

## VGLUT 1/2

Cat.No. 135 503; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

### Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Rabbit serum albumin was added for stabilization. For reconstitution add 50 µl H <sub>2</sub> O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.
Applications	<b>WB:</b> 1 : 1000 (AP staining) <b>IP:</b> not tested yet <b>ICC:</b> 1 : 100 <b>IHC:</b> yes <b>IHC-P/FFPE:</b> not tested yet
Immunogen	Synthetic peptide corresponding to AA 324 to 339 from rat VGLUT1 (UniProt Id: Q62634)
Epitop	Epitop: AA 324 to 339 from rat VGLUT1 (UniProt Id: Q62634)
Reactivity	Reacts with: human (Q9P2U7, Q9P2U8), rat (Q62634, Q9J112), mouse (Q3TXX4, Q8BLE7), mammals, chicken, zebrafish, frog. Other species not tested yet.
Specificity	Epitope identical in VGLUT 1 and VGLUT 2, one mismatch in VGLUT 3.
Remarks	This antibody is less powerful compared to those directed against the C-termini of VGLUTs but can be used for non-mammals like chicken and zebrafish. VGLUTs aggregate after boiling, making it necessary to run SDS-PAGE with non-boiled samples.

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

The vesicular glutamate transporter **2 VGLUT 2**, also referred to as **DNPI** and **SLC17A6**, has a more restricted expression than the related VGLUT 1. Like VGLUT 1, 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. 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

Composition of isolated synaptic boutons reveals the amounts of vesicle trafficking proteins. Wilhelm BG, Mandad S, Truckenbrodt S, Kröhnert K, Schäfer C, Rammner B, Koo SJ, Claßen GA, Krauss M, Haucke V, Urlaub H, et al. Science (New York, N.Y.) (2014) 344(6187): 1023-8. **WB, ICC; tested species: rat**

Neurotransmitter Switching Regulated by miRNAs Controls Changes in Social Preference. Dulcis D, Lippi G, Stark CJ, Do LH, Berg DK, Spitzer NC Neuron (2017) 95(6): 1319-1333.e5. **IHC; tested species: frog**

Newly produced synaptic vesicle proteins are preferentially used in synaptic transmission. Truckenbrodt S, Viplav A, Jähne S, Vogts A, Denker A, Wildhagen H, Fornasiero EF, Rizzoli SO The EMBO journal (2018) : . **ICC; tested species: rat**

A new probe for super-resolution imaging of membranes elucidates trafficking pathways. Revelo NH, Kamin D, Truckenbrodt S, Wong AB, Reuter-Jessen K, Reisinger E, Moser T, Rizzoli SO The Journal of cell biology (2014) 205(4): 591-606. **ICC**

### Selected General References

Identification of differentiation-associated brain-specific phosphate transporter as a second vesicular glutamate transporter (VGLUT2). Takamori S, Rhee JS, Rosenmund C, Jahn R The Journal of neuroscience : the official journal of the Society for Neuroscience (2001) 21(22): RC182.

The expression of vesicular glutamate transporters defines two classes of excitatory synapse. Fremeau RT, Troyer MD, Pahner I, Nygaard GO, Tran CH, Reimer RJ, Bellocchio EE, Fortin D, Storm-Mathisen J, Edwards RH Neuron (2001) 31(2): 247-60.

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Molecular cloning of a novel brain-type Na(+)-dependent inorganic phosphate cotransporter. Aihara Y, Mashima H, Onda H, Hisano S, Kasuya H, Hori T, Yamada S, Tomura H, Yamada Y, Inoue I, Kojima I, et al. Journal of neurochemistry (2000) 74(6): 2622-5.