

Anti-ZAP70 antibody [ZAP-03] ab38871

★★★★★ [1 Abreviews](#) [6 Images](#)

Overview

Product name	Anti-ZAP70 antibody [ZAP-03]
Description	Mouse monoclonal [ZAP-03] to ZAP70
Host species	Mouse
Specificity	ab38871 recognises ZAP-70, a 70 kDa protein tyrosine kinase expressed in T and NK cells.
Tested applications	Suitable for: Flow Cyt (Intra), WB
Species reactivity	Reacts with: Human
Immunogen	Recombinant fragment representing C-terminal part (160 amino acids) of human ZAP-70.
Positive control	WB: HPB-ALL human peripheral blood leukemia T-cell line. Flow Cyt (Intra): Human B-CLL peripheral blood.
General notes	<p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As</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 long term.
Storage buffer	pH: 7.40 Preservative: 0.097% Sodium azide Constituent: PBS
Purity	Protein A purified
Purification notes	Purified from hybridoma culture supernatant. Purity >95% by SDS-PAGE.
Clonality	Monoclonal
Clone number	ZAP-03
Isotype	IgG1

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab38871 in the following tested applications.

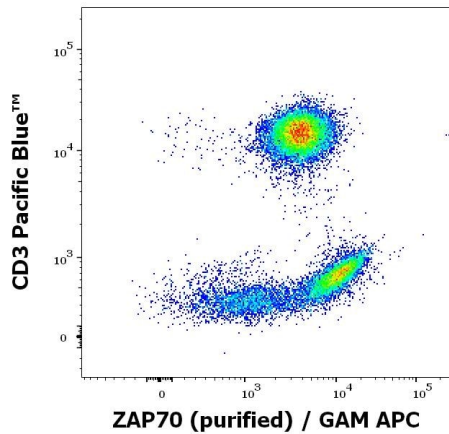
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Flow Cyt (Intra)		Use a concentration of 2 - 5 µg/ml. ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.
WB	★★★★★ (1)	Use a concentration of 0.5 µg/ml. Detects a band of approximately 70 kDa (predicted molecular weight: 70 kDa).

Target

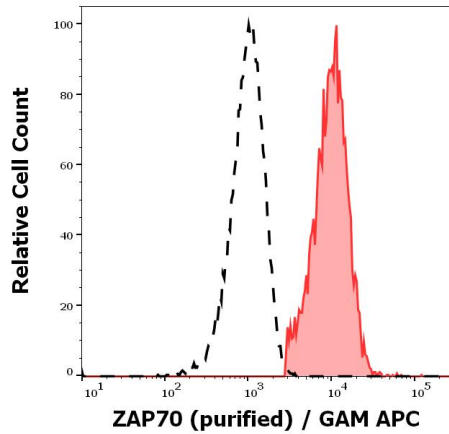
Function	Plays a role in T-cell development and lymphocyte activation. Essential for TCR-mediated IL-2 production. Isoform 1 induces TCR-mediated signal transduction, isoform 2 does not.
Tissue specificity	Expressed in T- and natural killer cells.
Involvement in disease	Defects in ZAP70 are the cause of selective T-cell defect (STD) [MIM:176947]. STD is an autosomal recessive form of severe combined immunodeficiency characterized by a selective absence of CD8-type T-cells.
Sequence similarities	Belongs to the protein kinase superfamily. Tyr protein kinase family. SYK/ZAP-70 subfamily. Contains 1 protein kinase domain. Contains 2 SH2 domains.
Domain	The SH2 domains bind to the phosphorylated tyrosine-based activation motif (TAM) of CD3Z and the non-canonical phosphorylated tyrosine-based activation motif (TAM) of RHOH.
Post-translational modifications	Phosphorylated on tyrosine residues upon T-cell antigen receptor (TCR) stimulation. Tyr-319 phosphorylation is essential for full activity.
Cellular localization	Cytoplasm. Cell membrane. After antigen stimulation, isoform 1 concentrates at the immunological synapse and isoform 2 remains cytoplasmic. Co-localizes together with RHOH in the immunological synapse. RHOH is required for its proper localization to the cell membrane and cytoskeleton fractions in the thymocytes.

Images



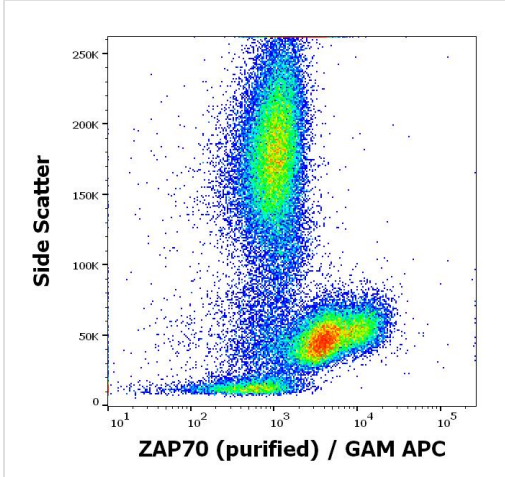
Flow Cytometry (Intracellular) - Anti-ZAP70 antibody
[ZAP-03] (ab38871)

Flow cytometry multicolor intracellular staining of human peripheral whole blood stained using ab38871 (concentration in sample 9 $\mu\text{g/ml}$, GAM APC) and anti-human CD3 (UCHT1) Pacific Blue™ antibody (20 μl reagent / 100 μl of peripheral whole blood).



