

Homer-1 (26): sc-136358

BACKGROUND

Homer (also designated Ves1, for VASP/Ena-related gene up-regulated 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.
5. Tu, J.C., et al. 1998. Homer binds a novel proline-rich motif and links group 1 metabotropic glutamate receptors with IP3 receptors. *Neuron* 21: 717-726.
6. Soloviev, M.M., et al. 2000. Molecular characterisation of two structurally distinct groups of human Homers, generated by extensive alternative splicing. *J. Mol. Biol.* 295: 1185-1200.
7. Soloviev, M.M., et al. 2000. Mouse brain and muscle tissues constitutively express high levels of Homer proteins. *Eur. J. Biochem.* 267: 634-639.

CHROMOSOMAL LOCATION

Genetic locus: HOMER1 (human) mapping to 5q14.1; Homer1 (mouse) mapping to 13 C3.

SOURCE

Homer-1 (26) is a mouse monoclonal antibody raised against amino acids 152-271 of Homer-1 of rat origin.

PRODUCT

Each vial contains 200 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Homer-1 (26) is available conjugated to agarose (sc-136358 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; and to HRP (sc-136358 HRP), 200 µg/ml, for WB, IHC(P) and ELISA.

APPLICATIONS

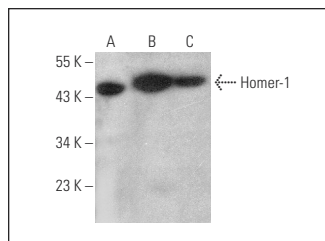
Homer-1 (26) is recommended for detection of all Homer-1 isomers of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Homer-1 siRNA (h): sc-35581, Homer-1 siRNA (m): sc-35582, Homer-1 shRNA Plasmid (h): sc-35581-SH, Homer-1 shRNA Plasmid (m): sc-35582-SH, Homer-1 shRNA (h) Lentiviral Particles: sc-35581-V and Homer-1 shRNA (m) Lentiviral Particles: sc-35582-V.

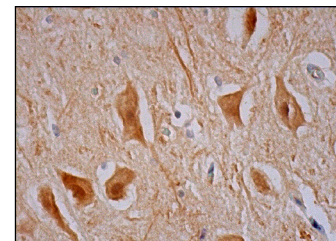
Molecular Weight of Homer-1: 45 kDa.

Positive Controls: Sol8 cell lysate: sc-2249, mouse brain extract: sc-2253 or mouse cerebellum extract: sc-2403.

DATA



Homer-1 (26): sc-136358. Western blot analysis of Homer-1 expression in Sol8 whole cell lysate (A) and mouse brain (B) and mouse cerebellum (C) tissue extracts.



Homer-1 (26): sc-136358. Immunoperoxidase staining of formalin fixed, paraffin-embedded human hippocampus tissue showing cytoplasmic, membrane and nuclear staining of neuronal cells and neuropil staining.

SELECT PRODUCT CITATIONS

1. Wang, Q., et al. 2014. Homer-1 alternative splicing is regulated by gonadotropin-releasing hormone and modulates gonadotropin gene expression. *Mol. Cell. Biol.* 34: 1747-1756.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.