abcam

ab95684

FITC Anti-CD116 antibody [4H1]

Anti-CD116 antibody [4H1] conjugated to FITC - suitable for flow cytometry, ICC/IF, and reacts with human samples. Clone [4H1] is a mouse monoclonal antibody cited in 13 publications.

Key facts

Isotype	IgG1
Host species	Mouse
Conjugation	FITC
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.2 Preservative: 0.09% Sodium azide Constituents: PBS, 0.87% Sodium chloride, 0.2% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing CSF2RA protein. The exact immunogen used to generate this antibody is proprietary information. Database link P15509
Clone number	4H1
Purification technique	Affinity purification Protein G
Light chain type	kappa
Concentration	0.2 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	5 µL for 10^6 Cells
Notes	ab106163 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Target data

See full target information CSF2RA

Function	Low affinity receptor for granulocyte-macrophage colony-stimulating factor. Transduces a signal that results in the proliferation, differentiation, and functional activation of hematopoietic cells.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Supplementary info

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

Activity summary	CD116 also known as the CSF2RA (colony-stimulating factor 2 receptor alpha subunit) is a protein that plays an important role in cytokine receptor signaling. It has a mass of approximately 43 kDa. This receptor is widely expressed on the surface of hematopoietic cells including monocytes granulocytes and some T-lymphocytes. Furthermore CD116 presents important interactions with cellular functioning by being part of a heterodimeric receptor complex. It couples with the beta subunit (CSF2RB) together mediating effects of granulocyte-macrophage colony-stimulating factor (GM-CSF).
Biological function summary	The CSF2RA is integral in facilitating cellular communication. It belongs to the cytokine receptor family specifically binding the GM-CSF. This molecule triggers signaling cascades that are essential for the proliferation differentiation and survival of various blood cells. When GM-CSF binds to the receptor complex made of CD116 and CSF2RB it activates downstream pathways influencing these critical processes thereby ensuring proper bone marrow function and immune cell activity.
Pathways	CD116 participates in significant signal transduction cascades. It is involved in the JAK-STAT pathway which plays an important role in regulating immune responses and hematopoiesis. The engagement of GM-CSF with CD116 triggers the activation of JAK kinases followed by STAT protein phosphorylation. Another pathway linked with CD116 is the MAPK pathway which further mediates downstream signals that modulate cellular growth and differentiation integrating input from various activating signals.
Associated diseases and disorders	Abnormalities in CD116 expression and function associate with several health conditions. One example is chronic myelomonocytic leukemia (CMML) where deregulated signaling through the GM-CSF receptor impacts cell proliferation and differentiation. Aberrant CD116 activity also ties into inflammation and autoimmune disorders such as rheumatoid arthritis where overactive signaling can worsen inflammatory responses. Proteins like GM-CSF and its beta receptor subunit CSF2RB accompany these disorders by contributing to the pathway dysregulation observed in these disease states.

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

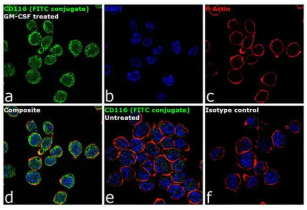
We do not recommend this combination. It is not covered by our product promise.

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.

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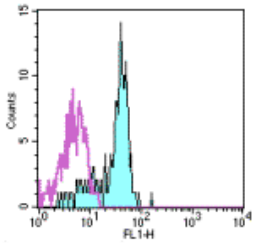
2 product images



Immunocytochemistry/ Immunofluorescence - FITC Anti-CD116 antibody [4H1] (ab95684)

CD116 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-CD116 antibody

Immunofluorescence analysis of CD116 was performed using 70% confluent log phase THP-1 cells treated with 10 ng of GM-CSF for 15 minutes. The cells were fixed with 4% paraformaldehyde for 10 minutes, permeabilized with 0.1% Triton™ X-100 for 10 minutes, and blocked with 1% BSA for 1 hour at room temperature. The cells were labeled with CD116, FITC, using ab95684 at 1:100 dilution in 0.1% BSA and incubated at 4 degree Celsius overnight (Panel a: green). Nuclei (Panel b: blue) were stained with SlowFade® Gold Antifade Mountant with DAPI. F-actin (Panel c: red) was stained with Rhodamine Phalloidin (1:300). Panel d represents the merged image showing membrane localization. Panel e shows untreated cells with less membrane signal. Panel f represents the isotype control. The images were captured at 60X magnification.



Flow Cytometry - FITC Anti-CD116 antibody [4H1] (ab95684)

CD116 Flow Cytometry staining using mouse Anti-CD116 antibody

Flow cytometry staining of normal Human peripheral blood cells with Mouse IgG1 - Isotype Control FITC (open histogram) or 20µl ab95684 (filled histogram). Cells in the monocyte gate were used for analysis.

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