

Homer-3 (H-5): sc-271653

BACKGROUND

Homer family proteins, also designated Vesl (for VASP/Ena-related gene upregulated during seizure) and LTP, 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. Vesl, 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 Vesl/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.

CHROMOSOMAL LOCATION

Genetic locus: HOMER3 (human) mapping to 19p13.11; Homer3 (mouse) mapping to 8 B3.3.

SOURCE

Homer-3 (H-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 337-360 at the C-terminus of Homer-3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271653 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

Homer-3 (H-5) is recommended for detection of Homer-3a and Homer-3b of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Homer-3 siRNA (h): sc-43850, Homer-3 siRNA (m): sc-42193, Homer-3 shRNA Plasmid (h): sc-43850-SH, Homer-3 shRNA Plasmid (m): sc-42193-SH, Homer-3 shRNA (h) Lentiviral Particles: sc-43850-V and Homer-3 shRNA (m) Lentiviral Particles: sc-42193-V.

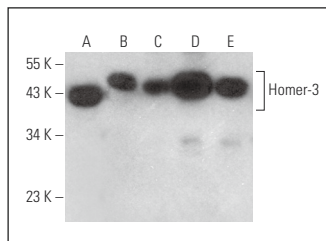
Molecular Weight of Homer-3: 47 kDa.

Positive Controls: NCI-H929 whole cell lysate: sc-364786, Homer-3 (m): 293T Lysate: sc-120874 or rat brain extract: sc-2392.

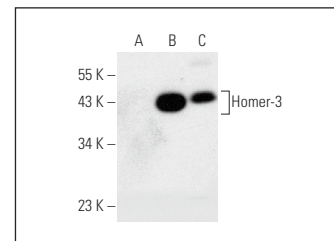
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Homer-3 (H-5): sc-271653. Western blot analysis of Homer-3 expression in NCI-H929 whole cell lysate (A) and rat brain (B), mouse brain (C), mouse cerebellum (D) and rat cerebellum (E) tissue extracts.



Homer-3 (H-5): sc-271653. Western blot analysis of Homer-3 expression in non-transfected: sc-117752 (A) and mouse Homer-3 transfected: sc-120874 (B) 293T whole cell lysates and rat brain tissue extract (C).

STORAGE

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



See **Homer (D-3): sc-17842** for Homer antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.