abcam

ab216876

Anti-xCT antibody

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Preservative: 0.01% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Polyclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Purification technique	Affinity purification
Concentration	1.02 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1 µg/mL
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.

Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	10 µg/mL
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information Cystine/glutamate transporter

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).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

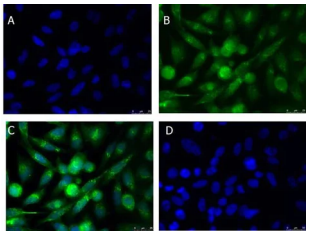
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

4 product images



Immunocytochemistry/ Immunofluorescence - Anti-xCT antibody (ab216876)

XCT Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-xCT antibody

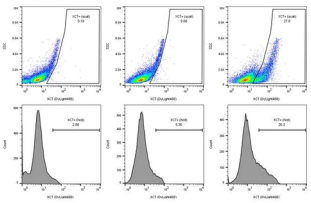
Immunofluorescent analysis of PC-3 (human prostate adenocarcinoma cell line) cells labeling xCT with ab216876 at 10 µg/mL for 1 hour, followed by anti-Rabbit IgG DyLight™ 488 Conjugated Preadsorbed secondary antibody at 5 µg/mL for 1 hour at RT (green). Cells were fixed with 100% methanol.
The nuclear counter stain is DAPI (blue).

A: DAPI

B: Primary followed by Anti-rabbit IgG Dylight™ 488

C: Merged images

D: Secondary only control



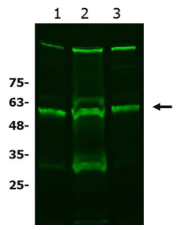
Flow Cytometry - Anti-xCT antibody (ab216876)

XCT Flow Cytometry staining using rabbit Anti-xCT antibody

Flow cytometric analysis of human breast carcinoma cells labeling xCT with ab216876 at 1 µg/mL for 1 hour at 4°C. Rabbit IgG Antibody Dylight™488 Conjugated pre-adsorbed secondary antibody was used at 1 µg/mL for one hour on ice.
Left panels: Unstained.

Middle panels: Secondary antibody only.

Right panels: Primary and secondary antibodies.



Western blot - Anti-xCT antibody (ab216876)

Dilution buffer: 0.01% sodium azide in PBS.
xCT processing caused by dimerization, glycosylation, and/or phosphorylation may cause other bands.

All lanes:
Western blot - Anti-xCT antibody (ab216876) at 1/1000 dilution

Lane 1:
A549 (human lung carcinoma cell line) whole cell lysate at 10 µg

Lane 2:
HCT 116 (human colorectal carcinoma cell line) whole cell lysate at 10 µg

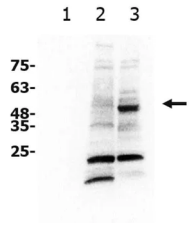
Lane 3:
HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysate at 10 µg

Secondary

All lanes:
anti-rabbit secondary DyLight 488 antibody at 1/20000 dilution

Predicted band size: 55 kDa

Observed band size: 56 kDa



Western blot - Anti-xCT antibody (ab216876)

Exposure time: 15-30 seconds.
Blocking buffer: 5% BSA.

Dilution buffer: 0.01% sodium azide in PBS.

xCT processing caused by dimerization, glycosylation, and/or phosphorylation may cause other bands.

All lanes:
Western blot - Anti-xCT antibody (ab216876) at 1/1000 dilution

Lane 1:
Recombinant Bcl3 (unrelated negative control) at 10 µg

Lane 2:
NIH/3T3 (mouse embryonic fibroblast cell line) whole cell lysate at 10 µg

Lane 3:
A549 (human lung carcinoma cell line) whole cell lysate at 10 µg

Secondary

All lanes:
anti-rabbit secondary HRP antibody at 1/70000 dilution

Predicted band size: 55 kDa

Observed band size: 56 kDa

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