

**SLC7A11 Blocking Peptide(N-term)**  
**Synthetic peptide**  
**Catalog # BP19815a****Specification**

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**SLC7A11 Blocking Peptide(N-term) - Product Information**

Primary Accession [O9UPY5](#)  
Other Accession [NP\\_055146.1](#)

**SLC7A11 Blocking Peptide(N-term) - Additional Information**

**Gene ID** 23657

**Other Names**

Cystine/glutamate transporter, Amino acid transport system xc-, Calcium channel blocker resistance protein CCB1, Solute carrier family 7 member 11, xCT, SLC7A11

**Target/Specificity**

The synthetic peptide sequence is selected from aa 28-42 of HUMAN SLC7A11

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**SLC7A11 Blocking Peptide(N-term) - 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:<a href="http://www.uniprot.org/citations/15151999" target="\_blank">15151999</a>, PubMed:<a href="http://www.uniprot.org/citations/34880232" target="\_blank">34880232</a>, PubMed:<a href="http://www.uniprot.org/citations/35352032" target="\_blank">35352032</a>, PubMed:<a href="http://www.uniprot.org/citations/35245456" target="\_blank">35245456</a>, PubMed:<a href="http://www.uniprot.org/citations/11417227" target="\_blank">11417227</a>, PubMed:<a href="http://www.uniprot.org/citations/14722095" target="\_blank">14722095</a>, PubMed:<a href="http://www.uniprot.org/citations/11133847" target="\_blank">11133847</a>). 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 driven by the high intracellular concentration of

L-glutamate and the intracellular reduction of L-cystine (PubMed:<a href="http://www.uniprot.org/citations/11417227" target="\_blank">11417227</a>, PubMed:<a href="http://www.uniprot.org/citations/11133847" target="\_blank">11133847</a>). In addition, mediates the import of L-kynurenine leading to anti-ferroptotic signaling propagation required to maintain L-cystine and glutathione homeostasis (PubMed:<a href="http://www.uniprot.org/citations/35245456" target="\_blank">35245456</a>). 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:<a href="http://www.uniprot.org/citations/34120018" target="\_blank">34120018</a>). In vitro can also transport L-aspartate (PubMed:<a href="http://www.uniprot.org/citations/11417227" target="\_blank">11417227</a>). 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).

### **SLC7A11 Blocking Peptide(N-term) - Protocols**

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

- [Blocking Peptides](#)

### **SLC7A11 Blocking Peptide(N-term) - Images**

### **SLC7A11 Blocking Peptide(N-term) - 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.[supplied by OMIM].

### **SLC7A11 Blocking Peptide(N-term) - References**

D'Angelo, J.A., et al. J. Immunol. 185(6):3217-3226(2010)  
Pham, A.N., et al. J. Pharmacol. Exp. Ther. 332(3):949-958(2010)  
Jugessur, A., et al. PLoS ONE 5 (7), E11493 (2010) :  
Lewerenz, J., et al. J. Biol. Chem. 284(2):1106-1115(2009)  
Stockhammer, F., et al. Histopathology 54(2):241-247(2009)