Homer 1

Cat.No. 160 006; Polyclonal chicken antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/Storage

50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Albumin and azide was added for stabilization. For reconstitution add 50 µl H₂O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use. For detailed information, see back of the data sheet.

Applications

WB: 1 : 1000 (AP staining)
IP: not tested yet
ICC: 1 : 1000
IHC: 1 : 500 (see remarks)
IHC-P/FFPE: 1 : 500

Immunogen
Recombinant protein corresponding to AA 1 to 196 from human Homer1 (UniProt Id: Q86YM7)

Reactivity
Reacts with: human (Q86YM7), rat (Q9Z214), mouse (Q9Z2Y3).
Other species not tested yet.

Specificity
Specific for Homer 1. According to Soloviev et al. (2000), aa 1 - 180 are present in isoforms a, b, c and d.

Matching control
160-0P

Remarks
IHC: Fix for 15 min with 4% PFA and 15% picric acid in PBS.

TO BE USED IN VITRO / FOR RESEARCH ONLY
NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Access the online factsheet including applicable protocols at https://sysy.com/product/160006 or scan the QR-code.

Background

Homer is a scaffolding protein of the post synaptic density (PSD) and enriched at excitatory synapses. The protein binds metabotropic glutamate receptors, TRPC1, proteins of the Shank family and others. By aggregating these proteins into clusters, homer was suggested to organize distinct signalling domains.

Three isoforms, Homer 1, 2 and 3 have been described. Each of these isoforms is subject to alternative splicing yielding the splice variants a, b, c, d.

Selected References for 160 006

Gabapentinoid treatment promotes corticospinal plasticity and regeneration following murine spinal cord injury.

P2Y1 receptor blockade normalizes network dysfunction and cognition in an Alzheimer’s disease model.

Elevated protein synthesis in microglia causes autism-like synaptic and behavioral aberrations.
Nature communications (2020) 111: 1797. . . . . IHC; tested species: mouse

Selected General References

Surface clustering of metabotropic glutamate receptor 1 induced by long Homer proteins.
Kammermeier PJ

Homer 1a enhances spike-induced calcium influx via L-type calcium channels in neocortex pyramidal cells.

Differential expression of Homer family proteins in the developing mouse brain.
Shiraishi Y, Mizutani A, Yuasa S, Mikoshiba K, Furushi T

Modulation of synaptic signalling complexes by Homer proteins.
Thomas U

Homer-dependent cell surface expression of metabotropic glutamate receptor type 5 in neurons.
Ango F, Robbe D, Tu JC, Xiao B, Worley PF, Pin JP, Bockaert J, Fagni L

An N-terminal sequence specific for a novel Homer1 isoform controls trafficking of group I metabotropic glutamate receptor in mammalian cells.
Saito H, Kimura M, Imano M, Ohe T, Takada Y

Regulation of dendritic spine morphology and synaptic function by Shank and Homer.
Sala C, Pickel V, Wilson NR, Passafaro M, Liu G, Sheng M

Homer-1c/Vesl-1L modulates the cell surface targeting of metabotropic glutamate receptor type 1alpha: evidence for an anchoring function.
Ciruela F, Soloviev MM, Chan WY, McIlhinney RA

Homer: a link between neural activity and glutamate receptor function.
Xiao B, Tu JC, Worley PF
FAQ - How should I store my antibody?

Shipping Conditions

- All our antibodies and control proteins / peptides are shipped lyophilized (vacuum freeze-dried) and are stable in this form without loss of quality at ambient temperatures for several weeks.

Storage of Sealed Vials after Delivery

- **Unlabeled** and **biotin-labeled antibodies** and **control proteins** should be stored at 4°C before reconstitution. They must not be stored in the freezer when still lyophilized! Temperatures below zero may cause loss of performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long term storage (several months) may lead to aggregation.
- **Control peptides** should be kept at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- The storage freezer must not be of the frost-free variety ("no-frost freezer"). This cycle between freezing and thawing (to reduce frost-build-up), which is exactly what should be avoided. For the same reason, antibody vials should be placed in an area of the freezer that has minimal temperature fluctuations, for instance towards the back rather than on a door shelf.
- Aliquot the antibody and store frozen (-20°C to -80°C). Avoid very small aliquots (below 10 µl) and use the smallest storage vial or tube possible. The smaller the aliquot, the more the stock concentration is affected by evaporation and adsorption of the antibody to the surface of the storage vial or tube. Adsorption of the antibody to the surface leads to a substantial loss of activity.
- The addition of glycerol to a final concentration of 50% lowers the freezing point of your stock and keeps your antibody at -20°C in liquid state. This efficiently avoids freeze and thaw cycles.

Product Specific Hints for Storage

**Control proteins / peptides:**

- Store at -20°C to -80°C.

**Monoclonal Antibodies**

- **Ascites** and **hybridoma supernatant** should be stored at -20°C up to -80°C. **Prolonged storage at 4°C is not recommended!** Unlike serum, ascites may contain proteases that will degrade the antibodies.
- **Purified IgG** should be stored at -20°C up to -80°C. Adding a carrier protein like BSA will increase long term stability. Many of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

**Polyclonal Antibodies**

- **Crude antisera**: With anti-microbials added, they may be stored at 4°C. However, frozen storage (-20°C up to -80°C) is preferable.
- **Affinity purified antibodies**: Less robust than antisera. Storage at -20°C up to -80°C is recommended. Adding a carrier protein like BSA will increase long term stability. Most of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

**Fluorescence-labeled Antibodies**

- Store as a liquid with 1 : 1 (v/v) glycerol at -20°C. Protect these antibodies from light exposure.

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All our antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the amount of deionized water given in the respective datasheet. If higher volumes are preferred, add water as mentioned above and then the desired amount of PBS and a stabilizing carrier protein (e.g. BSA) to a final concentration of 2%. Some of our antibodies already contain albumin. Take this into account when adding more carrier protein. For complete reconstitution, carefully remove the lid. After adding water, briefly vortex the solution. You can spin down the liquid by placing the vial into a 50 ml centrifugation tube filled with paper.
- If desired, add small amounts of azide or thimerosal to prevent microbial growth. This is especially recommended if you want to keep an aliquot a 4°C.
- After reconstitution of fluorescence-labeled antibodies, add 1 : 1 (v/v) glycerol to a final concentration of 50%. This lowers the freezing point of your stock and keeps your antibody in liquid state at -20°C.
- Glycerol may also be added to unlabeled primary antibodies. It is a suitable way to avoid freeze-thaw cycles.
- Please refer to our tips and hints for subsequent storage of reconstituted antibodies and control peptides and proteins.