**Specificity**

Reacts with: rat (P54282), mouse (P97445).

Recombinant protein corresponding to AA 1921 to 2212 from rat Ca2+ channel α-1A.

**Immunogen**

Recombinant protein corresponding to AA 1921 to 2212 from rat Ca2+ channel α-1A (Cav2.1) (UniProt Id: P54282).

**Applications**

- **WB**: 1: 1000 (see remarks)
- **IP**: not tested yet
- **ICC**: not tested yet
- **IHC**: 1 : 500 (see remarks)
- **IHC-P/FFPE**: not tested yet
- **EM**: yes

**Reactivity**

Reacts with: rat (P54282), mouse (P97445). Other species not tested yet.

**Storage**

50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Albumin and azide were 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.

**Reconstitution**

Add 50 µl H2O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.

**Remarks**

**WB**: Due to its large size, this antibody 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 of anamed or NuPage TRIS-acetate gels from Invitrogen. Ca2+ channel α-1A aggregates after boiling, making it necessary to run SDS-PAGE with non-boiled samples.

**IHC**: This antibody requires mild fixation.

**Access the online factsheet including applicable protocols at [https://sysy.com/product/152205](https://sysy.com/product/152205) or scan the QR-code.**

**Selected References for 152 205**

Correct expression and localization of collagen xiii is crucial for the normal formation and function of the neuromuscular system.


Similar GABA receptor subunit composition in somatic and axon initial segment synapses of hippocampal pyramidial cells.

Kerti-Szigeti K, Nusser Z elife (2016) 5: e16752. ; **EM**

A High-Resolution Method for Quantitative Molecular Analysis of Functionally Characterized Individual Synapses.

Holdenith N, Herbich J, Kiš V, Nußer Z Cell reports (2020) 30: 107968. ; **IHC; tested species: rat**

CAST/ELKS Proteins Control Voltage-Gated Ca2+ Channel Density and Synchronous Release Probability at a Mammalian Central Synapse.


**Selected General References**

Calcium channel types with distinct presynaptic localization couple differentially to transmitter release in single calyx-type synapses.


Localization of Ca2+ channel subtypes on rat spinal motor neurons, interneurons, and nerve terminals.


Biochemical properties and subcellular distribution of the Bi and rBa isoforms of alpha 1A subunits of brain calcium channels.


Immunohistochemical identification and subcellular distribution of the alpha 1A subunits of brain calcium channels.


Immunohistochemical identification and differential phosphorylation of alternatively spliced forms of the alpha 1A subunit of brain calcium channels.


Primary structure of a calcium channel that is highly expressed in the rat cerebellum.

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.

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.

Avoid repeated freeze-thaw cycles for all antibodies!