## Background

The vesicular glutamate transporter 3 (VGLUT3) is closely related to VGLUT 1 and VGLUT 2 by sequence similarity. However, VGLUT 3 defines a new distinct glutamatergic system in brain which is strictly separated from VGLUT 1 and VGLUT 2 synapses. Co-localization with the acetylcholine transporter VAChT and the monoamine transporter VMAT2 is the monoamine transporter 2 VMAT2 has been observed.

## Selected References for 135 203

A hybridization-chain-reaction-based method for amplifying immunosignals.  
IHC; tested species: mouse

Transient focal cerebral ischemia significantly alters not only EAATs but also VGLUTs expression in rats: relevance of changes in reactive astrogilia.  
IHC, WB; tested species: rat

Vesicular glutamate transporters play a role in neuronal differentiation of cultured SVZ-derived neural precursor cells.  
WB, ICC

Vesicular Glutamate Transporters (SLC1A7 A6, 7, 8) Control Synaptic Phosphate Levels.  
Cell reports (2021) 342: 108623.  
WB, IHC; tested species: human,mouse

Lack of evidence for vesicular glutamate transporter expression in mouse astrocytes.  
WB, IHC; KO verified; tested species: mouse

Regional- and age-specific changes in glutamate transport in the AβPP23 mouse model for Alzheimer’s disease.  
Schaller A, Smolders I, Van Dam D, Luyens E, De Deen PP, Michotte A, Michotte Y, Massie A 
WB, IHC; tested species: mouse

Colocalization of different neurotransmitter transporters on synaptic vesicles is sparse except for VGLUT1 and ZnT3.  
IHC; tested species: rat

Interrelationships Between Spinal Preganglionic Preganglionic Neurons, Autonomic Systems and Electrical Synapses Formed By Connexin36-containing Gap Junctions.  
Recabal-Beyer A, Tavakoli H, Senecal JMM, Stecina K, Nagy JJ 
IHC; tested species: mouse

Crosstalk between cell-cell signaling and the monoamine transporter 2 VMAT2 in mature mouse.  
eLife (2022) 11: 121010.  
IHC; tested species: mouse

Loss of central mineralocorticoid or glucocorticoid receptors impacts auditory nerve processing in the cochlea.  
Cell reports (2023) 421: 112010.  
IHC; tested species: mouse

Regenerative hair cells in the neonatal cochlea are innervated and the majority co-express markers of both inner and outer hair cells.  
Heuermann ML, Matos S, Hamilton D, Cox BC 
IHC; tested species: mouse

Vesicular glutamate transporters play a role in neuronal regeneration in mature mammals.  
IHC; tested species: mouse

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/135203 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.