

Product datasheet

Anti-JAK3 antibody [EP909Y] ab45141

Recombinant RabMAb

★★★★★ [1 Abreviews](#) [10 References](#) [9 Images](#)

Overview

Product name	Anti-JAK3 antibody [EP909Y]
Description	Rabbit monoclonal [EP909Y] to JAK3
Host species	Rabbit
Tested applications	Suitable for: Flow Cyt (Intra), WB, IP, IHC-P, ICC/IF
Species reactivity	Reacts with: Human
Immunogen	Synthetic peptide within Human JAK3 aa 1100 to the C-terminus (C terminal). The exact sequence is proprietary. Database link: P52333
Positive control	Flow Cyt (intra): Jurkat cells. WB: TF-1 cell lysate, HEL, KARPAS-299, HaCaT. IHC-P: Human NK cell lymphoma, Human large B cell lymphoma ICC/IF: KARPAS-299IP: TF-1 whole cell lysate
General notes	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none">- High batch-to-batch consistency and reproducibility- Improved sensitivity and specificity- Long-term security of supply- Animal-free production <p>For more information see here.</p> <p>Our RabMAb[®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb[®] patents.</p> <p>Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.20 Preservative: 0.05% Sodium azide Constituents: 0.1% BSA, 40% Glycerol (glycerin, glycerine), 9.85% Tris glycine, 50% Tissue culture supernatant

Purity	Tissue culture supernatant
Clonality	Monoclonal
Clone number	EP909Y
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab45141 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Flow Cyt (Intra)		1/100. ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.
WB		1/2000. Predicted molecular weight: 125 kDa.
IP		1/60.
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
ICC/IF	★★★★★ (1)	Use at an assay dependent concentration.

Target

Function	Tyrosine kinase of the non-receptor type, involved in the interleukin-2 and interleukin-4 signaling pathway. Phosphorylates STAT6, IRS1, IRS2 and PI3K.
Tissue specificity	In NK cells and an NK-like cell line but not in resting T-cells or in other tissues. The S-form is more commonly seen in hematopoietic lines, whereas the B-form is detected in cells both of hematopoietic and epithelial origins.
Involvement in disease	Defects in JAK3 are a cause of severe combined immunodeficiency autosomal recessive T-cell-negative/B-cell-positive/NK-cell-negative (T(-)B(+)NK(-) SCID) [MIM:600802]. A form of severe combined immunodeficiency (SCID), a genetically and clinically heterogeneous group of rare congenital disorders characterized by impairment of both humoral and cell-mediated immunity, leukopenia, and low or absent antibody levels. Patients present in infancy recurrent, persistent infections by opportunistic organisms. The common characteristic of all types of SCID is absence of T-cell-mediated cellular immunity due to a defect in T-cell development.
Sequence similarities	Belongs to the protein kinase superfamily. Tyr protein kinase family. JAK subfamily. Contains 1 FERM domain. Contains 1 protein kinase domain. Contains 1 SH2 domain.
Domain	Possesses two phosphotransferase domains. The second one probably contains the catalytic domain (By similarity), while the presence of slight differences suggest a different role for domain 1.

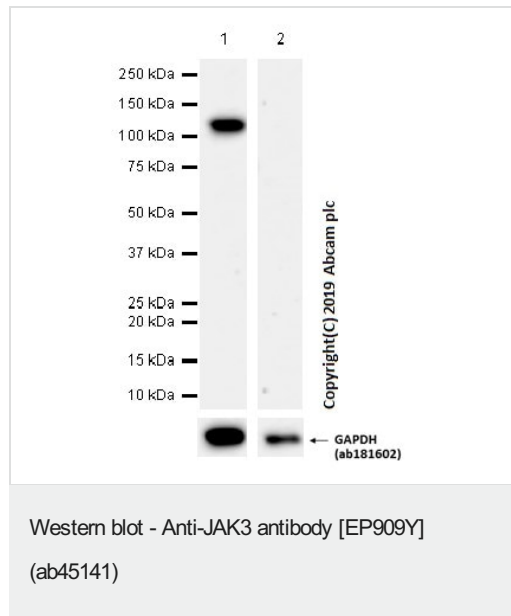
Post-translational modifications

Tyrosine phosphorylated in response to IL-2 and IL-4.

Cellular localization

Endomembrane system. Wholly intracellular, possibly membrane associated.

Images



All lanes : Anti-JAK3 antibody [EP909Y] (ab45141) at 1/1000 dilution

Lane 1 : TF-1 (Human Erythroleukemia erythroblast) whole cell lysate

Lane 2 : HaCaT (Human skin keratinocyte) whole cell lysate

Lysates/proteins at 20 µg per lane.

