

## VGLUT 1

Cat.No. 135 307; Polyclonal goat antibody, 200 µl antiserum (lyophilized)

### Data Sheet

Reconstitution/ Storage	200 µl antiserum, lyophilized. For reconstitution add 200 µl H <sub>2</sub> O, then aliquot and store at -20°C until use.
Applications	<b>WB:</b> 1 : 1000 (AP staining) (see remarks) <b>IP:</b> yes <b>ICC:</b> 1 : 500 <b>IHC:</b> 1 : 300 <b>IHC-P/FFPE:</b> not tested yet
Immunogen	Recombinant protein corresponding to AA 456 to 560 from rat VGLUT1 (UniProt Id: Q62634)
Reactivity	Reacts with: rat (Q62634), mouse (Q3TXX4). Other species not tested yet.
Specificity	Specific for VGLUT 1. (K.O. verified)
matching control	135-3P
Remarks	<b>WB:</b> VGLUT 1 aggregates after boiling, making it necessary to run SDS-PAGE with non-boiled samples. This antibody is highly recommended as marker for glutamatergic nerve terminals and gives 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

Puncta of neuronal nitric oxide synthase (nNOS) mediate NMDA-receptor signalling in the auditory midbrain.

Olthof BM, Gartside SE, Rees A

The Journal of neuroscience : the official journal of the Society for Neuroscience (2018) : . **IHC**

PSD-95 promotes the stabilization of young synaptic contacts.

Taft CE, Turrigiano GG

Philosophical transactions of the Royal Society of London. Series B, Biological sciences (2014) 369(1633): 20130134. **ICC; tested species: rat**

### 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, Fremerey RT, Edwards RH

Science (New York, N.Y.) (2000) 289(5481): 957-60.

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.