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Anti-xCT Rabbit Monoclonal Antibody

Catalog # ABO14466

Product Information

Application	WB, IF, ICC, IP
Primary Accession	Q9UPY5
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid
Description	Anti-xCT Rabbit Monoclonal Antibody . Tested in WB, ICC/IF, IP applications. This antibody reacts with Human, Mouse, Rat.

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 (HGNC:11059)
Calculated MW	55423
Application Details	WB 1:500-1:2000 ICC/IF 1:50-1:150 IP 1:50
Source	Eukaryota
Contents	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
Clone Names	Clone: ACGI-19
Immunogen	A synthesized peptide derived from human xCT
Purification	Affinity-chromatography
Storage	Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated 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).

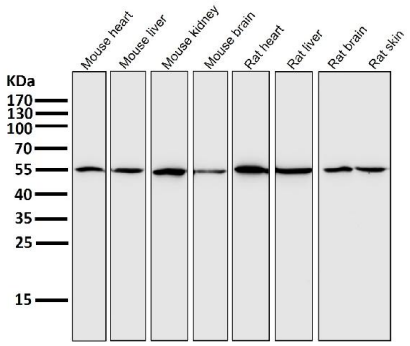
Cellular Location

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

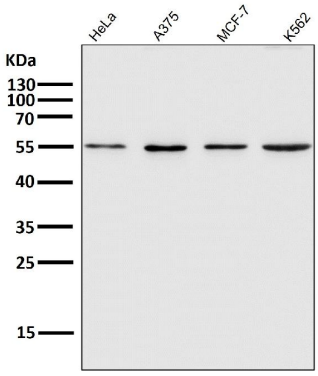
Expressed in term placenta and primary term cytotrophoblast (PubMed:34120018). Expressed mainly in the brain, but also in pancreas (PubMed:11417227).

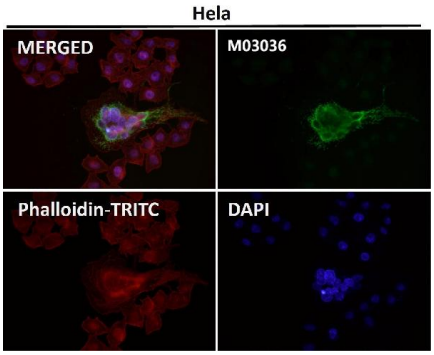
Images



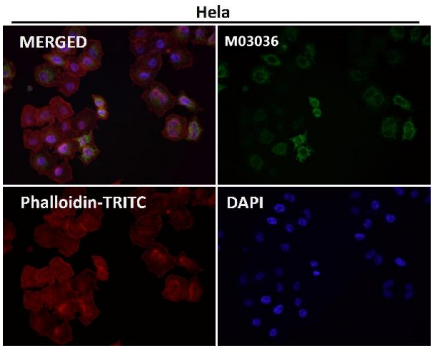
All lanes use the Antibody at 1:1.5W dilution for 1 hour at room temperature.

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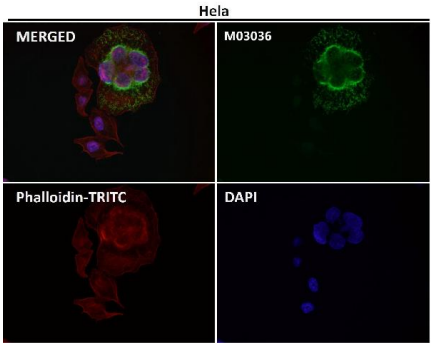




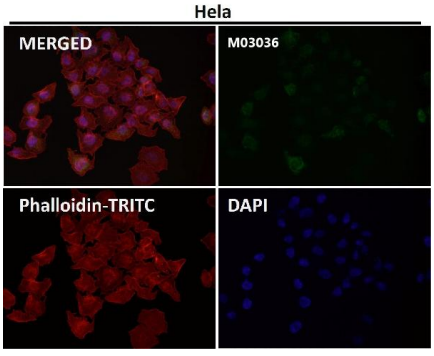
Immunofluorescent analysis using the Antibody at 1:50 dilution.



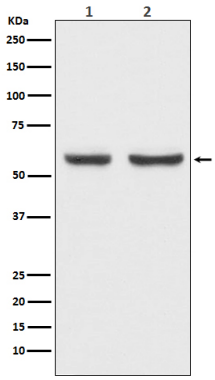
Immunofluorescent analysis using the Antibody at 1:50 dilution.



Immunofluorescent analysis using the Antibody at 1:150 dilution.



Immunofluorescent analysis using the Antibody at 1:150 dilution.



Western blot analysis of xCT expression in (1) HepG2 cell lysate; (2) Mouse brain lysate.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.