SANTA CRUZ BIOTECHNOLOGY, INC.

Homer-1b/c (H-174): sc-20807

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

Homer-1b/c (H-174) is a rabbit polyclonal antibody raised against amino acids 181-354 of Homer-1b/c 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.

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.

PROTOCOLS

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

APPLICATIONS

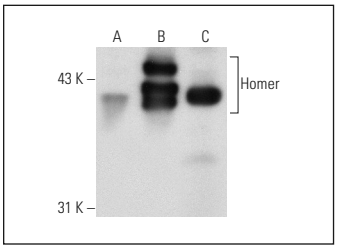
Homer-1b/c (H-174) is recommended for detection of Homer-1b and Homer-1c of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). Homer-1b/c (H-174) is also recommended for detection of Homer-1b and Homer-1c in additional species, including equine, canine, bovine, porcine and avian.

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.

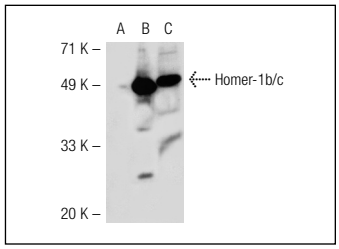
Molecular Weight of Homer-1b/c: 45 kDa.

Positive Controls: Homer (h): 293 Lysate: sc-113176, rat brain extract: sc-2392 or mouse brain extract: sc-2253.

DATA



Homer-1b/c (H-174): sc-20807. Western blot analysis of Homer expression in non-transfected: sc-117752 (**A**) and human Homer transfected: sc-159707 (**B**) 293T whole cell lysates and rat brain tissue extract (**C**).



Homer-1b/c (H-174): sc-20807. 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 and mouse brain tissue extract (**C**).

SELECT PRODUCT CITATIONS

1. Ghasemzadeh, M.B., et al. 2009. Behavioral sensitization to cocaine is associated with increased glutamate receptor trafficking to the postsynaptic density after extended withdrawal period. Neuroscience 159: 414-426.
2. Roselli, F., et al. 2009. Disassembly of shank and Homer synaptic clusters is driven by soluble β-amyloid(1-40) through divergent NMDAR-dependent signalling pathways. PLoS ONE 4: e6011.
3. Ghasemzadeh, M.B., et al. 2009. Locomotor sensitization to cocaine is associated with distinct pattern of glutamate receptor trafficking to the postsynaptic density in prefrontal cortex: early versus late withdrawal effects. Pharmacol. Biochem. Behav. 92: 383-392.