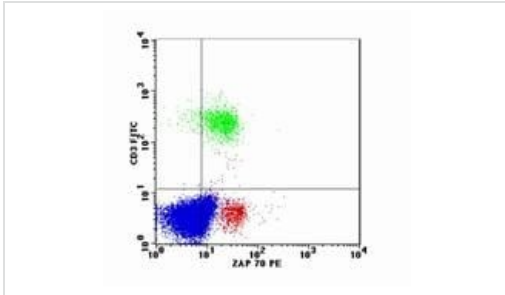
Flow Cytometry (Intracellular) - Anti-ZAP70 antibody
[ZAP-03] (ab38871)

Separation of human CD3 negative ZAP70 positive lymphocytes (red-filled) from neutrophil granulocytes (black-dashed) in flow cytometry analysis (intracellular staining) of peripheral whole blood stained using ab38871 (concentration in sample 9 $\mu\text{g/ml}$, GAM APC).



Flow Cytometry (Intracellular) - Anti-ZAP70 antibody [ZAP-03] (ab38871)

Flow cytometry intracellular staining pattern of human peripheral whole blood using ab38871 (concentration in sample 9 µg/ml, GAM APC).



Flow Cytometry (Intracellular) - Anti-ZAP70 antibody [ZAP-03] (ab38871)

Intracellular Flow Cytometry analysis of the human peripheral blood of a patient with B-cell chronic lymphatic leukemia (B-CLL) using antibody ab38871; Dot Plot diagram shows the distribution of lymphocyte populations: T-lymphocytes (green), B-lymphocytes (blue) and NK cells (red).



Western blot - Anti-ZAP70 antibody [ZAP-03] (ab38871)

- Lane 1** : Anti-ZAP70 antibody [ZAP-03] (ab38871) at 4 µg/ml
- Lane 2** : Anti-ZAP70 antibody [ZAP-03] (ab38871) at 2 µg/ml
- Lane 3** : Anti-ZAP70 antibody [ZAP-03] (ab38871) at 1 µg/ml
- Lane 4** : Anti-ZAP70 antibody [ZAP-03] (ab38871) at 0.5 µg/ml
- Lane 5** : ZAP-70 specific antibody 1E7.2 at 1 µg/ml
- Lane 6** : Isotypic control PPV-06 (mouse IgG1).

All lanes : HPB-ALL peripheral blood leukemia T-cell line

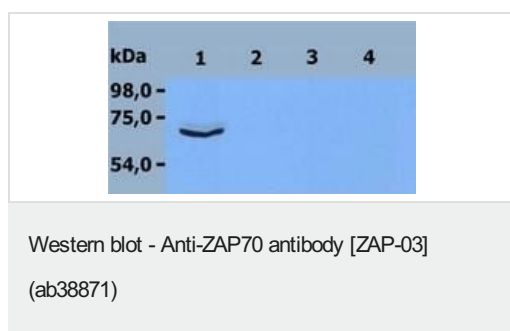
Performed under reducing conditions.

Predicted band size: 70 kDa

Observed band size: 70 kDa

Additional bands at: 55 kDa (possible IgG), 55 kDa (possible degradation product)

Western Blotting analysis of HPB-ALL peripheral blood leukemia T-cell line; SDS-PAGE; 10% separating gel, 4% stacking gel; Reducing conditions. ZAP-70 is a molecule susceptible to degradation. It is recommended to use freshly prepared cell lysates (protease inhibitors are essential) to avoid non-specific staining of degradation products. Western Blotting analysis of HPB-ALL peripheral blood leukemia T-cell line; SDS-PAGE; 10% separating gel, 4% stacking gel. ZAP-70 is a molecule susceptible to degradation. It is recommended to use freshly prepared cell lysates (protease inhibitors are essential) to avoid non-specific staining of degradation products.



Lanes 1-2 : Anti-ZAP70 antibody [ZAP-03] (ab38871) at 0.5 µg/ml

Lanes 3-4 : Isotypic control PPV-06 (mouse IgG1)

Lanes 1 & 3 : HPB-ALL cell line

Lanes 2 & 4 : RAMOS cell line

Performed under reducing conditions.

Predicted band size: 70 kDa

Observed band size: 70 kDa

Western Blotting analysis of HPB-ALL peripheral blood leukemia T-cell line and RAMOS human Burkitt lymphoma cell line; SDS-PAGE; 10% separating gel, 4% stacking gel.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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