abcam

ab326135

Alexa Fluor® 488 Anti-ASCT2 antibody [CAL33]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 488
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	CAL33
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt (Intra)

Tested

Species	Human

Dilution info	1/500
Notes	-

Target data

See full target information SLC1A5

Function	Sodium-coupled antiporter of neutral amino acids. In a tri-substrate transport cycle, exchanges neutral amino acids between the extracellular and intracellular compartments, coupled to the inward cotransport of at least one sodium ion (PubMed:17094966, PubMed:23756778, PubMed:26492990, PubMed:29872227, PubMed:34741534, PubMed:8702519, PubMed:39095408, PubMed:27272177). The preferred substrate is the essential amino acid L-glutamine, a precursor for biosynthesis of proteins, nucleotides and amine sugars as well as an alternative fuel for mitochondrial oxidative phosphorylation. Exchanges L-glutamine with other neutral amino acids such as L-serine, L-threonine and L-asparagine in a bidirectional way. Provides L-glutamine to proliferating stem and activated cells driving the metabolic switch toward cell differentiation (PubMed:23756778, PubMed:24953180). The transport cycle is usually pH-independent, with the exception of L-glutamate. Transports extracellular L-glutamate coupled to the cotransport of one proton and one sodium ion in exchange for intracellular L-glutamine counter-ion. May provide for L-glutamate uptake in glial cells regulating glutamine/glutamate cycle in the nervous system (PubMed:32733894). Can transport D-amino acids. Mediates D-serine release from the retinal glia potentially affecting NMDA receptor function in retinal neurons (PubMed:17094966). Displays sodium- and amino acid-dependent but uncoupled channel-like anion conductance with a preference SCN(-) >> NO3(-) > I(-) > Cl(-) (By similarity). Through binding of the fusogenic protein syncytin-1/ERVW-1 may mediate trophoblasts syncytialization, the spontaneous fusion of their plasma membranes, an essential process in placental development (PubMed:10708449, PubMed:23492904, PubMed:38671230). (Microbial infection) Acts as a cell surface receptor for Feline endogenous virus RD114. (Microbial infection) Acts as a cell surface receptor for Baboon M7 endogenous virus. (Microbial infection) Acts as a cell surface receptor for type D simian retroviruses.

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

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Alexa Fluor® is a registered trademark of Molecular Probes, Inc, a Thermo Fisher Scientific Company. The Alexa Fluor® dye included in this product is provided under an intellectual property license from Life Technologies Corporation. As this product contains the Alexa Fluor® dye, the purchase of this product conveys to the buyer the non-transferable right to use the purchased product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). As this product contains the Alexa Fluor® dye the sale of this product is expressly conditioned on the buyer not using the product or its components, or any materials made using the product or its components, in any activity to generate revenue, which may include, but is not limited to use of the product or its components: in manufacturing; (ii) to provide a service, information, or data in return for payment (iii) for therapeutic, diagnostic or prophylactic purposes; or (iv) for resale, regardless of whether they are sold for use in research. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, 5781 Van Allen Way, Carlsbad, CA 92008 USA or outlicensing@thermofisher.com.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The SLC1A5 protein also known as ASCT2 is a sodium-dependent neutral amino acid transporter with a molecular mass of approximately 56 kDa. It plays an important role in the transport of amino acids such as glutamine across the plasma membrane. This transporter is widely expressed in multiple tissues including the liver brain and kidneys. ASCT2 is integral in maintaining amino acid balance within cells facilitating nutrient uptake essential for cellular metabolism and function.
Biological function summary	The SLC1A5 protein contributes to cellular processes by facilitating the uptake of neutral amino acids. ASCT2 operates as a part of a complex of transporters that ensure the supply of critical nutrients within cells impacting metabolic processes like protein synthesis and cell growth. Its function supports the dynamic needs of

	rapidly growing tissues and is especially active in conditions demanding high amino acid turnover.
Pathways	The activity of SLC1A5/ASCT2 is important in amino acid transport pathways particularly influencing the mTOR signaling which plays a significant role in cell growth and metabolic regulation. SLC1A5/ASCT2 interaction with proteins like LAT1 strengthens its involvement in these pathways. These interactions outline a network of nutrient sensing and metabolic control important for cellular proliferation and homeostasis.
Associated diseases and disorders	SLC1A5/ASCT2 shows a significant connection to cancer as many cancer cells exploit its role in glutamine transport to fuel their rapid growth and survival. Additionally its involvement is noted in metabolic disorders where dysregulated amino acid transport can lead to imbalances in cellular metabolism. SLC1A5/ASCT2 has potential interactions with proteins like glutaminase which are often upregulated in oncogenic pathways highlighting its importance as a target for therapeutic interventions.

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

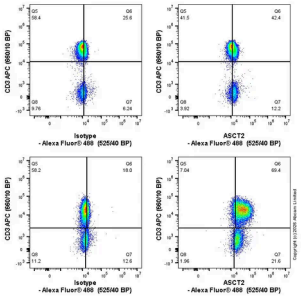
We do not recommend this combination. It is not covered by our product promise.

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.

1 product image



Flow Cytometry (Intracellular) - Alexa Fluor® 488 Anti-ASCT2 antibody [CAL33] (ab326135)

ASCT2 Flow Cytometry (Intracellular) staining of flow cyt: hu pbmc using rabbit Anti-ASCT2 antibody

Flow cytometry scatter plots showing untreated human peripheral mononuclear cells (PBMCs) (top) and PBMCs activated with 5 µg/ml PHA for 18h (bottom), either stained with ab326135 (right) or isotype control (left). The cells were fixed and permeabilised using BD CytoFix/CytoPerm™ (20 min). The cells were incubated in 1x PBS containing 10 µg/ml human IgG, 10% normal goat serum and BD Pharmingen™ MonoBlock™ Leukocyte Staining Buffer (1/10) to block FC receptors and non-specific protein-protein interaction followed by the antibody (ab326135) (1x 106 in 100µl at 1 µg/ml (1/500)) for 30min on ice. Isotype control antibody was Alexa Fluor® 488 Rabbit IgG, monoclonal [EPR25A] - Isotype Control (left). The cells were simultaneously stained with CD3. Acquisition of >30000 events were collected using a 50 mW Blue laser (488nm) and 525/40 bandpass filter.This data was acquired using a Beckman Coulter CytoFlexLX flow cytometer.

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