

VGLUT 3

Cat.No. 135 204; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

Data Sheet

Reconstitution/Storage	100 µl antiserum, lyophilized. For reconstitution add 100 µl H ₂ O, 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)
matching control	135-2P
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.

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

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.

Selected References SYSY Antibodies

Regulation of the Hippocampal Network by VGLUT3-Positive CCK- GABAergic Basket Cells.
Fasano C, Rocchetti J, Pietrajtis K, Zander JF, Manseau F, Sakae DY, Marcus-Sells M, Ramet L, Morel LJ, Carrel D, Dumas S, et al
Frontiers in cellular neuroscience (2017) 11: 140. **WB, IHC; KO verified; tested species: mouse**

Synaptic coupling of inner ear sensory cells is controlled by brevicin-based extracellular matrix baskets resembling perineuronal nets.
Sonntag M, Blosa M, Schmidt S, Reimann K, Blum K, Eckrich T, Seeger G, Hecker D, Schick B, Arendt T, Engel J, et al.
BMC biology (2018) 16(1): 99. **IHC; tested species: mouse**

Selective Localization of Shanks to VGLUT1-Positive Excitatory Synapses in the Mouse Hippocampus.
Heise C, Schroeder JC, Schoen M, Halbedl S, Reim D, Woelfle S, Kreutz MR, Schmeisser MJ, Boeckers TM
Frontiers in cellular neuroscience (2016) 10: 106. **IHC**

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

Selected General References

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Landry M, Bouali-Benazzouz R, El Mestikawy S, Ravassard P, Nagy F
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Characterization of an amacrine cell type of the mammalian retina immunoreactive for vesicular glutamate transporter 3.
Haverkamp S, Wässle H
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Harkany T, Härtig W, Berghuis P, Dobszay MB, Zilberter Y, Edwards RH, Mackie K, Ernfors P
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The identification of vesicular glutamate transporter 3 suggests novel modes of signaling by glutamate.
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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, Weihe E, Erickson JD
The Journal of biological chemistry (2002) 277(52): 50734-48.

A third vesicular glutamate transporter expressed by cholinergic and serotonergic neurons.
Gras C, Herzog E, Bellenchi GC, Bernard V, Ravassard P, Pohl M, Gasnier B, Giros B, El Mestikawy S
The Journal of neuroscience : the official journal of the Society for Neuroscience (2002) 22(13): 5442-51.