abcam

ab135372

Anti-CD3 antibody [SP162]

Anti-CD3 antibody [SP162] (ab135372) is a rabbit monoclonal antibody detecting CD3 in **Western Blot, Flow Cytometry (Intra), IHC-P, ICC/IF**. Suitable for **Human, Mouse**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 50 publications

Lab Essentials | Recombinant | RabMAb | 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	SP162
Purification technique	Affinity purification Protein A/G
Concentration	0.011 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

IHC-P

Tested

Species	Human
Dilution info	1/150
Notes	Incubate with primary antibody for 10 minutes at room temperature.

Expected

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

Predicted

Species	Rat, Rabbit, Chicken, Cow, Dog, Pig
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/50 - 1/200
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Species	Human
Dilution info	1/50 - 1/200
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Rat, Rabbit, Chicken, Cow, Dog, Pig
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/150
Notes	Incubate for 1 hour at room temperature.

Expected

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

Predicted

Species	Rat, Rabbit, Chicken, Cow, Dog, Pig
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/10
Notes	-

Species	Human
Dilution info	1/10
Notes	-

Predicted

Species	Rat, Rabbit, Chicken, Cow, Dog, Pig
Dilution info	-

Notes	-

Target data

See full target information CD3E

Function	Part of the TCR-CD3 complex present on T-lymphocyte cell surface that plays an essential role in adaptive immune response (PubMed:15294938, PubMed:15546002, PubMed:2470098, PubMed:40592325, PubMed:8490660). When antigen presenting cells (APCs) activate T-cell receptor (TCR), TCR-mediated signals are transmitted across the cell membrane by the CD3 chains CD3D, CD3E, CD3G and CD247/CD3Z (PubMed:2470098, PubMed:40592325). All CD3 chains contain immunoreceptor tyrosine-based activation motifs (ITAMs) in their cytoplasmic domain (PubMed:2470098, PubMed:40592325). Upon TCR engagement, these motifs become phosphorylated by Src family protein tyrosine kinases LCK and FYN, resulting in the activation of downstream signaling pathways (PubMed:2470098, PubMed:40592325). CD3E ITAM phosphorylation creates docking sites for the protein kinase ZAP70 leading to ZAP70 phosphorylation and its conversion into a catalytically active enzyme (By similarity). In addition of this role of signal transduction in T-cell activation, CD3E plays an essential role in correct T-cell development (By similarity). Also participates in internalization and cell surface down-regulation of TCR-CD3 complexes via endocytosis sequences present in CD3E cytosolic region (PubMed:10384095, PubMed:26507128). In addition to its role as a TCR coreceptor, it serves as a receptor for ITPRIPL1 (PubMed:38614099). Ligand recognition inhibits T-cell activation by promoting interaction with NCK1, which prevents CD3E-ZAP70 interaction and blocks the ERK-NFkB signaling cascade and calcium influx (PubMed:12110186, PubMed:38614099).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

Anti-CD3 antibody [SP162] (ab135372) was developed by Abcam using patented rabbit monoclonal antibody technology and is validated for use in Flow Cyt (Intra), ICC/IF, IHC-P and WB.

Abcam's high quality manufacturing and validation processes ensure Anti-CD3 antibody [SP162] (ab135372) has high sensitivity and specificity alongside high lot-to-lot consistency and reproducibility.

Anti-CD3 antibody [SP162] (ab135372) has 4 independent reviews from customers.

Anti-CD3 antibody [SP162] (ab135372) specifically detects CD3 (UniProt ID: P07766; Molecular weight: 21kDa) and is sold in 100 µL, 500 µL and 1 mL selling sizes.

Conjugation-ready, carrier free format available for antibody clone SP162 - ab245731.

Antibody clone SP162 is also available pre-conjugated to a variety of labels for your convenience - APC, HRP, Alexa Fluor® 488, Alexa Fluor® 647, Alexa Fluor® 555, Alkaline Phosphatase (ab305633, ab305634, ab307134, ab307265, ab307335, ab308972).

Anti-CD3 antibody [SP162] (ab135372) is a clone from the portfolio of Spring Bioscience (Roche) SP clones which have been optimised for immunohistochemistry (IHC).

CD3 is a crucial T cell co-receptor involved in activating both cytotoxic (CD8+) and helper (CD4+) T cells, playing a pivotal role in immune response. In immuno-oncology, targeting CD3 with therapeutic antibodies can enhance T cell-mediated anti-tumor activity, making it a valuable strategy in cancer treatment.

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.

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

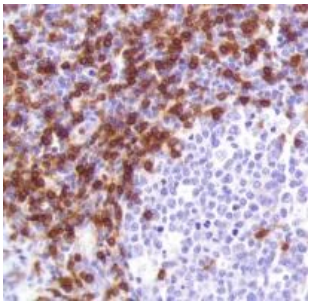
We do not recommend this combination. It is not covered by our product promise.

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.

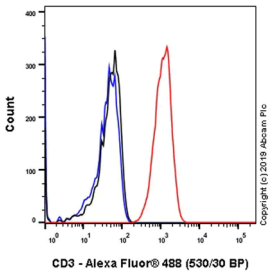
8 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD3 antibody [SP162] (ab135372)

CD3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD3 antibody

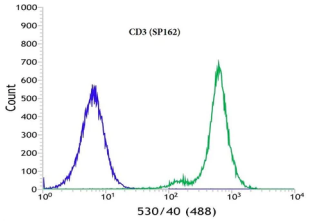
Immunohistochemical analysis of formalin-fixed, paraffin-embedded human tonsil tissue labeling CD3 with ab135372 at a 1/150 dilution.



