

Homer (H-342): sc-15321

BACKGROUND

Homer (also designated Ves1, for VASP/ENA-related gene upregulated during seizure and LTP) family proteins are immediate early gene products that bind to group 1 metabotropic glutamate receptors (mGluRs), proteins involved in triggering intracellular calcium release. Unlike Homer-1a, the prototype member of the Homer family, other Homer family members (Homer-1b and -1c, Homer-2a, -2b and -2c, and Homer-3) are constitutively expressed and contain a coiled-coil (CC) domain that mediates self-multimerization. Homer-1a is enriched at excitatory synapses, does not multimerize and appears to block the association of mGluRs to CC-Homer proteins. Homer proteins have also been shown to link mGluRs with the inositol triphosphate receptors (IP3R).

REFERENCES

1. Brakeman, P.R., et al. 1997. Homer: a protein that selectively binds metabotropic glutamate receptors. *Nature* 386: 284-288.
2. Kato, A., et al. 1997. Ves1, a gene encoding VASP/ENA family related protein, is upregulated during seizure, long-term potentiation and synaptogenesis. *FEBS Lett.* 412: 183-189.
3. Kato, A., et al. 1998. Novel members of the Ves1/Homer family of PDZ proteins that bind metabotropic glutamate receptors. *J. Biol. Chem.* 273: 23969-23975.
4. Xiao, B., et al. 1998. Homer regulates the association of group 1 metabotropic glutamate receptors with multivalent complexes of homer-related, synaptic proteins. *Neuron* 21: 707-716.

SOURCE

Homer (H-342) is a rabbit polyclonal antibody raised against amino acids 13-354 mapping at the C-terminus of Homer of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Homer (H-342) is recommended for detection of all Homer isoforms of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Homer (H-342) is also recommended for detection of all Homer isoforms in additional species, including equine, canine, bovine and porcine.

Molecular Weight of Homer: 45 kDa.

Positive Controls: mouse cerebellum extract: sc-2403, mouse brain extract: sc-2253 or rat brain extract: sc-2392.

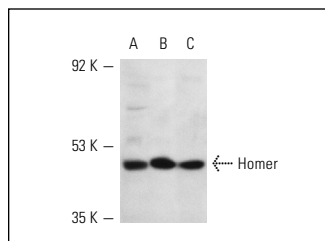
RESEARCH USE

For research use only, not for use in diagnostic procedures.

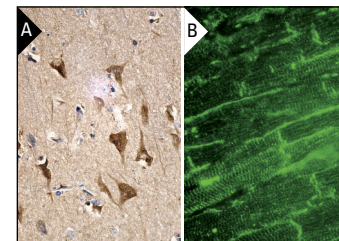
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Homer (H-342): sc-15321. Western blot analysis of Homer expression in mouse cerebellum (A) and mouse (B) and rat (C) brain tissue extracts.



Homer (H-342): sc-15321. Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tissue showing cytoplasmic and nuclear staining of neuronal cells and neuropil (A). Immunofluorescence staining of normal mouse heart frozen section showing cytoplasmic and membrane localization (B).

SELECT PRODUCT CITATIONS

1. Giuffrida, R., et al. 2005. A reduced number of metabotropic glutamate subtype 5 receptors are associated with constitutive homer proteins in a mouse model of fragile X syndrome. *J. Neurosci.* 25: 8908-8916.
2. Tang, V.W. 2006. Proteomic and bioinformatic analysis of epithelial tight junction reveals an unexpected cluster of synaptic molecules. *Biol. Direct* 1: 37.
3. Das, S.S., et al. 2006. The role of protein interaction motifs in regulating the polarity and clustering of the metabotropic glutamate receptor mGluR1a. *J. Neurosci.* 26: 8115-8125.
4. Kirschstein, T., et al. 2007. Loss of metabotropic glutamate receptor-dependent long-term depression via downregulation of mGluR5 after status epilepticus. *J. Neurosci.* 27: 7696-7704.
5. Orlando, L.R., et al. 2009. Phosphorylation of the homer-binding domain of group I metabotropic glutamate receptors by cyclin-dependent kinase 5. *J. Neurochem.* 110: 557-569.
6. Hu, W., et al. 2010. The critical roles of platelet activation and reduced NO bioavailability in fatal pulmonary arterial hypertension in a murine hemolysis model. *Blood* 116: 1613-1622.
7. Zhu, H.J., et al. 2012. Impaired N-cadherin-mediated adhesion increases the risk of inducible ventricular arrhythmias in isolated rat hearts. *Sci. Res. Essays* 7: 2983-2991.


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Try **Homer (D-3): sc-17842** or **Homer-1b/c (B-5): sc-25271**, our highly recommended monoclonal alternatives to Homer (H-342). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Homer (D-3): sc-17842**.