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SLC1A7 Antibody
Catalog # ASC11888

Specification

SLC1A7 Antibody - Product Information

Application	**WB, IHC, IF**
Primary Accession	O00341
Other Accession	NP_001274524, 567316146
Reactivity	**Human, Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Calculated MW	**Predicted: 17, 52, 62, 68 kDa** **Observed: 52 kDa KDa**
Application Notes	**SLC1A7 antibody can be used for detection of SLC1A7 by Western blot at 1 - 2 µg/ml. Antibody can also be used for immunohistochemistry starting at 5 µg/mL. For immunofluorescence start at 20 µg/mL.**

SLC1A7 Antibody - Additional Information

Gene ID **6512**

Target/Specificity
SLC1A7; SLC1A7 antibody is human and mouse reactive. Multiple isoforms of SLC1A7 are known to exist.

Reconstitution & Storage
SLC1A7 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.

Precautions
SLC1A7 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

SLC1A7 Antibody - Protein Information

Name SLC1A7 (HGNC:10945)

Synonyms EAAT5

Function
Sodium-dependent, high-affinity amino acid transporter that mediates the uptake of L-glutamate and also L-aspartate and D- aspartate. Functions as a symporter that transports one amino acid molecule together with two or three Na(+) ions and one proton, in parallel with the counter-transport of one K(+) ion (PubMed:9108121). Acts primarily as an inhibitory glutamate-gated chloride channel being a major inhibitory presynaptic receptor at mammalian rod bipolar cell axon terminals. Glutamate binding gates a large Cl(-) conductance that mediates inhibition, affecting visual

processing in the retina (By similarity).

Cellular Location
Photoreceptor inner segment membrane {ECO:0000250|UniProtKB:Q8JZR4}; Multi-pass membrane protein. Synaptic cell membrane {ECO:0000250|UniProtKB:Q8JZR4}; Multi-pass membrane protein. Note=Located in both cone and rod photoreceptor terminals and in axon terminals of rod bipolar cells. {ECO:0000250|UniProtKB:Q8JZR4}

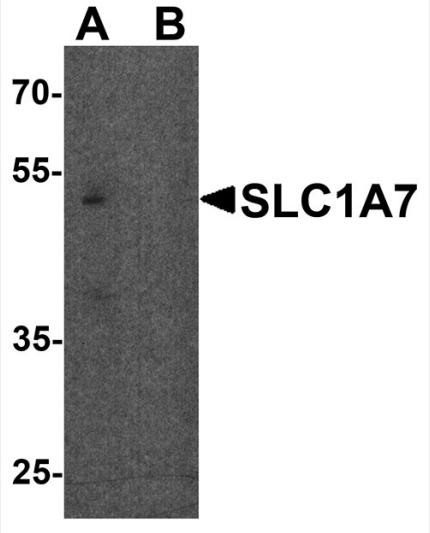
Tissue Location
Expressed primarily in retina. Detectable in liver, heart, muscle and brain.

SLC1A7 Antibody - Protocols

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

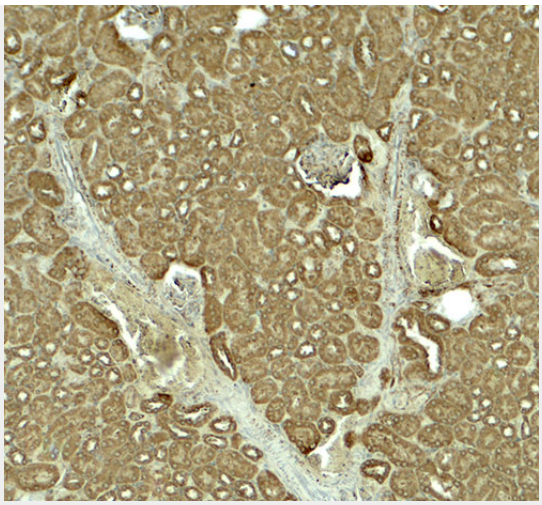
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

SLC1A7 Antibody - Images

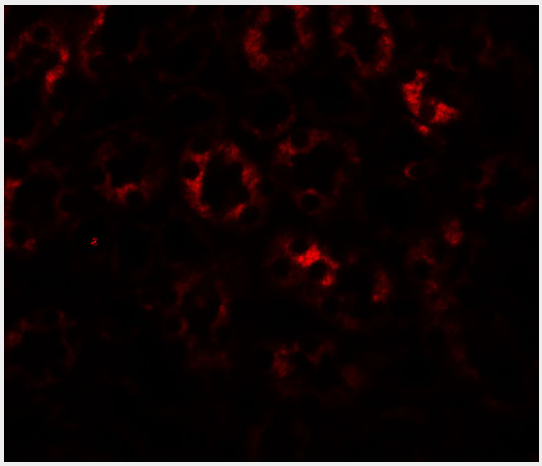


Western blot analysis of SLC1A7 in C2C12 cell lysate with SLC1A7 antibody at 1 µg/ml in (A) the absence and (B) the presence of blocking peptide.

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Immunohistochemistry of SLC1A7 in mouse kidney tissue with SLC1A7 antibody at 5 µg/ml.



Immunofluorescence of SLC1A7 in mouse kidney tissue with SLC1A7 antibody at 20 µg/ml.

SLC1A7 Antibody - Background

The solute carrier family 1 member 7 (SLC1A7) protein was initially identified as a glutamate transporter coupled to a chloride conductance that is expressed primarily in the retina (1). More recent evidence indicates that is it widely expressed in peripheral tissues, also (2). Experiments have shown that SLC1A7 functions as a low-affinity/low-capacity glutamate transport, with an anion channel optimized for anion conductance in the negative voltage range (3). In the retina, SLC1A7 co-localizes with the serum and glucocorticoid dependent kinase SGK1, and its cell surface expression and activity is regulated SGK1 and its isoform SGK3 (4).

SLC1A7 Antibody - References

Arriza JL, Eliasof S, Kavanaugh MP, et al. Excitatory amino acid transporter 5, a retinal glutamate transporter coupled to a chloride conductance. Proc. Natl. Acad. Sci. USA 1997; 94:4155-60.
Lee A, Anderson AR, Stevens M, et al. Excitatory amino acid transporter 5 is widely expressed in peripheral tissues. Eur. J. Histochem. 2013; 57:e11.
Schneider N, Cordeiro S, Machtens JP, et al. Functional properties of the retinal glutamate transporters GLT-1c and EAAT5. J. Biol. Chem. 2014; 289:1815-24.
Boehmer C, Rajamanickam J, Schniepp R, et al. Regulation of the excitatory amino acid transporter EAAT5 by the serum and glucocorticoid dependent kinases SGK1 and SGK3. Biochem. Biophys. Res. Commun. 2005; 329:738-42.