abcam

ab227679

Anti-B7-H3/CD276 antibody [SP265] - C-terminal

Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.6 Preservative: 0.1% Sodium azide Constituents: PBS, 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	SP265
Purification technique	Affinity purification Protein A/G
Concentration	0.231 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from TCS by protein A/G.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/400
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/100
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/25 - 1/100
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information B7-H3/CD276

Function	May participate in the regulation of T-cell-mediated immune response. May play a protective role in tumor cells by inhibiting natural-killer mediated cell lysis as well as a role of marker for detection of neuroblastoma cells. May be involved in the development of acute and chronic transplant rejection and in the regulation of lymphocytic activity at mucosal surfaces. Could also play a key role in providing the placenta and fetus with a suitable immunological environment throughout pregnancy. Both isoform 1 and isoform 2 appear to be redundant in their ability to modulate CD4 T-cell responses. Isoform 2 is shown to enhance the induction of cytotoxic T-cells and selectively stimulates interferon gamma production in the presence of T-cell receptor signaling.

Storage

Shipped at conditions	Conditional Ambient
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

Supplementary info

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

Activity summary	CD276 also known as B7-H3 is an immunoregulatory protein with a mass of approximately 57 kDa although post-translational modifications can increase its observed size. It is a member of the B7 family which is part of the immunoglobulin superfamily. CD276 is widely expressed in various tissues including placenta liver heart and also in many tumor cells. It is observed in lesser amounts in normal

	tissues making it an interesting target for cancer research. Various assays like HEK293 and HEK293T cell confluency studies often use CD276 to explore its expression under different conditions and seeding densities which are represented in confluency charts.
Biological function summary	CD276 modulates immune responses by acting as a co-inhibitory ligand impacting T-cell proliferation and cytokine synthesis. Not part of a known complex it plays a role in the adaptive immune system by providing negative feedback regulation that can inhibit the immune response. This capability has implications in preventing autoimmunity but may also contribute to tumor immune evasion by reducing effective anti-tumor responses. The B7-H3/CD276 interaction with receptors such as IL receptor family members suggests its diverse immunomodulatory functions.
Pathways	CD276 participates in the T-cell receptor (TCR) signaling pathways influencing immune checkpoint pathways. It interacts with other immune checkpoint proteins like PD-L1 and CTLA-4 but its exact receptor partner remains unidentified. The presence of CD276 in these pathways highlights its role in controlling T-cell activation and tolerance. By modulating TCR signals and impacting downstream effects CD276 serves as a regulatory point that can balance immune activation and inhibition critical in immune-mediated conditions.
Associated diseases and disorders	CD276 has strong associations with cancer particularly in solid tumors such as prostate and breast cancer. It is often overexpressed in malignant tissues contributing to immune evasion by tumors. Researchers propose it as a potential target for cancer immunotherapy due to this attribute. CD276's link to disorders like asthma has also been suggested where its interaction with proteins involved in inflammatory pathways such as IL response elements can exacerbate the condition. This implicates it as a dual-role protein in both disease progression and potential therapeutic targeting.

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

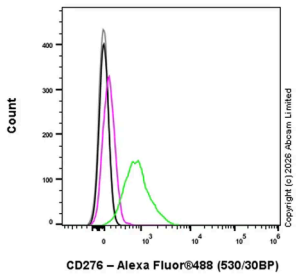
We do not recommend this combination. It is not covered by our product promise.

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.

