

xCT Rabbit mAb

Catalog # AP79007

Product Information

Application	WB, IF, ICC, IP
Primary Accession	Q9UPY5
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Monoclonal Antibody
Isotype	IgG
Conjugate	Unconjugated
Immunogen	A synthesized peptide derived from human xCT
Purification	Affinity Chromatography
Calculated MW	55423

Additional Information

Gene ID	23657
Other Names	SLC7A11
Dilution	WB~~1/500-1/1000 IF~~1:50~200 ICC~~N/A IP~~N/A
Format	Liquid in 10mM PBS, pH 7.4, 150mM sodium chloride, 0.05% BSA, 0.02% sodium azide and 50% glycerol.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

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: 11133847 , PubMed: 11417227 , PubMed: 14722095 , PubMed: 15151999 , PubMed: 34880232 , PubMed: 35245456 , PubMed: 35352032). 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: 11133847 , PubMed: 11417227). Acts as an inhibitor of ferroptosis by mediating the import of L-kynurenine leading to anti-ferroptotic signaling propagation required to maintain L-cystine and glutathione homeostasis (PubMed: 35245456 ,

PubMed:[40246981](#)). Also inhibits ferroptosis by acting as an atypical proton transporter that mediates a slow proton efflux from lysosomes via cystine and glutamate flux (PubMed:[40280132](#)). Glutamate and cystine contain side-chain groups that are protonatable in the physiological range of lysosomal pH and cytosolic pH, respectively, enabling a slow lysosomal proton leak through a substrate-as-proton mechanism (PubMed:[40280132](#)). 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).

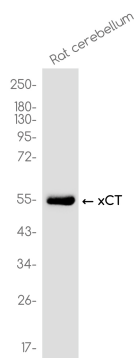
Cellular Location

Cell membrane; Multi-pass membrane protein. Lysosome membrane; Multi-pass membrane protein. Cell projection, microvillus membrane; Multi-pass membrane protein. Note=Localized to the microvillous membrane of the placental syncytiotrophoblast (PubMed:[34120018](#)). Plasma membrane localization is impaired by LGALS13 (PubMed:[40246981](#))

Tissue Location

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

Images



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