Secondary

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

Predicted band size: 125 kDa

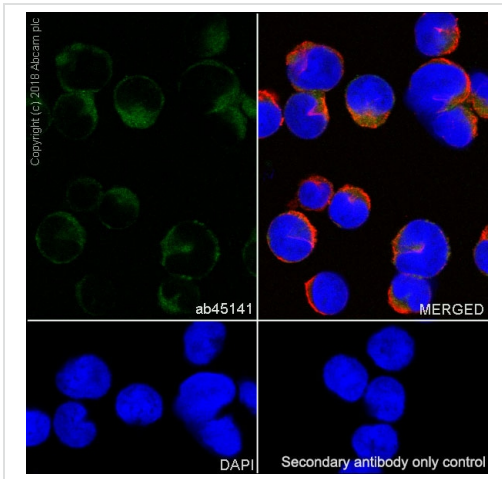
Observed band size: 125 kDa

Exposure time: 3 minutes

Blocking/Diluting buffer and concentration 5% NFDm/TBST

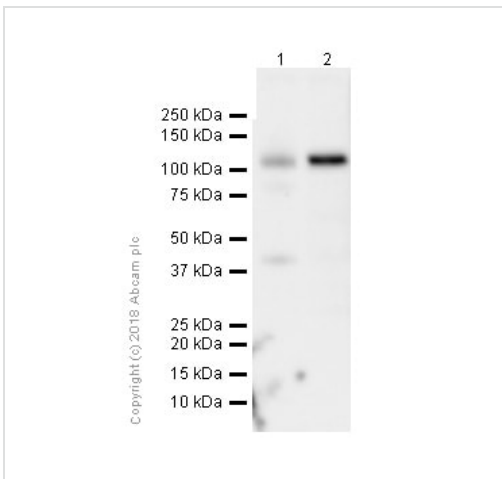
The expression profile observed in HaCaT is consistent with the literature (PMID: 11709700).

Negative control: HaCaT (PMID: 11709700)



Immunocytochemistry/ Immunofluorescence - Anti-JAK3 antibody [EP909Y] (ab45141)

Immunocytochemistry/Immunofluorescence analysis of KARPAS-299 (human anaplastic large cell lymphoma) labelling JAK3 with ab45141 at a dilution of 1:100 (12 µg/ml). Cells were fixed with 100% Methanol. Goat anti rabbit IgG (Alexa Fluor® 488, **ab150077**) (1:1000 dilution (2 µg/ml)) was used as the secondary antibody. The cells were co-stained with Ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Nuclei counterstained with DAPI (blue). Control: PBS instead of the primary antibody.



Western blot - Anti-JAK3 antibody [EP909Y] (ab45141)

All lanes : Anti-JAK3 antibody [EP909Y] (ab45141) at 1.21 µg/ml

Lane 1 : KARPAS-299 (Human anaplastic large cell lymphoma) whole cell lysate

Lane 2 : HEL (Human Erythroleukemia erythroblast) whole cell lysate

Lysates/proteins at 20 µg per lane.

Secondary

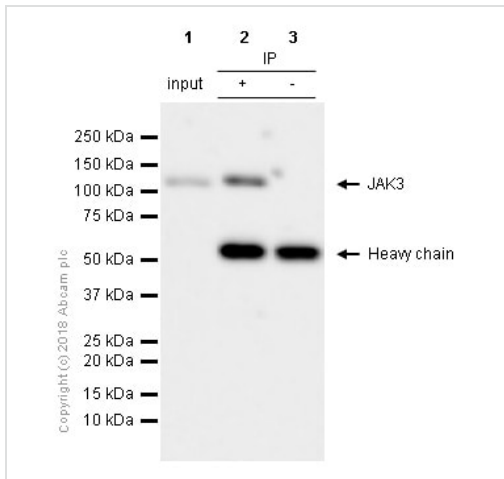
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution

Predicted band size: 125 kDa

Observed band size: 125 kDa

Exposure time: 26 seconds

Blocking and diluting buffer: 5% NFDm/TBST.



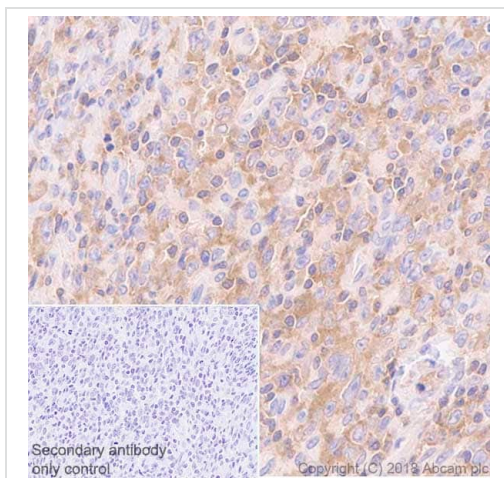
Immunoprecipitation - Anti-JAK3 antibody [EP909Y] (ab45141)

Lane 1 (input): TF-1 (Human Erythroleukemia erythroblast) whole cell lysate, 10µg

