BOSTER BIOLOGICAL TECHNOLOGY
3942 B Valley Ave, Pleasanton, CA 94566
888-466-3604 | support@bosterbio.com | www.bosterbio.com

Anti-CD1D Antibody Picoband®

Catalog Number: A00323

About CD1D

CD1D (CD1d molecule) also known as R3G1, Antigen-presenting glycoprotein CD1d, R3G1, CD1D, is the sole group-2 member of the CD1 family of major histocompatibility (MHC)-like glycoproteins. Expressed on the surface of various human antigen-presenting cells. They are related to the class I MHC molecules, and are involved in the presentation of lipid antigens to T cells. It is the only member of the group 2 CD1 molecules. CD1d presented lipid antigens activate a special class of T cells, known as Natural Killer T (NKT) cells. When activated, NKT cells rapidly produce Th1 and Th2 cytokines, typically represented by interferon-gamma and IL-4 production. Jayawardena-Wolf et al. described 2 different pathways of Cd1d trafficking to endosomal compartments in mouse cells. A tyrosine-based motif governs recycling between the plasma membrane and the endosome, while Cd1d associates, like major histocompatibility complex class II antigens, with the invariant chain, or II, in the endoplasmic reticulum. Both pathways enhance antigen presentation to Cd1d-restricted natural killer T cells.

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Overview

Product Name	Anti-CD1D Antibody Picoband®
Reactive Species	Human, Rat
Description	Boster Bio Anti-CD1D Antibody Picoband® catalog # A00323. Tested in ELISA, Flow Cytometry, WB applications. This antibody reacts with Human, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	ELISA, Flow Cytometry, WB
Clonality	Polyclonal
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Storage Instructions	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P15813

Technical Details

BOSTER
antibody and ELISA experts

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Immunogen	E.coli-derived human CD1D recombinant protein (Position: E20-W295).
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot.
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.25-0.5ug/ml, Human, Rat Flow Cytometry (Fixed), 1-3ug/1x10^6 cells, Human ELISA, 0.1-0.5ug/ml, - Note: For flow cytometry (FCM), suitable for fixed cells only. Not suitable for FACS or surface flow cytometry using live cells.

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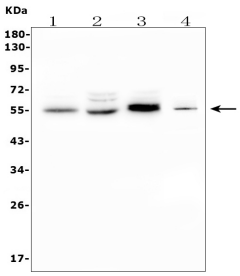
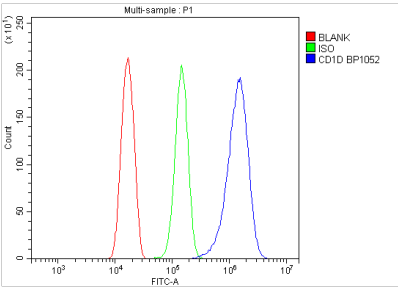
Anti-CD1D Antibody Picoband® (A00323) Images



Western blot analysis of CD1D using anti-CD1D antibody (A00323). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: rat spleen tissue lysates, Lane 2: rat lung tissue lysates, Lane 3: rat heart tissue lysates, Lane 4: human THP-1 whole cell lysates. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA 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-CD1D antigen affinity purified polyclonal antibody (Catalog # A00323) at 0.5 ug/mL overnight at 4°C, 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 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for CD1D at approximately 55KD. The expected band size for CD1D is at 38KD.



Flow Cytometry analysis of U20S cells using anti-CD1D antibody (A00323). Overlay histogram showing U20S cells stained with A00323 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-CD1D Antibody (A00323, 1ug/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10ug/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x106) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

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