



Datasheet for ABIN1027710
anti-SLC17A7 antibody (AA 493-560)



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Overview

Quantity:	100 µg
Target:	SLC17A7
Binding Specificity:	AA 493-560
Reactivity:	Rat
Host:	Mouse
Clonality:	Monoclonal
Application:	Western Blotting (WB), Immunohistochemistry (IHC), Multiplex Immunohistochemistry (mIHC)

Product Details

Immunogen:	Fusion protein amino acids 493-560 (cytoplasmic C-terminus) of rat VGlut1
Clone:	S28-9
Isotype:	IgG1
Specificity:	Detects ~52 kDa. No cross-reactivity against VGlut2.
Cross-Reactivity:	Human, Mouse, Rat
Purification:	Protein G Purified

Target Details

Target:	SLC17A7
Alternative Name:	VGLUT1 (SLC17A7 Products)
Background:	VGLUT1 is expressed in a subset of glutamate neurons and transports glutamate into native

Target Details

synaptic vesicles from the brain, exhibiting a conductance for chloride that is blocked by glutamate (1). Vesicular glutamate transport has a substantially lower apparent affinity than the plasma membrane excitatory amino acid transporters. Glutamate transport by VGLUT1 is saturated with a $K(m)$ of approximately 2 mM, in the same range as transport by synaptic vesicles. Finally, plasma membrane glutamate transporters recognize both aspartate and glutamate as substrates, whereas VGLUT1 does not recognize aspartate (2).

Gene ID: 116638

NCBI Accession: [NP_446311](#)

UniProt: [Q62634](#)

Application Details

Application Notes:

- WB (1:1000)
- optimal dilutions for assays should be determined by the user.

Comment: 1 µg/ml of ABIN1027710 was sufficient for detection of VGLut1 in 20 µg of rat brain lysate by colorimetric immunoblot analysis using goat anti-mouse IgG:HRP as the secondary antibody.

Restrictions: For Research Use only

Handling

Format: Liquid

Concentration: 1 mg/mL

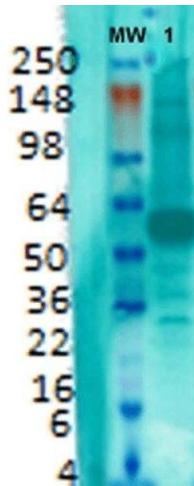
Buffer: PBS pH 7.4, 50 % glycerol, 0.09 % sodium azide, Storage buffer may change when conjugated

Preservative: Sodium azide

Precaution of Use: This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.

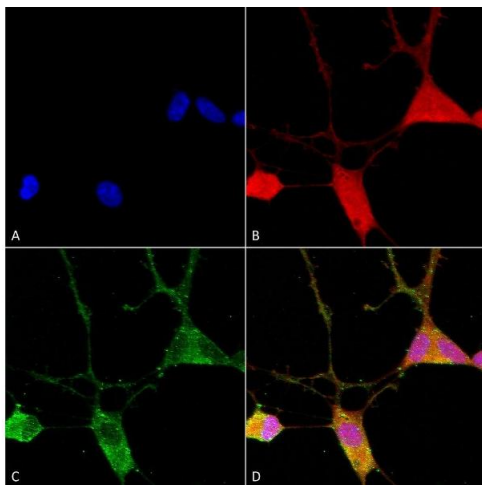
Storage: -20 °C

Storage Comment: -20°C



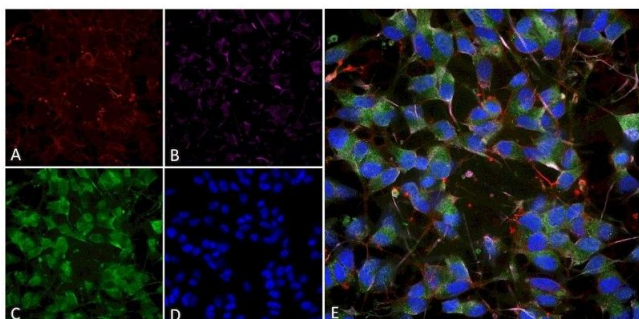
Western Blotting

Image 1. Western Blot analysis of Rat brain membrane lysate showing detection of VGLUT1 protein using Mouse Anti-VGLUT1 Monoclonal Antibody, Clone S28-9 (ABIN1027710). Primary Antibody: Mouse Anti-VGLUT1 Monoclonal Antibody (ABIN1027710) at 1:1000.



Immunocytochemistry

Image 2. Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-VGLUT1 Monoclonal Antibody, Clone S28-9 (ABIN1027710). Tissue: Neuroblastoma cells (SH-SY5Y). Species: Human. Fixation: 4 % PFA for 15 min. Primary Antibody: Mouse Anti-VGLUT1 Monoclonal Antibody (ABIN1027710) at 1:100 for overnight at 4 °C with slow rocking. Secondary Antibody: AlexaFluor 488 at 1:1000 for 1 hour at RT. Counterstain: Phalloidin-iFluor 647 (red) F-Actin stain, Hoechst (blue) nuclear stain at 1:800, 1.6 mM for 20 min at RT. (A) Hoechst (blue) nuclear stain. (B) Phalloidin-iFluor 647 (red) F-Actin stain. (C) VGLUT1 Antibody (D) Composite.



