

VGLUT 1

Cat.No. 135 303C5; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen, fluorescence-labeled with Oyster® 650. Rabbit serum albumin was added for stabilization. For reconstitution add 50 µl H ₂ O to get a 1mg/ml solution in PBS. Either add 1:1 (v/v) glycerol, then aliquot and store at -20°C until use, or store aliquots at -80°C without additives. Reconstitute immediately upon receipt! Avoid bright light when working with the antibody to minimize photo bleaching of the fluorescent dye. The mounting agent Aquatex® (Merck Chemicals) is not compatible with Oyster dyes!
Applications	WB: N/A IP: N/A ICC: 1 : 500 up to 1 : 10000 IHC: 1 : 500 up to 1 : 1000 IHC-P/FFPE: not tested yet
Label	Oyster 650
Immunogen	Recombinant protein corresponding to AA 456 to 560 from rat VGLUT1 (UniProt Id: Q62634)
Reactivity	Reacts with: human (Q9P2U7), rat (Q62634), mouse (Q3TXX4), cow, goat, sheep, dog. Other species not tested yet.
Specificity	Specific for VGLUT 1. (K.O. verified)
matching control	135-3P
Remarks	This antibody is highly recommended as markers for glutamatergic nerve terminals and give excellent results in ICC.

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

The vesicular glutamate transporter 1 **VGLUT 1**, also referred to as **BNPI** and **SLC17A7**, was originally identified as a brain specific phosphate transporter. Like the related VGLUT 2, VGLUT 1 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.

VGLUT 1 and VGLUT 2 show complementary expression patterns. Together, they are currently the best markers for glutamatergic nerve terminals and glutamatergic synapses.

Selected References SYSY Antibodies

Gray matter NG2 cells display multiple Ca²⁺-signaling pathways and highly motile processes.
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PloS one (2011) 6(3): e17575. **ICC; tested species: mouse**

Modulation of P2X7 purinergic receptor activity by extracellular Zn²⁺ in cultured mouse hippocampal astroglia.
Kovács G, Környei Z, Tóth K, Baranyi M, Brunner J, Neubrandt M, Dénes Á, Sperlág B
Cell calcium (2018) 75: 1-13. **ICC; tested species: mouse**

Selected General References

Identification of a vesicular glutamate transporter that defines a glutamatergic phenotype in neurons.
Takamori S, Rhee JS, Rosenmund C, Jahn R
Nature (2000) 407(6801): 189-94.

Uptake of glutamate into synaptic vesicles by an inorganic phosphate transporter.
Bellocchio EE, Reimer RJ, Fremeau RT, Edwards RH
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The localization of the brain-specific inorganic phosphate transporter suggests a specific presynaptic role in glutamatergic transmission.
Bellocchio EE, Hu H, Pohorille A, Chan J, Pickel VM, Edwards RH
The Journal of neuroscience : the official journal of the Society for Neuroscience (1998) 18(21): 8648-59.

Cloning and expression of a cDNA encoding a brain-specific Na⁽⁺⁾-dependent inorganic phosphate cotransporter.
Ni B, Rosteck PR, Nadi NS, Paul SM
Proceedings of the National Academy of Sciences of the United States of America (1994) 91(12): 5607-11.