Cat.No. 180 003; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

**Data Sheet**

**Reconstitution/Storage**
50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Albumin 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**: not recommended
**IHC**: not recommended
**IHC-P/FFPE**: not tested yet

**Immunogen**
Recombinant protein corresponding to AA 844 to 908 from rat GluK2 (UniProt Id: P42260)

**Reactivity**
Reacts with: human (Q13002), rat (P42260), mouse (P39087).
Other species not tested yet.

**Specificity**
Specific for GluK 2.

**Selected References for 180 003**
Novel application of stem cell-derived neurons to evaluate the time- and dose-dependent progression of excitotoxic injury.
Gut IM, Beske PH, Hubbard KS, Lyman ME, Hamilton TA, McNutt PM

WB; tested species: mouse

Ccny knockout mice display an enhanced susceptibility to kainic acid-induced epilepsy.

WB; tested species: mouse

Determination of kainate receptor subunit ratios in mouse brain using novel chimeric protein standards.
Watanabe-Iida I, Konno K, Akashi K, Abe M, Natsume R, Watanabe M, Sakimura K

WB; KO verified; tested species: mouse

**Selected General References**
A nomenclature for ligand-gated ion channels.
Collingridge GL, Olsen RW, Peters J, Spedding M

Structure and assembly mechanism for heteromeric kainate receptors.
Kumar J, Schuck P, Mayer ML

Glutamate receptor ion channels: structure, regulation, and function.
Traynelis SF, Wollmuth LP, McBain CJ, Menniti FS, Vance KM, Ogden KK, Hansen KB, Yuan H, Myers SJ, Dingledine R

Glur7 is an essential subunit of presynaptic kainate autoreceptors at hippocampal mossy fiber synapses.
Pinheiro PS, Perrais D, Coussen F, Barhanin J, Bettler B, Mann JR, Malva JO, Heinemann SF, Mulle C

Co-assembly of two GluR6 kainate receptor splice variants within a functional protein complex.
Jaskolski F, Perrais D, Jaskolski F, Sachidhanandam S, Normand E, Bockaert J, Marin P, Mulle C

Time-dependent effect of kainate-induced seizures on glutamate receptor GluR5, GluR6, and GluR7 mRNA and Protein Expression in rat hippocampus.
Ullal G, Fahnestock M, Racine R

The kainate receptor subunit GluR6 mediates metabotropic regulation of the slow and medium AHP currents in mouse hippocampal neurons.
Fisahn A, Heinemann SF, McBain CJ

Co-assembly of two GluR6 kainate receptor splice variants within a functional protein complex.
Jaskolski F, Normand E, Mulle C, Coussen F

**Background**

Ionotropic glutamate receptors (iGlurRs) mediate rapid excitatory neurotransmission in the mammalian CNS. They can be subdivided into three major groups, the AMPA/GluA, NMDA/GluN, and kainate/GluK receptors (KARs).
mRNAs coding for glutamate receptors are substrates for an adenosine deaminase acting on RNA (ADAR) that increases the diversity of these proteins. KARs can be found at pre- and postsynaptic sites and are composed of five different subunits: GluK1, GluK2 and GluK3 can form homomorphic receptors whereas GluK4 and GluK5 form heteromeric receptors with GluK1-3.

**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/180003](https://sysy.com/product/180003) or scan the QR-code.
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.