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VGLUT2 (SLC17A6)

Cat.No. 135 402; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	200 μ l antiserum, lyophilized. For reconstitution add 200 μ l H ₂ O, then aliquot and store at -20°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 up to 1: 10000 (AP staining) IP: yes ICC: 1: 500 IHC: 1: 250 up to 1: 1000 IHC-P: 1: 500 ExM: external data (see remarks)
Immunogen	Synthetic peptide corresponding to residues near the carboxy terminus of rat VGLUT2 (UniProt Id: Q9JI12)
Reactivity	Reacts with: human (Q9P2U8), rat (Q9JI12), mouse (Q8BLE7), chicken. Other species not tested yet.
Matching control	135-4P
Remarks	This antibody is highly recommended as a marker for glutamatergic nerve terminals. WB : To avoid protein aggregation, do not heat samples for SDS-PAGE. EXM : This antibody has been successfully applied and published for this method by customers (see application-specific references).

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

Background

The vesicular glutamate transporter 2 VGLUT2, also referred to as DNPI and SLC17A6, has a more restricted expression than the related VGLUT1. Like VGLUT1, it is both necessary and sufficient for uptake and storage of glutamate and thus comprises the sole determinant for a glutamatergic phenotype. Both VGLUTs are different from the plasma membrane transporters in that they are driven by a proton electrochemical gradient across the vesicle membrane.

VGLUT1 and VGLUT2 show complementary expression patterns. Together, they are currently the best markers for glutamatergic nerve terminals and glutamatergic synapses.

For more information on protein expression pattern, please refer to the overview image in our SYSY Antibodies ATLAS.

Selected References for 135 402

Expression of vesicular glutamate transporters VGLUT1 and VGLUT2 in the rat dental pulp and trigeminal ganglion following inflammation.

Yang ES, Jin MU, Hong JH, Kim YS, Choi SY, Kim TH, Cho YS, Bae YC

PloS one (2014) 910: e109723. . WB, IHC

Vesicular Glutamate Transporters (SLCA17 A6, 7, 8) Control Synaptic Phosphate Levels.

Cheret C, Ganzella M, Preobraschenski J, Jahn R, Ahnert-Hilger G

Cell reports (2021) 342: 108623. . WB, ICC; tested species: human, mouse

Vesicular glutamate transporter 1 (VGLUT1)- and VGLUT2-immunopositive axon terminals on the rat jaw-closing and jaw-opening motoneurons.

Park SK, Ko SJ, Paik SK, Rah JC, Lee KJ, Bae YC

Brain structure & function (2018):.. IHC, EM; tested species: rat

Merlin modulates process outgrowth and synaptogenesis in the cerebellum.

Toledo A, Lang F, Doengi M, Morrison H, Stein V, Baader SL

Brain structure & function (2019):.. WB, IHC; tested species: mouse

Regulation of glutamate release by heteromeric nicotinic receptors in layer V of the secondary motor region (Fr2) in the dorsomedial shoulder of prefrontal cortex in mouse.

Aracri P, Amadeo A, Pasini ME, Fascio U, Becchetti A

Synapse (New York, N.Y.) (2013) 676: 338-57. . WB, IHC; tested species: mouse

Transmitter inputs to different motoneuron subgroups in the oculomotor and trochlear nucleus in monkey. Zeeh C, Mustari MJ, Hess BJ, Horn AK

Frontiers in neuroanatomy (2015) 9: 95. . IHC-P

Synaptic vesicle-omics in mice captures signatures of aging and synucleinopathy.

Gao V, Chlebowicz J, Gaskin K, Briano JA, Komer LE, Pineda A, Jhalani S, Ahmad S, Uwaifo E, Black LS, Haller JE, et al. Nature communications (2025) 161: 4079. WB: tested species: mouse

Chronic stress induces depression through MDGA1-Neuroligin2 mediated suppression of inhibitory synapses in the lateral

Wang X, Wei H, Hu Z, Jiang J, Dong X, Zhu J, Chen H, Brose N, Lipstein N, Xu T, Connor SA, et al.

Theranostics (2025) 155: 1842-1863. . IHC; tested species: mouse

Prenatal protein deficiency causes age-specific alteration in number and distribution of inhibitory neurons in the somatosensory cortex during early postnatal development.

Kumari A, Rema V, Jain N

Journal of biosciences (2025) 50:.. IHC; tested species: mouse

Access the online factsheet including applicable protocols at https://svsy.com/product/135402 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 freezedried) 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 freezethaw cycles.
- Please refer to our tips and hints for subsequent storage of reconstituted antibodies and control peptides and proteins.