Immunocytochemistry

Image 3. Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-VGLUT1 Monoclonal Antibody, Clone S28-9 (ABIN1027710). Tissue: Differentiated SH-SY5Y. Species: Human. Primary Antibody: Mouse Anti-VGLUT1 Monoclonal Antibody (ABIN1027710) at 1:100. Secondary Antibody: AlexaFluor 488. Counterstain: phalloidin (Alexa 647, red), beta tubulin (Anti-beta III Tubulin Ab, Alexa 555, magenta) Hoechst (blue). (A) Phalloidin (B) Anti-beta III Tubulin Ab. (C) VGLUT1 Antibody. (D) Hoechst (E) Composite.



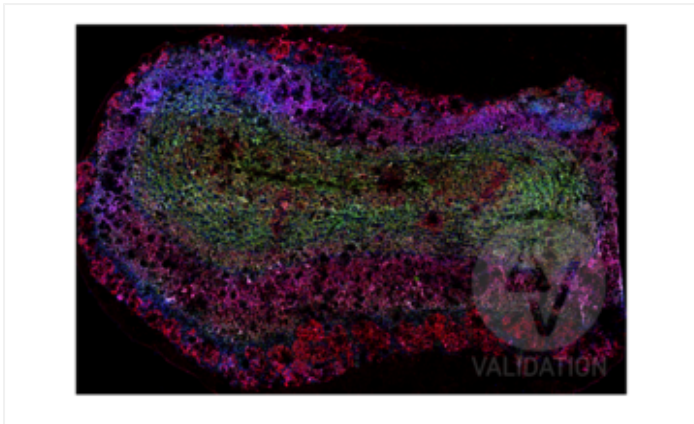
Successfully validated (Multiplex Immunohistochemistry (mIHC))

by [Akoya Biosciences](#)

Report Number: 104338

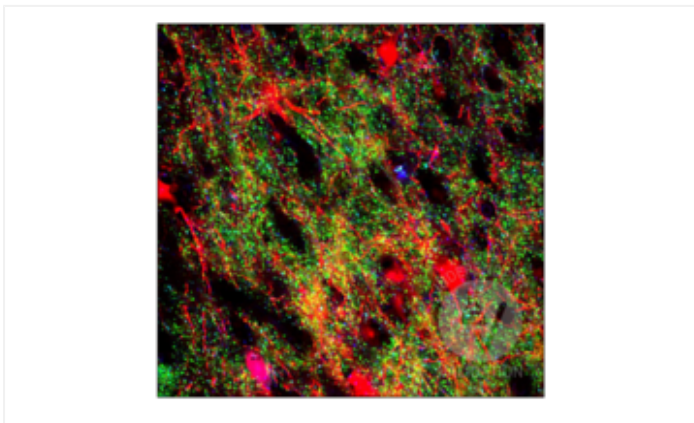
Date: Apr 20 2021

Target:	SLC17A7
Lot Number:	1205
Method validated:	Multiplex Immunohistochemistry (mIHC)
Positive Control:	Fresh frozen mouse olfactory bulb
Negative Control:	Unlabeled control (mouse fresh frozen)
Notes:	Passed. The anti-SLC17A7 antibody ABIN1027710 labels areas of high glutamatergic afferent input throughout the murine olfactory bulb with a concentration in the internal plexiform and granule cell layer.
Primary Antibody:	ABIN1027710
Protocol:	<ul style="list-style-type: none">• Protocol details are described in the Akoya Biosciences CODEX® User Manual (see https://www.akoyabio.com/wp-content/uploads/2021/01/CODEX-User-Manual.pdf).• Tissue preparation as outlined in the Akoya Biosciences CODEX® User Manual fresh-frozen tissue protocol.• Conjugation of the anti-SLC17A7 antibody ABIN1027710 to an oligo barcode used to bind oligo-conjugated fluorophore ATTO 550.
Experimental Notes:	<ul style="list-style-type: none">• No signal was detected in unlabeled specimens.• Specific staining of Cortactin was also observed with human FFPE cortical tissue sections with both citrate antigen retrieval and EDTA antigen retrieval.• Optimal staining and signal to noise ratios were obtained if tissue was pre-treated for autofluorescence removal (see https://www.akoyabio.com/wp-content/uploads/2020/07/Custom-Demonstrated-Protocol-Autofluorescence-Quenching-Mar2020.pdf).•



Validation image no. 1 for anti-Solute Carrier Family 17 (Vesicular Glutamate Transporter), Member 7 (SLC17A7) (AA 493-560) antibody (ABIN1027710)

Murine fresh frozen coronal olfactory bulb section (Thickness = 5 μ m) labeled with anti-SLC17A7 antibody ABIN1027710 (green; bound to fluorophore ATTO 550). Labeling is present throughout olfactory bulb layers with a concentration in the internal plexiform and granule cell layers. Map2 and PSD-95/DLG4 were labeled with ABIN125739 (blue; bound to fluorophore ATTO 550) and ABIN361694 (red; bound to fluorophore ATTO 550).



Validation image no. 2 for anti-Solute Carrier Family 17 (Vesicular Glutamate Transporter), Member 7 (SLC17A7) (AA 493-560) antibody (ABIN1027710)

FFPE normal human cortex tissue section labeled with anti-SL17A7 antibody ABIN1027710 (green; bound to fluorophore ATTO 550) after EDTA antigen retrieval. MAP2 and dopamine transporter were labeled with anti-MAP2 antibody ABIN125739 (red; bound to fluorophore ATTO 550) and anti-dopamine receptor antibody (blue; bound to fluorophore AF647).