Lane 2 (+): TF-1 whole cell lysate

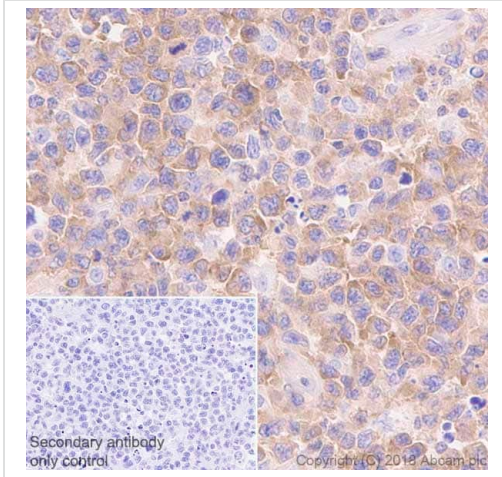
Lane 3 (-): Rabbit monoclonal IgG ([ab172730](#)) instead of ab45141 in TF-1 whole cell lysate.

ab45141 at 1/60 immunoprecipitating JAK3 in TF-1 whole cell lysate. For western blotting, ab45141 was used as a primary antibody at 1/500 dilution (2.42 µg/ml). [ab131366](#), VeriBlot for IP Detection Reagent was used for detection at 1/1000 dilution. Blocking and diluting buffer used was 5% NFDm/TBST.



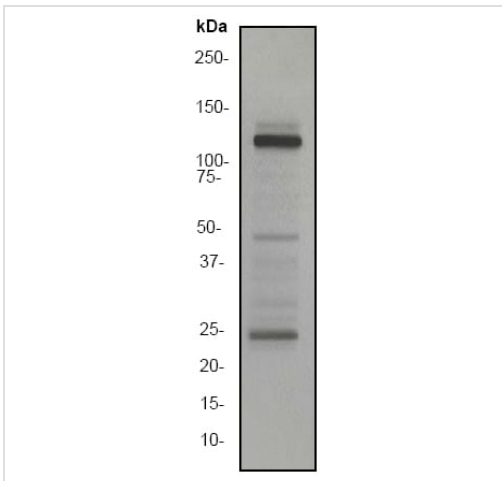
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-JAK3 antibody [EP909Y] (ab45141)

Immunohistochemistry (Formalin/PFA-fixed paraffin embedded sections) analysis of Human NK cell lymphoma tissue sections labeling JAK3 using purified ab45141. Samples were incubated the primary antibody at 1:2000 dilution (0.60 µg/ml). Hematoxylin was used as a counterstain. PBS instead of primary antibody was used for negative control. A ready to use ImmunoHistoProbe one step HRP Polymer at 1:0 dilution was used as the secondary antibody. Heat mediated antigen retrieval was performed using [ab93684](#) (Tris/EDTA buffer, pH 9.0).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-JAK3 antibody [EP909Y] (ab45141)

Immunohistochemistry (Formalin/PFA-fixed paraffin embedded sections) analysis of Human large B cell lymphoma tissue sections labeling JAK3 using purified ab45141. Samples were incubated the primary antibody at 1:2000 dilution (0.60 µg/ml). Hematoxylin was used as a counterstain. PBS instead of primary anitbody was used for negative control. A ready to use ImmunoHistoProbe one step HRP Polymer at 1:0 dilution was used as the secondary antibody. Heatm mediated antigen retrieval was performed using **ab93684** (Tris/EDTA buffer, pH 9.0).

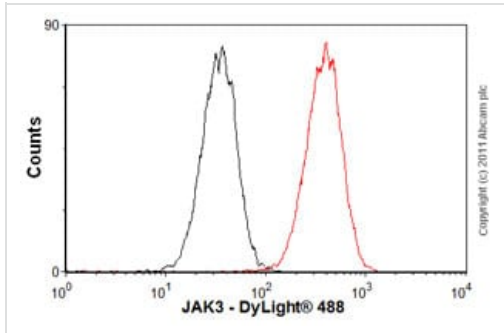


Western blot - Anti-JAK3 antibody [EP909Y] (ab45141)

Anti-JAK3 antibody [EP909Y] (ab45141) at 1/2000 dilution + TF-1 (Human bone marrow erythroleukemia cell line) cell lysate

Predicted band size: 125 kDa





Observed band size: 125 kDa



Flow Cytometry (Intracellular) - Anti-JAK3 antibody [EP909Y] (ab45141)

Overlay histogram showing Jurkat (Human T cell leukemia cell line from peripheral blood) cells stained with ab45141 (red line). The cells were fixed with 80% methanol (5 minutes) and then permeabilized with 0.1% PBS-Tween for 20 minutes. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab45141, 1/100 dilution) for 30 minutes at 22°C. The secondary antibody used was DyLight® 488 goat anti-rabbit IgG (H+L) ([ab96899](#)) at 1/500 dilution for 30 minutes at 22°C. Isotype control antibody (black line) was rabbit IgG (1µg/1x10⁶ cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in Jurkat cells fixed with 4% paraformaldehyde (10 minutes)/permeabilized in 0.1% PBS-Tween used under the same conditions.

Why choose a recombinant antibody?

 <p>Research with confidence Consistent and reproducible results</p>	 <p>Long-term and scalable supply Recombinant technology</p>
 <p>Success from the first experiment Confirmed specificity</p>	 <p>Ethical standards compliant Animal-free production</p>

Anti-JAK3 antibody [EP909Y] (ab45141)

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