

Mouse/Human CD49d Antibody

Purified in vivo GOLD™ Functional Grade

Monoclonal Antibody

Product Information

Product No.: C797

Clone: PS/2

Isotype: Rat IgG2b κ

Storage: Sterile 2° to 8°C

Product Description

Specificity:

PS/2 activity is directed against mouse CD49d and is cross reactive against human CD49d.

Antigen Distribution:

CD49d is expressed on T cells, B cells, NK, dendritic cells, thymocytes, monocytes, eosinophils, mast cells.

Background:

Integrins are a large family of heterodimeric transmembrane molecules that mediate adhesion, migration, cell survival, and cell differentiation. CD49d is a single-pass type I membrane glycoprotein also known as integrin alpha-4 (Uniprot Accession P13612). CD49d is the $\alpha 4$ subunit of integrin heterodimers alpha-4/beta-1 (VLA-4; CD49d/CD29; $\alpha 4\beta 1$ integrin) and alpha-4/beta-7 (LPAM-1)¹. These integrins act as receptors for fibronectin and VCAM1 (CD106). Integrin alpha-4/beta-7 is also a receptor for MADCAM1.

CD49d is expressed on most lymphocytes, granulocytes, monocytes, and thymocytes. CD49d/CD29 (VLA-4; $\alpha 4\beta 1$) is expressed at high levels on the surface of lymphohematopoietic progenitors and is involved in their development and proliferation. CD49d/CD29 integrin/VCAM-1 interactions facilitate B cell adhesion to stromal cells and enhance B cell activation. In the absence of alpha-4 integrins, pre-B cells fail to transmigrate and proliferate.

PS/2 recognizes murine and human CD49d². PS/2 was generated by immunizing Fisher rats with P815 cells and subsequently fusing the spleen cells with Sp2/0. Hybridoma supernatants were screened by cell adhesion assay and cells producing blocking antibodies were cloned. Adhesion is blocked in a dose dependent manner when PS/2 is used with P815 and +/+ 2.4 stromal cells. 70Z/3 cells are also sensitive to PS/2 inhibition. PS/2 is known to block binding of CD49d to its ligands³. Lymphocyte production is completely blocked when PS/2 is included in Whitlock-Witte culture². PS/2 is IgG2b κ .

Known Reactivity Species:

Human, Mouse

Format:

Purified in vivo GOLD™ Functional Grade

Immunogen:

P815 DBA/2 murine mastocytoma cells.

Formulation

This monoclonal antibody is aseptically packaged and formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.2 - 7.4 with no carrier protein, potassium, calcium or preservatives added. Due to inherent biochemical properties of antibodies, certain products may be prone to precipitation over time. Precipitation may be removed by aseptic centrifugation and/or filtration.

Products are for research use only. Not for use in diagnostic or therapeutic procedures.

Purity

≥95% monomer by analytical SEC, >95% by SDS Page

Endotoxin

<1.0 EU/μg as determined by the LAL method

Storage and Stability

Functional grade preclinical antibodies may be stored sterile as received at 2-8°C for up to one month. For longer term storage, aseptically aliquot in working volumes without diluting and store at ≤ -70°C.

Avoid Repeated Freeze Thaw Cycles.

Product Preparation

Functional grade preclinical antibodies are manufactured in an animal free facility using in vitro cell culture techniques and are purified by a multi-step process including the use of protein A or G to assure extremely low levels of endotoxins, leachable protein A or aggregates.

Applications

Applications and Recommended Usage (Quality Tested By Leinco):

FC

Other Applications Reported in Literature:

FA, IHC

Country of Origin

USA

References

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