

IP3-receptor type1

Cat.No. 117 003; 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 H ₂ O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C to -80°C until use. Antibodies should be stored at +4°C when still lyophilized. Do not freeze! For detailed information, see back of the data sheet.
Applications	WB: 1 : 1000 (AP staining) (see remarks) IP: not tested yet ICC: not tested yet IHC: 1 : 200 up to 1 : 500 IHC-P: 1 : 200
Immunogen	Synthetic peptide corresponding to AA 2731 to 2749 from rat IP3-receptortype1 (UniProt Id: P29994)
Reactivity	Reacts with: human (Q14643), rat (P29994), mouse (P11881), cow. Other species not tested yet.
Matching control	117-0P
Remarks	WB: Due to its large size, IP3 receptor requires special gel-electrophoresis and Western blot protocols for visualization by immunoblotting. Excellent results can be obtained with the 4-12% TRIS-glycine gradient gels from anamed or NuPAGE 3-8% TRIS-Acetate gradient gels from invitrogen.

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

Background

Inositol 1, 4, 5 - trisphosphate InsP3 is an intracellular messenger that triggers release of Ca²⁺ from intracellular stores. InsP3 acts by binding to specific receptors localized to endoplasmic reticulum. There are at least three types of InsP3 receptors, of which the type 1 receptor is the most abundant. All three receptors appear to be widely expressed. Highest levels of the type 1 InsP3 receptors are found in neurons, with very high expression in the Purkinje cells of the cerebellum.

Selected References for 117 003

Stimulating VAPB-PTPIP51 ER-mitochondria tethering corrects FTD/ALS mutant TDP43 linked Ca²⁺ and synaptic defects. Markovinovic A, Martín-Guerrero SM, Mórotz GM, Salam S, Gomez-Suaga P, Paillusson S, Greig J, Lee Y, Mitchell JC, Noble W, Miller CCJ, et al.

Acta neuropathologica communications (2024) 121: 32. . **ICC; tested species: human**

Disruption of endoplasmic reticulum-mitochondria tethering proteins in post-mortem Alzheimer's disease brain. Lau DHW, Paillusson S, Hartopp N, Rupawala H, Mórotz GM, Gomez-Suaga P, Greig J, Troakes C, Noble W, Miller CCJ Neurobiology of disease (2020) : 105020. . **WB; tested species: human**

Selected General References

Calcium signalling: how do IP3 receptors work?
Dawson AP
Current biology : CB (1997) 79: R544-7. .

Structure of a novel InsP3 receptor.
Südhof TC, Newton CL, Archer BT, Ushkaryov YA, Mignery GA
The EMBO journal (1991) 1011: 3199-206. .

Putative receptor for inositol 1,4,5-trisphosphate similar to ryanodine receptor.
Mignery GA, Südhof TC, Takei K, De Camilli P
Nature (1989) 3426246: 192-5. .

Primary structure and functional expression of the inositol 1,4,5-trisphosphate-binding protein P400.
Furuichi T, Yoshikawa S, Miyawaki A, Wada K, Maeda N, Mikoshiba K
Nature (1989) 3426245: 32-8. .

Access the online factsheet including applicable protocols at <https://susy.com/product/117003> 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 20 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 purified 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.