10320 Camino Santa Fe, Suite G
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VGLUT1 Antibody
VGLUT1 Antibody, Clone S28-9
Catalog # ASM10228

Specification

VGLUT1 Antibody - Product Information

Application	**IHC, WB**
Primary Accession	Q62634
Other Accession	NP_446311.1
Host	**Mouse**
Isotype	**IgG1**
Reactivity	**Human, Mouse, Rat**
Clonality	**Monoclonal**
Format	**PerCP**

Description
Mouse Anti-Rat VGLUT1 Monoclonal IgG1

Target/Specificity
Detects ~52kDa. No cross-reactivity against VGlut2.

Other Names
BNPI Antibody, SLC17A1 Antibody, SLC17A1/VGLUT1 Antibody, Solute Carrier family 17 member 7 Antibody, Vesicular glutamate transporter 1 Antibody, VGLUT 1 Antibody, Brain-specific Na(+)-dependent inorganic phosphate cotransporter Antibody

Immunogen
Fusion protein amino acids 493-560 (cytoplasmic C-terminus) of rat VGlut1

Purification
Protein G Purified

Storage	**-20ºC**

Storage Buffer
PBS pH7.4, 50% glycerol, 0.09% sodium azide

Shipping Temperature	**Blue Ice or 4ºC**

Certificate of Analysis
1 µg/ml of SMC-394 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.

Cellular Localization
Cytoplasmic Vesicle | Secretory Vesicle | Synaptic Vesicle Membrane | Membrane | Cell Junction | Synapse

VGLUT1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot

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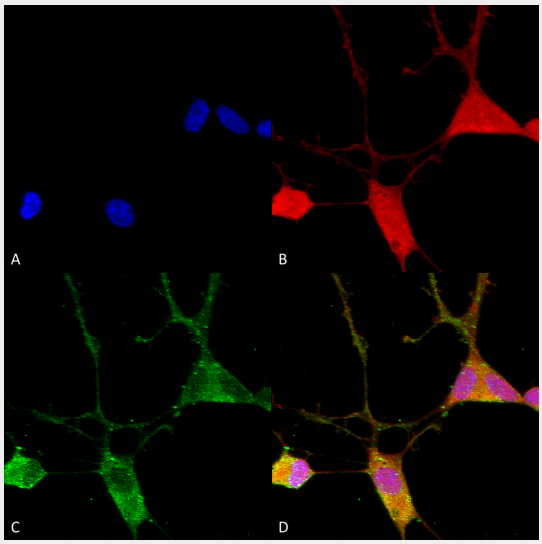
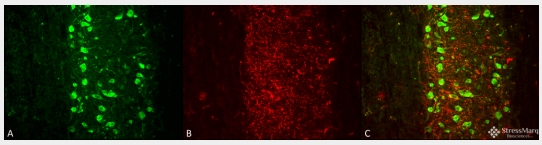
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

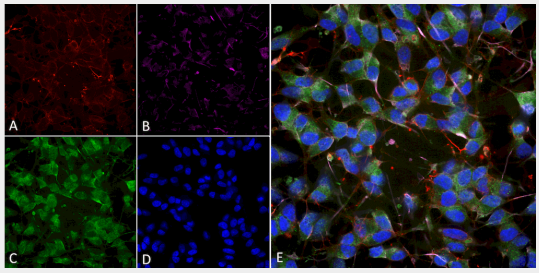
VGLUT1 Antibody - Images



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-VGLUT1 Monoclonal Antibody, Clone N28/9 (ASM10228). Tissue: Neuroblastoma cells (SH-SY5Y). Species: Human. Fixation: 4% PFA for 15 min. Primary Antibody: Mouse Anti-VGLUT1 Monoclonal Antibody (ASM10228) 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, 1.6mM for 20 min at RT. (A) Hoechst (blue) nuclear stain. (B) Phalloidin-iFluor 647 (red) F-Actin stain. (C) VGLUT1 Antibody (D) Composite.



Immunohistochemistry analysis using Mouse Anti-VGLUT1 Monoclonal Antibody, Clone N28/9 (ASM10228). Tissue: spinal cord. Species: Mouse. Fixation: 4% PFA. Primary Antibody: Mouse Anti-VGLUT1 Monoclonal Antibody (ASM10228) at 1:500 for 16 hours at RT. Secondary Antibody: Alexa Fluor 555 Donkey Anti-Mouse (red) at 1:2000 for 2 hours at RT. Counterstain: NeuN neuronal stain (green). Magnification: 20X. Courtesy of: Leilei Wang, Ph.D. UT Southwestern Medical Center at Dallas.



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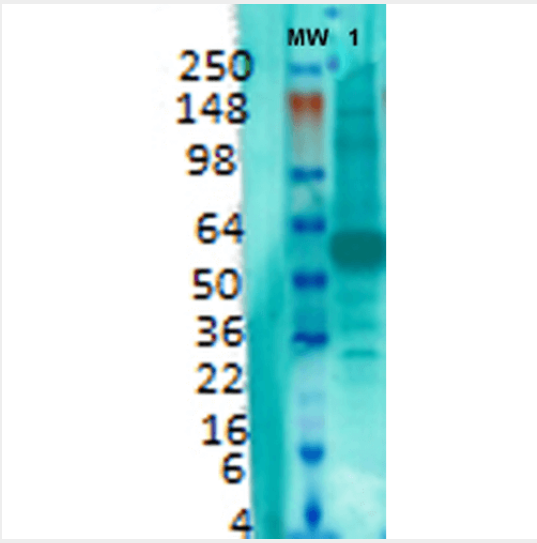
Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-VGLUT1 Monoclonal Antibody, Clone N28/9 (ASM10228). Tissue: Differentiated SH-SY5Y. Species: Human. Primary Antibody: Mouse Anti-VGLUT1 Monoclonal Antibody (ASM10228) at 1:100. Secondary Antibody: AlexaFluor 488. Counterstain: phalloidin (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.



Western Blot analysis of Rat brain membrane lysate showing detection of VGLUT1 protein using Mouse Anti-VGLUT1 Monoclonal Antibody, Clone N28/9 (ASM10228). Primary Antibody: Mouse Anti-VGLUT1 Monoclonal Antibody (ASM10228) at 1:1000.

VGLUT1 Antibody - Background

VGLUT1 is expressed in a subset of glutamate neurons and transports glutamate into native 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).

VGLUT1 Antibody - References

1. Wojcik S.M., et al. (2004) PNAS. 101(18): 7158-7163.
2. Shigeri Y., Seal R.P., Shimamoto K. (2004) Brain Res Rev. 45(3): 250-265.