ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

VESICULAR GLUTAMATE TRANSPORTER 3 (VGLUT3; SLC17A8) Antibodies

Cat # VGLUT31-P	Human VGLUT3 Control/Blocking Peptide	**SIZE**: 100 µg
Cat # VGLUT31-A	Rabbit anti-human Survivin IgG (affinity pure)	**SIZE**: 100 µg

Vesicular glutamate transporter (VGLUT) is responsible for the active transport of L-glutamate in synaptic vesicles and thus plays an essential role in the glutamatergic chemical transmission in the central nervous system. VGLUT comprises three isoforms, **VGLUT1, 2, and 3**, and is a potential marker for the glutamatergic phenotype. Recent studies indicated that VGLUT is also expressed in non-neuronal cells, and localized with various organelles such as synaptic-like microvesicles in the pineal gland, and hormone-containing secretory granules in endocrine cells. L-Glutamate is stored in these organelles, secreted upon various forms of stimulation, and then acts as a paracrine-like modulator. Thus, VGLUTs highlight a novel framework of glutamatergic signaling and reveal its diverse modes of action.
VGLUT3 expression is restricted to the brain, where it is predominantly located in synaptic vesicles. VGLUT3 shows strong sequence homology (~73%) to Differentiation-associated Na-dependent inorganic phosphate cotransporter. Mouse and rat respectively show 90 and 92% identity with the human VGLUT3 protein sequence.
VGLUT3: rat: 588 aa; mouse: 601 aa; human: 589 aa; 65 kDa; chromosome: 12q23.1; mainly expressed in the synaptic vesicles of brain.

Source of Antigen and Antibodies

Antigen	18-aa peptide of Human VGLUT3 **(Protein accession # Q8NDX2 ; ref. 1)**; designated as **VGLUT31-P** control/blocking peptide conjugated to KLH. **Epitope Location** ~ N-terminus; cytoplasmic domain
Antibody host/type	Rabbit, Polyclonal IgG (**Cat # VGLUT31-A**), purified over antigen-Agarose
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
Negative Control Ab	Non-immune rabbit IgG (Cat # 20009-1) to be used as –ve control for ELISA, WB, IHC etc.

Form & Storage of Antibodies/Peptide Control

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide
100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -20°C and powder at 4°C or -20°C..

Long-term: at –20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20°C or below.
Shipping: 4°C for solutions and room temp for powder

Recommended Usage

Western Blotting: 1-10 µg/ml; using affinity pure antibody (chemiluminescence technique).

ELISA: 1:100K; using 50-100 ng control peptide/well.

Histochemistry & Immunofluorescence: Not tested; we recommend the use of affinity purified antibody at 2-10 µg/ml.

Specificity & Cross-reactivity

Human VGLUT31-P peptide sequence is 100% conserved in rat and mouse with no homology to other known isoforms of VGLUT. Antibody cross-reactivity in various species is not known. The control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-30 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol :at the web site).

General References: 1) Schaefer et al (2002) J. Biol. Chem. 277, 50734-50748; 2) Aihara Y et al (2000) J. Neurochem. 74, 2622-2625; 3) Bellocchio EE et al (2000) Science 289, 957-960; Takamori S (2000) Nature 407, 189-194

*This product is for in vitro research use only.

Related material available from ADI

Affinity purified Antibodies to VGLUT1 and VGLUT2.

VGLUT31-A-P 71226S

India Contact:
Life Technologies (India) Pvt. Ltd.
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com