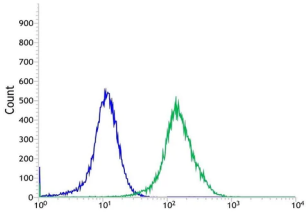
5 product images



Flow Cytometry (Intracellular) - Anti-B7-H3/CD276 antibody [SP265] - C-terminal (ab227679)

B7-H3/CD276 Flow Cytometry (Intracellular) staining using rabbit Anti-B7-H3/CD276 antibody

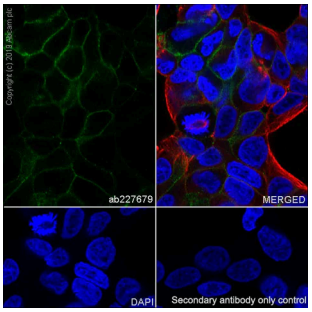
Flow cytometric overlay histogram analysis of 4% paraformaldehyde cells labelling CD276 KO HEK293T (ED040783) (Magenta and grey) cells permeabilised with 90% methanol and Parental HEK293T (EDWT04) (Green and black) cells permeabilised with 90% methanol labelling CD276 with ab227679 at 1/20 dilution (Magenta and Green) compared with a Rabbit monoclonal IgG (ab172730) (Black and Grey) Isotype control. Goat Anti-Rabbit IgG (Alexa Fluor® 488) (ab150081), at 1/5000 dilution was used as the secondary antibody.



Flow Cytometry - Anti-B7-H3/CD276 antibody [SP265] - C-terminal (ab227679)

B7-H3/CD276 Flow Cytometry staining using rabbit Anti-B7-H3/CD276 antibody

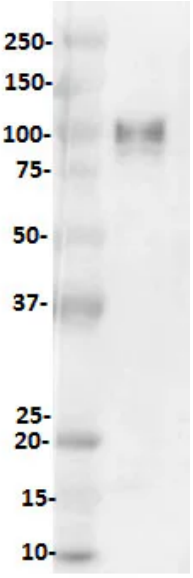
Flow cytometric analysis of PC-3 (human prostate adenocarcinoma cell line) cell line labeling CC276 with ab227679 at 1/400 (green) compared with a rabbit isotype control (blue).



Immunocytochemistry/ Immunofluorescence - Anti-B7-H3/CD276 antibody [SP265] - C-terminal (ab227679)

B7-H3/CD276 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-B7-H3/CD276 antibody

Immunocytochemistry/ Immunofluorescence analysis of LNCaP (Human prostate carcinoma epithelial cell) cells labeling CD276 with purified ab227679 at 1/25 (9.24 µg/ml). Cells were fixed in 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488 ab150077) was used as the secondary antibody at 1/1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Western blot - Anti-B7-H3/CD276 antibody [SP265] - C-terminal (ab227679)

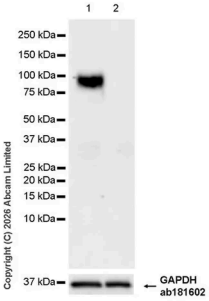
B7-H3/CD276 Western blot staining of Hs 700T (human pancreatic adenocarcinoma cell line) cell lysate using rabbit Anti-B7-H3/CD276 antibody

All lanes:
Western blot - Anti-B7-H3/CD276 antibody [SP265] - C-terminal (ab227679) at 1/100 dilution

All lanes:
Hs 700T (human pancreatic adenocarcinoma cell line) cell lysate

Developed using the ECL technique.

Predicted band size: 57 kDa



Western blot - Anti-B7-H3/CD276 antibody [SP265] - C-terminal (ab227679)

B7-H3/CD276 Western blot staining using rabbit Anti-B7-H3/CD276 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Performed under reducing conditions.

In Western blot, ab227679 was shown to bind specifically to CD276. Target of interest was observed at 90-100 kDa in wild-type HEK-293T cell lysates (lane 1) with no signal observed at this size in CD276 knockout cell line (lane 2) (lane 2, knockout cell line ab266658.

All lanes:
Western blot - Anti-B7-H3/CD276 antibody [SP265] - C-terminal (ab227679) at 1/1000 dilution

Lane 1:
Wild-type HEK-293T (human embryonic kidney epithelial cell) whole cell lysate at 50 µg

Lane 2:
CD276 knockout HEK-293T whole cell lysate at 50 µg

Lane 2:
Western blot - Human CD276 knockout HEK-293T cell line (ab266658) at 50 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Performed under reducing conditions.

Observed band size: 90-110 kDa, 36 kDa

Exposure time: 26s

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