

Homer-3 (E-6): sc-376155

BACKGROUND

Homer family proteins, also designated Ves1 (for VASP/Ena-related gene up-regulated 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. 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.

CHROMOSOMAL LOCATION

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

SOURCE

Homer-3 (E-6) is a mouse monoclonal antibody raised against amino acids 228-361 mapping at the C-terminus of Homer-3 of human origin.

PRODUCT

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

APPLICATIONS

Homer-3 (E-6) 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), 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).

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.

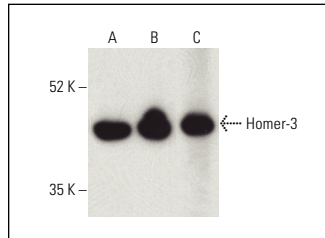
Molecular Weight of Homer-3: 47 kDa.

Positive Controls: MDA-MB-231 cell lysate: sc-2232, NCI-H929 whole cell lysate: sc-364786 or mouse brain extract: sc-2253.

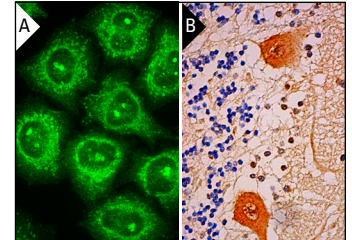
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohisto-mount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Homer-3 (E-6): sc-376155. Western blot analysis of Homer-3 expression in MDA-MB-231 (A) and NCI-H929 (B) whole cell lysates and mouse brain tissue extract (C). Detection reagent used: m-IgGκ BP-HRP: sc-516102.



Homer-3 (E-6): sc-376155. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic and nuclear staining of Purkinje cells and nuclear staining of cells in molecular layer (B).

SELECT PRODUCT CITATIONS

1. Scoles, D.R., et al. 2017. Antisense oligonucleotide therapy for spinocerebellar ataxia type 2. *Nature* 544: 362-366.
2. Paul, S., et al. 2018. Staufen1 links RNA stress granules and autophagy in a model of neurodegeneration. *Nat. Commun.* 9: 3648.

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 for detailed protocols and support products.



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.