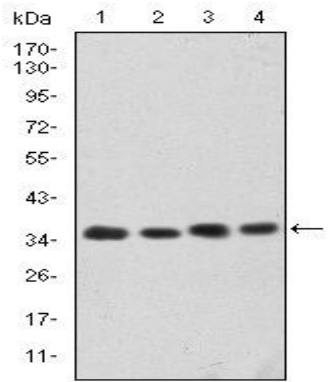
CDK5 Antibody (MA5-17053) in WB

Western blot analysis was performed on whole cell extracts (30 µg lysate) of SH-SY5Y (Lane 1), PC-3 (Lane 2), HeLa (Lane 3), MCF7 (Lane 4), MDA-MB-231 (Lane 5), A549 (Lane 6), Jurkat (Lane 7), tissue extracts of Mouse Brain (Lane 8) and Rat Brain (Lane 9). The blot was probed with CDK5 Monoclonal Antibody (Product # MA5-17053, 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 band at 33kDa corresponding to CDK5 was observed across the cell lines and tissues tested.



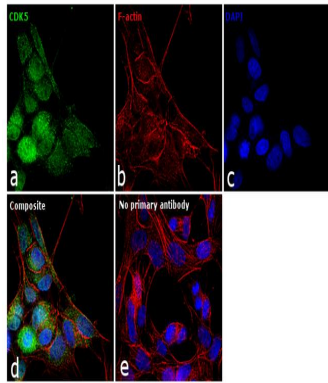
CDK5 Antibody (MA5-17053) in WB

Western blot analysis of CDK5 using CDK5 monoclonal antibody (Product # MA5-17053) in HeLa (1), K562 (2), PC-12 (3) and COS-7 (4) cell lysate.



CDK5 Antibody (MA5-17053) in ICC/IF

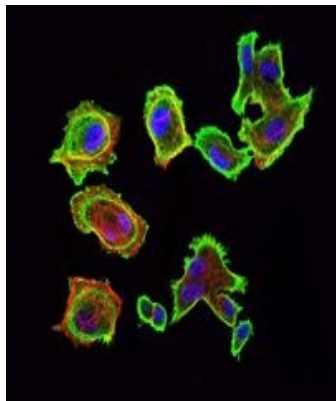
Immunofluorescence analysis of CDK5 was performed using 70% confluent log phase SH-SY5Y cells. The cells were fixed with 4% paraformaldehyde for 10 minutes, permeabilized with 0.1% Triton™ X-100 for 15 minutes, and blocked with 1% BSA for 1 hour at room temperature. The cells were labeled with CDK5 Monoclonal Antibody (4E4) (Product # MA5-17053) 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). Panel d represents the merged image showing predominant nuclear localization. The images were captured at 60X magnification.



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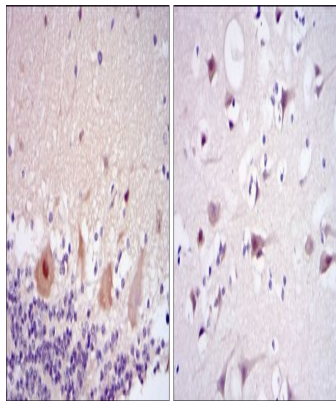
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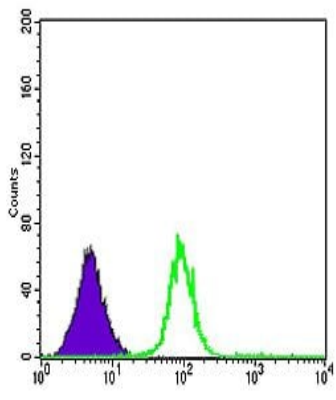
CDK5 Antibody (MA5-17053) in ICC/IF

Immunofluorescence analysis of GC7901 cells using CDK5 monoclonal antibody (Product # MA5-17053) (Green). Blue: DRAQ5 fluorescent DNA dye. Red: actin filaments have been labeled with phalloidin.



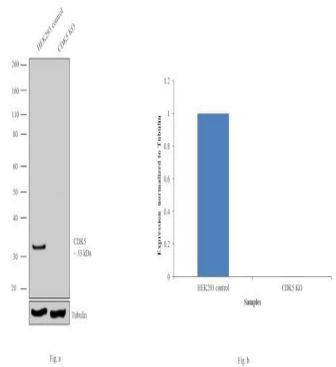
CDK5 Antibody (MA5-17053) in IHC (P)

Immunohistochemical analysis of paraffin-embedded cerebellum tissues (left) and brain tissues (right) using CDK5 monoclonal antibody (Product # MA5-17053) followed with DAB staining.



CDK5 Antibody (MA5-17053) in Flow

Flow cytometric analysis of K562 cells using CDK5 monoclonal antibody (Product # MA5-17053) (green) and negative control (purple).



CDK5 Antibody (MA5-17053) in WB

Western blot analysis of CDK5 was performed by loading 30 ug of HEK293 control (Lane 1), HEK293- CDK5 knockout (Lane 2) edigene lysates. The blot was probed with CDK5 Monoclonal Antibody (4E4) (Product # MA5-17053, 1:1000 dilution) and Goat anti-Mouse IgG (H+L) Superclonal™ Secondary Antibody, HRP conjugate (Product # A28177, 0.25 µg/ml, 1:4000 dilution). Loss of signal upon CRISPR mediated knockout (KO) confirms that antibody is specific to CDK5.

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