abcam

ab2777

Anti-Prion protein PrP antibody [F89/160.1.5]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.05% Sodium azide Constituents: 0.1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Cow PRNP aa 100-200. The exact immunogen used to generate this antibody is proprietary information. Database link P10279
Clone number	F89/160.1.5
Purification technique	Affinity purification Protein G
Epitope	This antibody is known to specifically recognize a conserved epitope of the PrP(Sc) protein comprising the amino acids n-IHFG-c.
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	0.1 µg/cells for 6 µg/cells
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Predicted

Species	Pig
Dilution info	-
Notes	-

Target data

See full target information PRNP

Function	Its primary physiological function is unclear. May play a role in neuronal development and synaptic plasticity. May be required for neuronal myelin sheath maintenance. May promote myelin homeostasis through acting as an agonist for ADGRG6 receptor. May play a role in iron uptake and iron homeostasis. Soluble oligomers are toxic to cultured neuroblastoma cells and induce apoptosis (in vitro) (By similarity). Association with GPC1 (via its heparan sulfate chains) targets PRNP to lipid rafts. Also provides Cu(2+) or Zn(2+) for the ascorbate-mediated GPC1 deaminase degradation of its heparan sulfate side chains (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Prion protein also known as PrP or major prion protein plays a mechanical role in the normal functioning of brain cells. It is a glycoprotein with a flexible structure and has an approximate mass of 35-36 kDa. PrP expression is high in nervous tissue. It is present in neurons and glial cells but also surfaces in other tissues like

	heart and kidney. Alternate names like p-pr-p and f89 refer to specific conformations or studies related to its structure.
Biological function summary	Prion protein assists in maintaining normal cell activities. Researchers do not fully understand its exact biological role but it might be involved in copper ion uptake and protection against oxidative stress. PrP can form complexes with other cellular proteins some of which help in routing signals inside the cell. Additionally prion protein may have synaptic functions related to neurodevelopment and neuroprotection.
Pathways	Prion protein links to both neuroprotective and neurodegenerative pathways. It participates in signaling pathways that protect neurons from apoptosis. This protein associates closely with copper-dependent pathways possibly related to its capacity to bind copper ions which affects oxidative stress responses. Prion protein also interacts with proteins like synapsin to modulate synaptic transmission.
Associated diseases and disorders	Prion protein is directly related to prion diseases such as Creutzfeldt-Jakob disease and kuru. These diseases arise from misfolded forms of PrP which aggregate and cause neurodegeneration. The misfolded form referred to as PrP^Sc can induce normal PrP to misfold propagating disease. Dopamine receptor proteins and synaptic proteins can indirectly interact or be affected in these disorders highlighting a complex network of affected neural functions.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

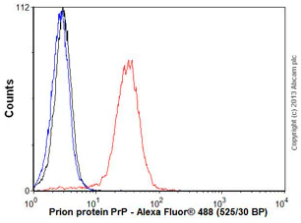
We do not recommend this combination. It is not covered by our product promise.

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1 product image



Flow Cytometry - Anti-Prion protein PrP antibody [F89/160.1.5] (ab2777)

Prion protein PrP Flow Cytometry staining using mouse Anti-Prion protein PrP antibody

Overlay histogram showing SH-SH5Y cells stained with ab2777 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab2777, 0.1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-mouse IgG (H&L) (ab150113) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter. This antibody gave a positive signal in SH-SY5Y cells fixed with 4% paraformaldehyde (10 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.

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