Data Sheet

Reconstitution/Storage
100 µl antiserum, lyophilized. For reconstitution add 100 µl H₂O, then aliquot and store at -20°C until use.

Applications
WB: 1 : 1000 (AP staining) (see remarks)
IP: not tested yet
ICC: not tested yet
IHC: 1 : 500
IHC-P/FFPE: not tested yet

Immunogen
Recombinant protein corresponding to AA 543 to 601 from mouse VGLUT3 (UniProt ID: Q8BFU8)

Reactivity
Reacts with: mouse (Q8BFU8), rat (Q7TSF2).
Other species not tested yet.

Specificity
Specific for mouse VGLUT 3. (K.O. verified)

Remarks
WB: Due to the low abundance of this protein in the brain, immunoblotting is difficult.
This antibody works well in immunohistochemistry on 4 % para-formaldehyde / 0.1 % glutaraldehyde fixed tissue sections.

Selected References

Regulation of the Hippocampal Network by VGLUT3-Positive CCK-GABAergic Basket Cells.
Frontiers in cellular neuroscience (2017) 11: 140. WB, IHC; KO verified; tested species: mouse

Spatiotemporal gene expression patterns reveal molecular relatedness between retinal laminae.
Jiang D, Burger CA, Cassens AK, Albrecht NE, Li F, Samuel MA

Synaptic coupling of inner ear sensory cells is controlled by brevican-based extracellular matrix baskets resembling perineuronal nets.

Selective Localization of Shanks to VGLUT1-Positive Excitatory Synapses in the Mouse Hippocampus.
Frontiers in cellular neuroscience (2016) 10: 106. IHC

Mice deficient of glutamatergic signaling from intrinsically photosensitive retinal ganglion cells exhibit abnormal circadian phototransainment.
Perrier N, Engeland WC, Kofuji P
PloS one (2014) 9(10): e111449. IHC; tested species: mouse

Selected General References

Expression of vesicular glutamate transporters in rat lumbar spinal cord, with a note on dorsal root ganglia.
Landry M, Bouali-Benazzouz R, El Mestikawy S, Ravassard P, Nagy F

Characterization of an amacrine cell type of the mammalian retina immunoreactive for vesicular glutamate transporter 3.
Haverkamp S, Wässle H

Complementary distribution of type 1 cannabinoid receptors and vesicular glutamate transporter 3 in basal forebrain suggests input-specific retrograde signalling by cholinergic neurons.

Cellular localization of three vesicular glutamate transporter mRNAs and proteins in rat spinal cord and dorsal root ganglia.

The identification of vesicular glutamate transporter 3 suggests novel modes of signaling by glutamate.

Molecular cloning and functional identification of mouse vesicular glutamate transporter 3 and its expression in subsets of novel excitatory neurons.
Schäfer MK, Varoqui H, Defamie N, Weis E, Erickson JD

A third vesicular glutamate transporter expressed by cholinergic and serotonergic neurons.

The vesicular glutamate transporter 3 VGLUT 3 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 2 VMAT 2 has been observed.