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Goat Anti-SLC7A11 Antibody

Peptide-affinity purified goat antibody
Catalog # AF2000a

Specification

Goat Anti-SLC7A11 Antibody - Product Information

Application	**WB**
Primary Accession	Q9UPY5
Other Accession	NP_055146, 23657
Reactivity	**Human, Rat**
Predicted	**Dog**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**55423**

Goat Anti-SLC7A11 Antibody - Additional Information

Gene ID 23657

Other Names
Cystine/glutamate transporter, Amino acid transport system xc-, Calcium channel blocker resistance protein CCBR1, Solute carrier family 7 member 11, xCT, SLC7A11

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-SLC7A11 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-SLC7A11 Antibody - Protein Information

Name SLC7A11 (HGNC:11059)

Function
Heterodimer with SLC3A2, that functions as an antiporter by mediating the exchange of extracellular anionic L-cystine and intracellular L-glutamate across the cellular plasma membrane (PubMed:15151999, PubMed:34880232, PubMed:35352032,

PubMed:35245456, PubMed:11417227, PubMed:14722095, PubMed:11133847). Provides L-cystine for the maintenance of the redox balance between extracellular L- cystine and L-cysteine and for the maintenance of the intracellular levels of glutathione that is essential for cells protection from oxidative stress (By similarity). The transport is sodium-independent, electroneutral with a stoichiometry of 1:1, and is drove by the high intracellular concentration of L-glutamate and the intracellular reduction of L-cystine (PubMed:11417227, PubMed:11133847). In addition, mediates the import of L-kynurenine leading to anti-ferroptotic signaling propagation required to maintain L-cystine and glutathione homeostasis (PubMed:35245456). Moreover, mediates N-acetyl-L-cysteine uptake into the placenta leading to subsequently down-regulation of pathways associated with oxidative stress, inflammation and apoptosis (PubMed:34120018). In vitro can also transport L-aspartate (PubMed:11417227). May participate in astrocyte and meningeal cell proliferation during development and can provide neuroprotection by promoting glutathione synthesis and delivery from non-neuronal cells such as astrocytes and meningeal cells to immature neurons (By similarity). Controls the production of pheomelanin pigment directly (By similarity).

Cellular Location
Cell membrane; Multi-pass membrane protein. Cell projection, microvillus membrane; Multi-pass membrane protein. Note=Localized to the microvillous membrane of the placental syncytiotrophoblast.

Tissue Location
Expressed in term placenta and primary term cytotrophoblast (PubMed:34120018). Expressed mainly in the brain, but also in pancreas (PubMed:11417227).

Goat Anti-SLC7A11 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

Goat Anti-SLC7A11 Antibody - Images

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AF2000a (0.02 µg/ml) staining of Human Spleen lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

Goat Anti-SLC7A11 Antibody - Background

SLC7A11 is a member of a heteromeric Na(+)-independent anionic amino acid transport system highly specific for cystine and glutamate. In this system, designated system Xc(-), the anionic form of cystine is transported in exchange for glutamate.

Goat Anti-SLC7A11 Antibody - References

Maternal genes and facial clefts in offspring: a comprehensive search for genetic associations in two population-based cleft studies from Scandinavia. Jugessur A, et al. PLoS One, 2010 Jul 9. PMID 20634891.
Pharmacogenomic approach reveals a role for the x(c)- cystine/glutamate antiporter in growth and celastrol resistance of glioma cell lines. Pham AN, et al. J Pharmacol Exp Ther, 2010 Mar. PMID 20007406.
Decreased expression of the active subunit of the cystine/glutamate antiporter xCT is associated with loss of heterozygosity of 1p in oligodendroglial tumours WHO grade II. Stockhammer F, et al. Histopathology, 2009 Jan. PMID 19207949.
Basal levels of eIF2alpha phosphorylation determine cellular antioxidant status by regulating ATF4 and xCT expression. Lewerenz J, et al. J Biol Chem, 2009 Jan 9. PMID 19017641.
Disruption of xCT inhibits cancer cell metastasis via the caveolin-1/beta-catenin pathway. Chen RS, et al. Oncogene, 2009 Jan 29. PMID 19015640.