

Homer-1b/c (D-8): sc-55463

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.

CHROMOSOMAL LOCATION

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

SOURCE

Homer-1b/c (D-8) is a mouse monoclonal antibody raised against amino acids 181-354 of Homer-1b of human origin.

PRODUCT

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

APPLICATIONS

Homer-1b/c (D-8) is recommended for detection of Homer-1b and Homer-1c 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

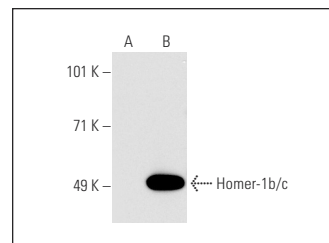
Molecular Weight of Homer-1b/c: 45 kDa.

Positive Controls: Homer (h): 293 Lysate: sc-113176, IMR-32 cell lysate: sc-2409 or mouse brain extract: sc-2253.

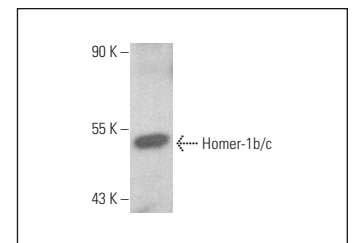
RECOMMENDED SUPPORT REAGENTS

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-1b/c (D-8): sc-55463. Western blot analysis of Homer-1b/c expression in non-transfected: sc-110760 (A) and human Homer transfected: sc-113176 (B) 293 whole cell lysates.



Homer-1b/c (D-8): sc-55463. Western blot analysis of Homer-1b/c expression in mouse brain tissue extract.

SELECT PRODUCT CITATIONS


1. Bakshi, K., et al. 2014. Prenatal cocaine exposure uncouples mGluR1 from Homer1 and G_q proteins. *PLoS ONE* 9: e91671.
2. Haas, L.T., et al. 2015. Metabotropic glutamate receptor 5 couples cellular prion protein to intracellular signalling in Alzheimer's disease. *Brain* 139: 526-546.
3. Haas, L.T. and Strittmatter, S.M. 2016. Oligomers of Amyloid β prevent physiological activation of the cellular prion protein-metabotropic glutamate receptor 5 complex by glutamate in Alzheimer disease. *J. Biol. Chem.* 291: 17112-17121.
4. Murray, C.H., et al. 2019. AMPA receptor and metabotropic glutamate receptor 1 adaptations in the nucleus accumbens core during incubation of methamphetamine craving. *Neuropsychopharmacology* 44: 1534-1541.

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.



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.