10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Homer1 (4F4) Rabbit Monoclonal Antibody

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Catalog # AP93800

Product Information

Application	WB, IP
Primary Accession	Q9Z214
Reactivity	Rat, Mouse
Clonality	Monoclonal
Calculated MW	41305

Additional Information

Gene ID	29546
Other Names	Homer protein homolog 1, PSD-Zip45, VASP/Ena-related gene up-regulated during seizure and LTP 1, Vesl-1, Homer1 {ECO:0000312|RGD:628725}, Homer, Vesl
Dilution	WB~~1:1000 IP~~N/A
Storage Conditions	-20℃

Protein Information

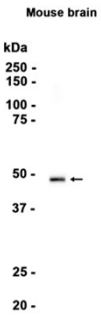
Name	Homer1 {ECO:0000312|RGD:628725}
Synonyms	Homer, Vesl
Function	Postsynaptic density scaffolding protein. Binds and cross- links cytoplasmic regions of GRM1, GRM5, ITPR1, DNM3, RYR1, RYR2, SHANK1 and SHANK3. By physically linking GRM1 and GRM5 with ER- associated ITPR1 receptors, it aids the coupling of surface receptors to intracellular calcium release. May also couple GRM1 to PI3 kinase through its interaction with AGAP2. Differentially regulates the functions of the calcium activated channel ryanodine receptors RYR1 and RYR2. Isoform 1 decreases the activity of RYR2, and increases the activity of RYR1, whereas isoform 3 counteracts the effects by competing for binding sites. Isoform 1 regulates the trafficking and surface expression of GRM5. Isoform 3 acts as a natural dominant negative, in dynamic competition with constitutively expressed isoform 1, and isoform 2 to regulate synaptic metabotropic glutamate function. Isoform 3, may be involved in the structural changes that occur at synapses during long-lasting neuronal plasticity and development. Forms a high-order complex with SHANK1, which in turn is necessary for the structural and functional integrity of dendritic spines (PubMed:19345194). Negatively regulates T cell activation by inhibiting the calcineurin-NFAT pathway. Acts by competing with calcineurin/PPP3CA for NFAT protein binding, hence preventing NFAT activation by PPP3CA (By

	similarity).
Cellular Location	Cytoplasm. Postsynaptic density. Synapse. Cell projection, dendritic spine. Note=Isoform 1 inhibits surface expression of GRM5 causing it to be retained in the endoplasmic reticulum.
Tissue Location	Highly expressed in cortex, Purkinje cells of the cerebellum, hippocampus, striatum and olfactory bulb. Isoform 1 and isoform 3 are expressed in skeletal and cardiac muscle

Background

Postsynaptic density scaffolding protein

Images



Western blot analysis of extracts from Mouse brain tissue using AP93800 at 1:1000.