CD116 Antibody / CSF2RA [clone 31C12] (FY13285)

Catalog No.	Formulation	Size
FY13285	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Human
Format	Liquid
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	31C12
Purity	Affinity-chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	P15509
Applications	Western Blot : 1:500-1:2000
Limitations	This CD116 antibody is available for research use only.

Description

CD116 antibody detects Colony stimulating factor 2 receptor alpha, encoded by the CSF2RA gene. Colony stimulating factor 2 receptor alpha is the alpha chain of the receptor for granulocyte macrophage colony stimulating factor, a cytokine that regulates growth, differentiation, and activation of hematopoietic cells. CD116 antibody provides researchers with a valuable reagent to study immune cell proliferation, myeloid biology, and cytokine signaling.

Colony stimulating factor 2 receptor alpha pairs with a common beta chain, shared with IL-3 and IL-5 receptors, to form a functional heterodimeric receptor. Research using CD116 antibody has demonstrated that ligand binding initiates dimerization and activation of JAK2, which then phosphorylates downstream signaling proteins including STAT5. This signaling cascade regulates survival, proliferation, and activation of granulocytes, macrophages, and eosinophils. The alpha chain provides ligand specificity and determines receptor affinity for granulocyte macrophage colony stimulating factor.

Studies with CD116 antibody have revealed that disruption of CSF2RA function impairs myeloid cell development and

immune defense. Loss of function mutations cause X linked pulmonary surfactant metabolism dysfunction, reflecting impaired alveolar macrophage activity. This highlights the critical role of Colony stimulating factor 2 receptor alpha in lung homeostasis and host defense. Conversely, overactivation of the receptor pathway has been implicated in inflammatory diseases, such as asthma and autoimmune disorders.

In cancer biology, CD116 has been linked to leukemia and myelodysplastic syndromes. Research using CD116 antibody has shown that abnormal signaling through the CSF2RA pathway contributes to malignant transformation and proliferation of hematopoietic cells. Because of this, receptor signaling is being explored as a therapeutic target in hematologic malignancies. Monitoring expression with CD116 antibody provides important diagnostic and prognostic information.

CD116 antibody is widely used in flow cytometry, immunohistochemistry, and western blotting. Flow cytometry quantifies receptor expression on myeloid subsets, immunohistochemistry localizes receptor distribution in tissues, and western blotting confirms receptor size and regulation. These applications make CD116 antibody a versatile tool in immunology and hematology research.

By providing validated CD116 antibody reagents, NSJ Bioreagents supports studies into cytokine signaling, immune regulation, and hematopoietic disorders. Detection of Colony stimulating factor 2 receptor alpha allows researchers to investigate how cytokine receptors govern immune system development and disease.

Application Notes

Optimal dilution of the CD116 antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human CD116 was used as the immunogen for the CD116 antibody.

Storage

Store the CD116 antibody at -20oC.

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