abcam

ab224194

Anti-CD7 antibody [EPR22065]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR22065
Purification technique	Affinity purification Protein A
Concentration	0.462 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1/500
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Target data

See full target information CD7

Function	Transmembrane glycoprotein expressed by T-cells and natural killer (NK) cells and their precursors (PubMed:7506726). Plays a costimulatory role in T-cell activation upon binding to its ligand K12/SECTM1 (PubMed:10652336). In turn, mediates the production of cytokines such as IL-2 (PubMed:1709867). On resting NK-cells, CD7 activation results in a significant induction of interferon-gamma levels (PubMed:7506726).

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

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.

Supplementary info

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

Activity summary	CD7 also known as Leu-9 or GP40 is a cell surface protein with a mass of approximately 40 kDa. The target is mainly expressed on T cells and NK cells and can be found during early T-cell development. Researchers also report CD7 expression in some B cell lineage progenitors. The CD7 function involves mediating cell signal transduction which contributes to the activation and differentiation of immune cells making it an important target in immunology studies.
Biological function summary	CD7 plays a role in modulating interactions between immune cells without being part of a larger complex. It bridges interactions promoting immune responses by influencing T cell proliferation and cytokine production. CD7 control is important in regulating immune response intensity and provides an essential checkpoint in immune system modulation. Variations in CD7 function can significantly influence immune cell behavior impacting host defense mechanisms.
Pathways	CD7 participates in immune signaling pathways such as the T-cell receptor (TCR) signaling pathway. This pathway is essential for T cell activation and involves proteins like CD3 and ZAP-70 which work together with CD7 to transduce activation signals. Alterations in the CD7 pathway can affect the downstream signaling events leading to changes in immune cell activation and function.

Associated diseases and disorders	Aberrations in CD7 expression or function link to conditions like T-cell acute lymphoblastic leukemia (T-ALL) and certain autoimmune diseases. In T-ALL abnormal CD7 expression serves as an indicator for diagnosis and disease progression monitoring. CD7 also interacts with proteins such as CD45 and CD3 which play roles in leukemogenesis and immune system dysregulation. Studies also explore anti-CD7 strategies for therapeutic interventions aiming to modulate its activity for treating these conditions effectively.

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

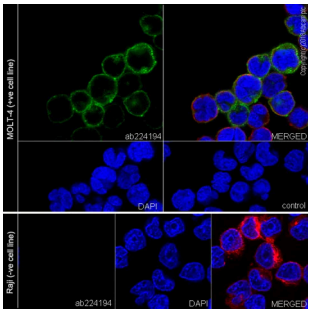
We do not recommend this combination. It is not covered by our product promise.

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



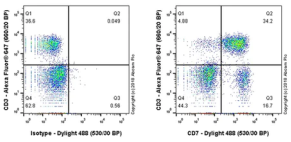
Immunocytochemistry/ Immunofluorescence - Anti-CD7 antibody [EPR22065] (ab224194)

CD7 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CD7 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized MOLT-4 (human lymphoblastic leukemia cell line) cells labeling CD7 with ab224194 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing Membranous staining in MOLT-4 cells. The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) at 1/200 dilution (red).

PDS only control: Used PBS instead of primary antibody, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.

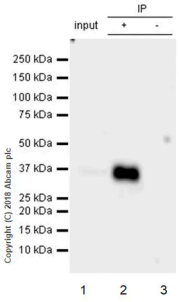
Negative control: Raji (PMID: 16332967).



Flow Cytometry - Anti-CD7 antibody [EPR22065] (ab224194)

CD7 Flow Cytometry staining using rabbit Anti-CD7 antibody

Human PBMCs (peripheral blood mononuclear cells) were stained with Alexa Fluor® 647-conjugated anti-human CD3 and rabbit IgG - ab172730 (Left) or CD7 - ab224194 at 1/500 (Right). Goat anti-Rabbit IgG Fc (Dylight® 488, ab98462), at 1/2000 dilution was used as the secondary antibody. Data shown was gated on viable cells. The expression pattern of CD7 is consistent with literature. (PMID: 3260936)



Immunoprecipitation - Anti-CD7 antibody [EPR22065] (ab224194)

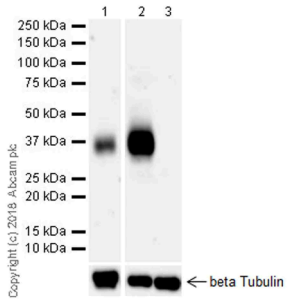
CD7 was immunoprecipitated from 0.35 mg of human tonsil lysate with ab224194 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab224194 at 1/500 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/1000 dilution.
Lane 1: Human tonsil lysate 10 µg (Input).
Lane 2: ab224194 IP in human tonsil lysate lysate (+).
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab224194 in human tonsil lysate (-).

Blocking and dilution buffer and concentration: 5% NFDM/TBST.
Exposure time: 30 seconds.

All lanes:
Immunoprecipitation - Anti-CD7 antibody [EPR22065] (ab224194)

Predicted band size: 25 kDa

Observed band size: 37 kDa



Western blot - Anti-CD7 antibody [EPR22065] (ab224194)

CD7 Western blot staining using rabbit Anti-CD7 antibody

Blocking and dilution buffer: 5% NFDM/TBST.
This blot was developed using a higher sensitivity ECL substrate.

The molecular mass observed is consistent with what has been described in the literature (PMID: 24157461, PMID: 2479685); the actual size different from the predicted is due to glycosylation (PMID: 2479685).

Negative control: Raji (PMID: 1633296, PMID: 11389079).

All lanes:
Western blot - Anti-CD7 antibody [EPR22065] (ab224194) at 1/1000 dilution

Lane 1:
MOLT-4 (human lymphoblastic leukemia cell line) whole cell lysate at 20 µg

Lane 2:
HepG2 (human liver hepatocellular carcinoma cell line) whole cell lysate at 20 µg

Lane 3:
Raji (human Burkitt's lymphoma cell line) whole cell lysate at 10 µg

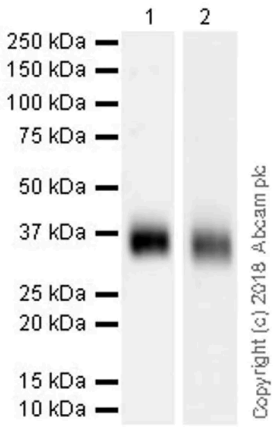
Secondary

All lanes:
Western blot - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/1000 dilution

Predicted band size: 25 kDa

Observed band size: 37 kDa

Exposure time: 3min



Western blot - Anti-CD7 antibody [EPR22065] (ab224194)

Blocking and dilution buffer: 5% NFDM/TBST.
Exposure times:

Lane 1: 3 minutes

Lane 2: 48 seconds

This blot was developed using a higher sensitivity ECL substrate.

The molecular mass observed is consistent with what has been described in the literature (PMID: 24157461, PMID: 2479685); the actual size different from the predicted is due to glycosylation (PMID: 2479685).

All lanes:
Western blot - Anti-CD7 antibody [EPR22065] (ab224194) at 1/1000 dilution

Lane 1:
Human tonsil lysate at 20 µg

Lane 2:
Human thymus lysate at 20 µg

Secondary

All lanes:
Western blot - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/1000 dilution

Predicted band size: 25 kDa

Observed band size: 37 kDa

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