Flow Cytometry (Intracellular) - Anti-CD3 antibody [SP162] (ab135372)

CD3 Flow Cytometry (Intracellular) staining using rabbit Anti-CD3 antibody

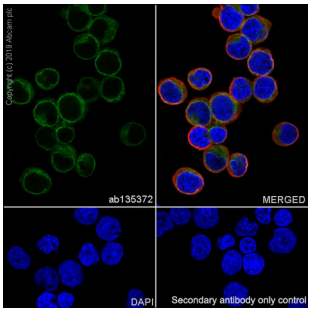
Flow Cytometry analysis of Jurkat (Human T cell leukemia T lymphocyte) cells labeling CD3 with purified ab135372 at 1/200 dilution (0.60 µg/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000 dilution. Isotype control - Rabbit monoclonal IgG (ab172730) / Black. Unlabeled control - Unlabelled cells / blue.



Flow Cytometry (Intracellular) - Anti-CD3 antibody [SP162] (ab135372)

CD3 Flow Cytometry (Intracellular) staining using rabbit Anti-CD3 antibody

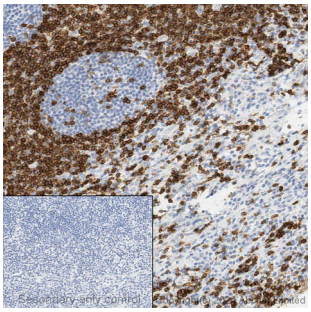
Flow cytometric analysis of rabbit anti-CD3 (SP162) antibody ab135372 (1/150) in Jurkat (Human T cell leukemia cell line from peripheral blood) cells (green) compared to negative control of rabbit IgG (blue).



Immunocytochemistry/ Immunofluorescence - Anti-CD3 antibody [SP162] (ab135372)

CD3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CD3 antibody

Immunocytochemistry/ Immunofluorescence analysis of Jurkat (human T cell leukemia T lymphocyte) cells labeling CD3 with purified ab135372 at 1/10 (10 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.

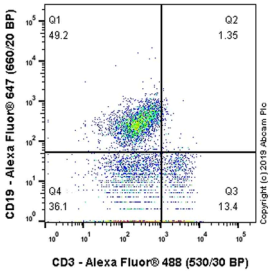


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD3 antibody [SP162] (ab135372)

Immunohistochemical analysis of formalin fixed paraffin embedded Human tonsil labelling CD3 with ab135372 at a dilution of 1/300. The immunostaining was performed on a Ventana DISCOVERY ULTRA (Roche Tissue Diagnostics) instrument with a OptiView DAB IHC Detection Kit. Heat mediated antigen retrieval was performed with DISCOVERY cell conditioning solution (CC1) 100°C, pH8.5 for 32mins.

ab135372 anti CD3 antibody SP162 was incubated for 16mins at 37°C. Sections were counterstained with Hematoxylin II. Image inset shows absence of staining in secondary antibody only control.

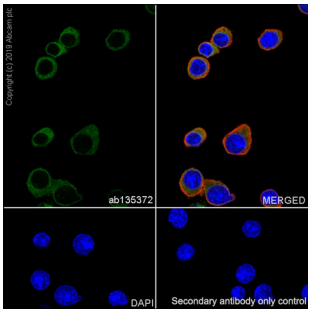
Customers are encouraged to optimise antigen retrieval conditions, antibody concentration, incubation times and temperature for best results in their own IHC assay workflow (automated and manual)



Flow Cytometry (Intracellular) - Anti-CD3 antibody [SP162] (ab135372)

CD3 Flow Cytometry (Intracellular) staining using rabbit Anti-CD3 antibody

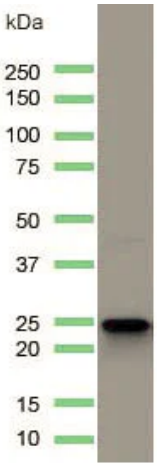
Flow Cytometry analysis of Mouse Splenocyte cells labeling CD3 with purified ab135372 at 1/20 dilution (5.95 µg/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150081) secondary antibody was used at 1/2000 dilution. Isotype control - Rabbit monoclonal IgG (ab172730) / Black. Unlabeled control - Unlabelled cells / blue.



Immunocytochemistry/ Immunofluorescence - Anti-CD3 antibody [SP162] (ab135372)

CD3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CD3 antibody

Immunocytochemistry/ Immunofluorescence analysis of EL4.IL-2 (mouse lymphoma T lymphocyte) cells labeling CD3 with purified ab135372 at 1/10 (10 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-CD3 antibody [SP162] (ab135372)

All lanes:
Western blot - Anti-CD3 antibody [SP162] (ab135372) at 1/150 dilution

All lanes:
Jurkat (Human T cell leukemia cell line from peripheral blood) cell lysate

Predicted band size: 113 kDa, 13 kDa, 14 kDa, 16 kDa, 19 kDa, 30 kDa, 40 kDa, 41 kDa, 51 kDa, 53 kDa, 58 kDa, 59 kDa, 60 kDa, 67 kDa, 68 kDa

Observed band size: 14 kDa, 60 kDa

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