

VGLUT 1

Cat.No. 135-3P; control protein, 100 µg protein (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg protein, lyophilized. For reconstitution add 100 µl H ₂ O to get a 1mg/ml solution in TBS. Then aliquot and store at -20°C until use.
Immunogen	Recombinant protein corresponding to AA 456 to 560 from rat VGLUT1 (UniProt Id: Q62634)
Recommended dilution	Optimal concentrations should be determined by the end-user.
matching antibodies	135 302, 135 303, 135 303C3, 135 303C5, 135 304, 135 307, 135 311, 135 511
Remarks	This control protein consists of the Strep-Tag [®] fusion protein (aa 456 - 560 of rat VGLUT 1) that has been used for immunization. It has been tested in preadsorption experiments and blocks efficiently and specifically the corresponding signal in Western blots. The amount of protein needed for efficient blocking depends on the titer and on the affinity of the antibody to the antigen.

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 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, Frembeau 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.