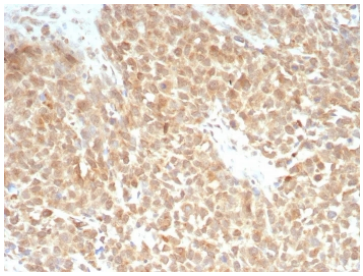
xCT Antibody / Ferroptosis Regulator Antibody [clone SLC7A11/9136R] (V5627)

Catalog No.	Formulation	Size
V5627-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V5627-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V5627SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

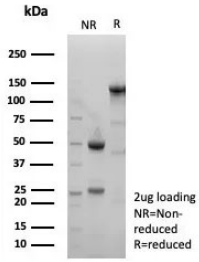
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	SLC7A11/9136R
Purity	Protein A/G affinity
UniProt	Q9UPY5
Localization	Cytoplasm, membrane
Applications	Immunohistochemistry (FFPE): 1-2ug/ml
Limitations	This xCT Antibody / Ferroptosis Regulator Antibody is available for research use only.



xCT Antibody Triple Negative Breast Cancer IHC. Immunohistochemistry staining of FFPE human triple negative breast cancer tissue using recombinant rabbit monoclonal clone SLC7A11/9136R demonstrates diffuse cytoplasmic and membranous HRP-DAB brown staining in malignant tumor cells, consistent with expression of SLC7A11 / xCT, a cystine-glutamate transporter associated with oxidative stress regulation, glutathione metabolism, and ferroptosis resistance in aggressive breast carcinoma. HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



SDS-PAGE analysis of purified, BSA-free xCT antibody (clone SLC7A11/9136R) as confirmation of integrity and purity.

Description

Solute carrier family 7 member 11 (SLC7A11), commonly known as xCT, is the light chain subunit of the system xc- cystine-glutamate antiporter responsible for cystine uptake and glutamate export across the plasma membrane. xCT Antibody / Ferroptosis Regulator Antibody recognizes a transporter protein that plays a central role in glutathione synthesis, oxidative stress adaptation, redox homeostasis, and ferroptosis resistance in normal and malignant cells.

xCT antibody, also referred to as SLC7A11 antibody and cystine-glutamate transporter antibody in the literature, is widely used in cancer metabolism, ferroptosis, immunometabolism, and oxidative stress research. Clone SLC7A11/9136R recombinant rabbit monoclonal antibody supports investigation of tumor-associated metabolic adaptation pathways and cellular responses to reactive oxygen species, nutrient stress, and ferroptotic cell death signaling.

xCT is primarily localized to the plasma membrane and functions together with SLC3A2/CD98hc to mediate sodium-independent cystine transport. Imported cystine is rapidly reduced intracellularly to cysteine, a critical precursor required for glutathione biosynthesis and antioxidant defense mechanisms. Through this activity, SLC7A11 helps maintain intracellular redox balance and protects cells from lipid peroxidation-induced ferroptotic death.

In cancer biology, elevated xCT expression is strongly associated with aggressive metabolic phenotypes, oxidative stress resistance, therapy adaptation, and tumor cell survival under nutrient-limited conditions. Increased SLC7A11 expression has been reported in triple negative breast cancer, lung cancer, glioma, pancreatic carcinoma, hepatocellular carcinoma, colorectal carcinoma, and additional malignancies characterized by high oxidative stress burdens and metabolic plasticity.

xCT has become one of the most widely studied regulators of ferroptosis, an iron-dependent form of programmed cell death driven by lipid peroxidation. Inhibition of SLC7A11 activity reduces intracellular cysteine availability, impairs glutathione synthesis, and sensitizes tumor cells to ferroptotic injury. Because of this central role in ferroptosis regulation, xCT is increasingly investigated as a therapeutic target in cancer metabolism and drug resistance research.

Immunohistochemistry staining with xCT antibodies commonly demonstrates cytoplasmic and membranous staining patterns in malignant epithelial cells, consistent with transporter-associated localization and active metabolic signaling states. Elevated xCT expression in triple negative breast cancer is particularly associated with oxidative stress adaptation and ferroptosis resistance mechanisms linked to aggressive tumor behavior and therapy resistance.

Western blot analysis typically identifies xCT near 35-40 kDa, consistent with the predicted molecular weight of SLC7A11, although variable migration may occur due to glycosylation state, membrane-associated processing, or transporter complex formation. Detection of xCT in tumor-derived cells further supports its relevance as a cancer-associated metabolic transporter and ferroptosis pathway regulator.

Explore additional Metabolism Antibodies targeting amino acid transport, glutathione regulation, oxidative stress pathways, and ferroptosis-related metabolic proteins.

Application Notes

Optimal dilution of the xCT Antibody / Ferroptosis Regulator Antibody should be determined by the researcher.

Immunogen

A recombinant fragment of human SLC7A11 protein was used as the immunogen for the recombinant xCT antibody.

Storage

Aliquot the xCT antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

xCT antibody, SLC7A11 antibody, cystine-glutamate transporter antibody, system xc- transporter antibody, ferroptosis regulator antibody, xCT recombinant rabbit monoclonal antibody

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