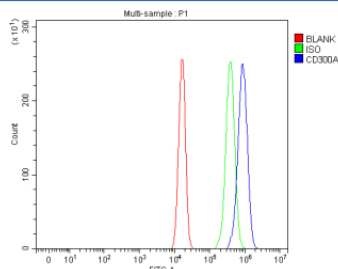


CD300A Antibody (FY12806)

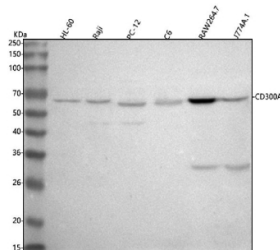
Catalog No.	Formulation	Size
FY12806	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na ₂ HPO ₄ .
UniProt	Q9UGN4
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This CD300A antibody is available for research use only.



Flow Cytometry analysis of U2OS cells using anti-CD300A antibody. Overlay histogram showing U2OS cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-CD300A antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



Western blot analysis of CD300A using anti-CD300A antibody. Lane 1: human HL-60 whole cell lysates, Lane 2: human Raji whole cell lysates, Lane 3: rat PC-12 whole cell lysates, Lane 4: rat C6 whole cell lysates, Lane 5: mouse Raw264.7 whole cell lysates, Lane 6: mouse J774A.1 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-CD300A antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. Although the predicted molecular weight is ~33 kDa, CD300A is known to be heavily glycosylated and migrates at ~60-65 kDa under reducing conditions.

Description

CD300A antibody detects Cluster of differentiation 300A, an inhibitory immunoreceptor expressed on myeloid and lymphoid cells that modulates immune activation and inflammation. Encoded by the CD300A gene on chromosome 17q25.1, this transmembrane glycoprotein belongs to the CD300 family of immunoglobulin-like receptors and plays a key role in maintaining immune homeostasis. CD300A contains a single extracellular Ig-like domain that recognizes phosphatidylserine and other lipids exposed on apoptotic cells, allowing immune cells to distinguish between healthy and dying cells.

Structurally, CD300A possesses multiple immunoreceptor tyrosine-based inhibitory motifs (ITIMs) within its cytoplasmic tail. Upon ligand engagement, these motifs recruit phosphatases such as SHP-1 and SHP-2, which dephosphorylate signaling intermediates and suppress proinflammatory responses. This mechanism dampens activation of monocytes, macrophages, mast cells, and NK cells, preventing excessive inflammation and autoimmune reactions. CD300A thereby acts as a negative regulator of immune activation by balancing activating signals from other CD300 family members.

The CD300A antibody is widely used in immunology, inflammation, and autoimmune disease research to study inhibitory receptor signaling, immune regulation, and apoptotic cell clearance. Flow cytometry and western blot analyses detect a 35-40 kilodalton band corresponding to CD300A, while immunohistochemistry shows strong membrane staining on leukocytes and myeloid cells. This antibody supports analysis of inhibitory receptor expression and function in both innate and adaptive immune systems.

Aberrant CD300A expression has been implicated in autoimmune diseases, allergy, and cancer. Increased expression can suppress antitumor immunity, while reduced expression contributes to hyperinflammatory conditions. The CD300A antibody provides a valuable tool for investigating the balance between immune activation and inhibition in health and disease. NSJ Bioreagents validates this antibody for its applications, ensuring reproducibility and sensitivity in immune signaling research.

Application Notes

Optimal dilution of the CD300A antibody should be determined by the researcher.

Immunogen

E.coli-derived human CD300A recombinant protein (Position: L156-T299) was used as the immunogen for the CD300A antibody.

Storage

After reconstitution, the CD300A antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

