SANTA CRUZ BIOTECHNOLOGY, INC.

VGLUT2 (N-12): sc-26026

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The ATP-dependent, chloride-sensitive vesicular glutamate transporters (VGLUT) include BNPI (VGLUT1), VGLUT2 (DNPI) and VGLUT3. The brain expresses BNPI (brain specific Na^+-dependent inorganic phosphate (Pi) cotransporter) and VGLUT2 in a complementary fashion. The telencephalic regions express BNPI, whereas the lower brainstem and diencephalic regions express VLGUT2. Rat pinealocytes express both BNPI and VGLUT2. The striatum, hippocampus, cerebral cortex and raphe nuclei express VGLUT3 in a small number of neurons. Pancreatic α and β cells express BNPI and VGLUT2 in response to glucose concentrations. Human VGLUT3 shares a 72% sequence homology with VLGUT2 and BNPI.

REFERENCES

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2. Kaneko, T. and Fujiyama, F. 2002. Complementary distribution of vesicular glutamate transporters in the central nervous system. Neurosci. Res. 42: 243-250.
3. Gras, C., Herzog, E., Bellenchi, G.C., Bernard, V., Ravassard, P., Pohl, M., Gasnier, B., Giros, B. and El Mestikawy, S. 2002. A third vesicular glutamate transporter expressed by cholinergic and serotoninergic neurons. J. Neurosci. 22: 5442-5451.
4. Takamori, S., Malherbe, P., Broger, C. and Jahn, R. 2002. Molecular cloning and functional characterization of human vesicular glutamate transporter 3. EMBO Rep. 3: 798-803.
5. Morimoto, R., Hayashi, M., Yatsushiro, S., Otsuka, M., Yamamoto, A. and Moriyama, Y. 2003. Co-expression of vesicular glutamate transporters (VGLUT1 and VGLUT2) and their association with synaptic-like microvesicles in rat pinealocytes. J. Neurochem. 84: 382-391.
6. Bai, L., Zhang, X. and Ghishan, F.K. 2003. Characterization of vesicular glutamate transporter in pancreatic α- and β-cells and its regulation by glucose. Am. J. Physiol. Gastrointest. Liver Physiol. 284: G808-G814.

CHROMOSOMAL LOCATION

Genetic locus: SLC17A6 (human) mapping to 11p14.3; Slc17a6 (mouse) mapping to 7 B5.

SOURCE

VGLUT2 (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of VGLUT2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-26026 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

VGLUT2 (N-12) is recommended for detection of VGLUT2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

VGLUT2 (N-12) is also recommended for detection of VGLUT2 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for VGLUT2 siRNA (h): sc-42332, VGLUT2 siRNA (m): sc-42333, VGLUT2 shRNA Plasmid (h): sc-42332-SH, VGLUT2 shRNA Plasmid (m): sc-42333-SH, VGLUT2 shRNA (h) Lentiviral Particles: sc-42332-V and VGLUT2 shRNA (m) Lentiviral Particles: sc-42333-V.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Scott, A., Alfredson, H. and Forsgren, S. 2008. VGLUT2 expression in painful Achilles and patellar tendinosis: evidence of local glutamate release by tenocytes. J. Orthop. Res. 26: 685-692.
2. Spang, C., Scott, A., Danielson, P., Lorentzon, R. and Forsgren, S. 2012. VGluT2 and NMDAR1 expression in cells in the inflammatory infiltrates in experimentally induced myositis: evidence of local glutamate signaling suggests autocrine/paracrine effects in an overuse injury model. Inflammation 35: 39-48.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.