

# xCT Rabbit pAb

Catalog # AP53643

## Product Information

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|-------------------|------------------------|
| Primary Accession | <a href="#">Q9UPY5</a> |
| Host              | Rabbit                 |
| Clonality         | Polyclonal Antibody    |
| Calculated MW     | 55423                  |

## Additional Information

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|-------------|------------------------------------------------------------------------------------------|
| Gene ID     | 23657                                                                                    |
| Other Names | xCT; CCBRI                                                                               |
| Storage     | Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles. |

## Protein Information

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| Name     | SLC7A11 ( <a href="#">HGNC:11059</a> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Function | <p>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="#">11133847</a>, PubMed:<a href="#">11417227</a>, PubMed:<a href="#">14722095</a>, PubMed:<a href="#">15151999</a>, PubMed:<a href="#">34880232</a>, PubMed:<a href="#">35245456</a>, PubMed:<a href="#">35352032</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 drove by the high intracellular concentration of L-glutamate and the intracellular reduction of L-cystine (PubMed:<a href="#">11133847</a>, PubMed:<a href="#">11417227</a>). 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:<a href="#">35245456</a>, PubMed:<a href="#">40246981</a>). Also inhibits ferroptosis by acting as an atypical proton transporter that mediates a slow proton efflux from lysosomes via cystine and glutamate flux (PubMed:<a href="#">40280132</a>). 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:<a href="#">40280132</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="#">34120018</a>). In vitro can also transport L-aspartate (PubMed:<a href="#">11417227</a>). May participate in astrocyte and meningeal cell proliferation during development and can provide neuroprotection by</p> |

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).

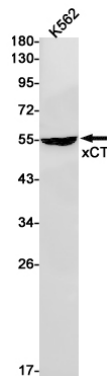
## Background

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Swiss-Prot Acc.Q9UPY5.Sodium-independent, high-affinity exchange of anionic amino acids with high specificity for anionic form of cystine and glutamate.

## Images

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Western blot detection of xCT in K562 cell lysates using xCT Rabbit pAb(1:1000 diluted). Predicted band size: 55kDa. Observed band size: 55kDa.

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