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CD1d Recombinant Mouse mAb

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Catalog # AP94292

Product Information

Primary Accession	P15813
Reactivity	Human
Host	Mouse
Clonality	Recombinant
Calculated MW	37717
Physical State	Liquid
Isotype	IgG2b/Kappa
Purity	affinity purified by Protein G
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Nucleus. Chromosome, centromere, kinetochore. Cytoplasm, cytoskeleton, centrosome. Cytoplasm, cytoskeleton, spindle. Midbody. Note=During early stages of mitosis, the phosphorylated form is detected on centrosomes and kinetochores. Localizes to the outer kinetochore. Presence of SGOL1 and interaction with the phosphorylated form of BUB1 is required for the kinetochore localization. Localizes onto the central spindle by phosphorylating and docking at midzone proteins KIF20A/MKLP2 and PRC1.
SIMILARITY	Belongs to the protein kinase superfamily. Ser/Thr protein kinase family. CDC5/Polo subfamily. Contains 2 POLO box domains.
SUBUNIT	Interacts with CEP170 and EVI5. Interacts and phosphorylates ERCC6L. Interacts with FAM29A. Interacts with SLX4/BTBD12 and TTDN1. Interacts with BUB1B. Interacts (via POLO-box domain) with the phosphorylated form of BUB1, MLF1IP and CDC25C. Interacts with isoform 3 of SGOL1. Interacts with BORA, KIF2A and AURKA. Interacts with TOPORS and CYLD. Interacts with ECT2; the interaction is stimulated upon phosphorylation of ECT2 on 'Thr-444'. Interacts with PRC1. Interacts with KIF20A/MKLP2 (when phosphorylated), leading to the recruitment at the central spindle. Interacts (via POLO box domains) with PPP1R12A/MYPT1 (when previously phosphorylated by CDK1). Part of an astrin (SPAG5)-kinastrin (SKAP) complex containing SKAP, SPAG5, PLK1, DYNLL1 and SGOL2. Interacts with BIRC6/bruce.
Post-translational modifications	Catalytic activity is enhanced by phosphorylation of Thr-210. Phosphorylation at Thr-210 is first detected on centrosomes in the G2 phase of the cell cycle, peaks in prometaphase and gradually disappears from centrosomes during anaphase. Autophosphorylation and phosphorylation of Ser-137 may not be significant for the activation of PLK1 during mitosis, but may enhance catalytic activity during recovery after DNA damage checkpoint. Ubiquitinated by the anaphase promoting complex/cyclosome (APC/C) in anaphase and following DNA damage, leading to its degradation by the proteasome. Ubiquitination is mediated via its interaction with FZR1/CDH1. Ubiquitination and subsequent degradation prevents entry into mitosis and is essential to maintain an efficient G2 DNA damage checkpoint.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

Background Descriptions	The Ser/Thr protein kinase encoded by this gene belongs to the CDC5/Polo subfamily. It is highly expressed during mitosis and elevated levels are found in many different types of cancer. Depletion of this protein in cancer cells dramatically inhibited cell proliferation and induced apoptosis; hence, it is a target for cancer therapy. [provided by RefSeq, Sep 2015]

Additional Information

Gene ID	912
Other Names	Antigen-presenting glycoprotein CD1d, R3G1, CD1d, CD1D
Target/Specificity	Placenta and colon.
Dilution	ICC/IF=1:100-500,Flow-Cyt=1:50-200
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	CD1D
Function	Antigen-presenting protein that binds self and non-self glycolipids and presents them to T-cell receptors on natural killer T- cells.
Cellular Location	Cell membrane; Single-pass type I membrane protein. Basolateral cell membrane; Single-pass type I membrane protein. Endosome membrane; Single-pass type I membrane protein. Lysosome membrane; Single-pass type I membrane protein. Endoplasmic reticulum membrane; Single-pass type I membrane protein. Note=Subject to intracellular trafficking between the cell membrane, endosomes and lysosomes.
Tissue Location	Expressed on cortical thymocytes, on certain T-cell leukemias, and in various other tissues

Background

This gene encodes a divergent member of the CD1 family of transmembrane glycoproteins, which are structurally related to the major histocompatibility complex (MHC) proteins and form heterodimers with beta-2-microglobulin. The CD1 proteins mediate the presentation of primarily lipid and glycolipid antigens of self or microbial origin to T cells. The human genome contains five CD1 family genes organized in a cluster on chromosome 1. The CD1 family members are thought to differ in their cellular localization and specificity for particular lipid ligands. The protein encoded by this gene localizes to late endosomes and lysosomes via a tyrosine-based motif in the cytoplasmic tail. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jan 2016]

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