Human CD109 Antibody

Monoclonal Mouse IgG_{2A} Clone # 496920

Catalog Number: MAB4385

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD109 in direct ELISAs.
Source	Monoclonal Mouse IgG_{2A} Clone # 496920
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human CD109 Val22-Ser1268 (Tyr703Ser & Thr1241Met) Accession # Q6YHK3
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

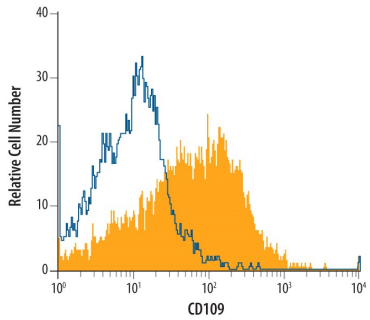
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Flow Cytometry	2.5 µg/10^6 cells	See Below
Immunohistochemistry	8-25 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

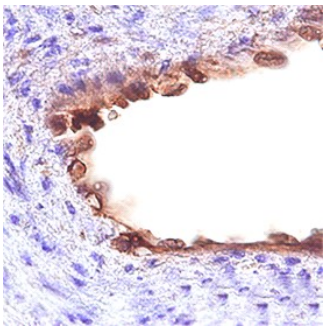
DATA

Flow Cytometry



Detection of CD109 in A431 Human Cell Line by Flow Cytometry. A431 human epithelial carcinoma cell line was stained with Mouse Anti-Human CD109 Monoclonal Antibody (Catalog # MAB4385, filled histogram) or isotype control antibody (Catalog # MAB003, open histogram), followed by Phycoerythrin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0102B).

Immunohistochemistry



CD109 in Human Placenta. CD109 was detected in immersion fixed paraffin-embedded sections of human placenta using Mouse Anti-Human CD109 Monoclonal Antibody (Catalog # MAB4385) at 10 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm in endothelial cells. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

CD109 is a GPI-anchored member of the alpha-2-macroglobulin (A2M) and complement family of proteins (1). Mature human CD109 contains a bait region with recognition sequences for multiple proteases, an internal thioester bond, and a domain similar to the receptor binding domain of A2M (2). Cleavage of A2M family proteins within the bait region activates the thioester bond to promote covalent bonding to nucleophilic groups in adjacent molecules (3, 4). Within the region included in this recombinant protein, human CD109 shares 71-73% amino acid (aa) sequence identity with mouse and rat CD109. It shares 27-33% aa sequence identity with A2M and complement factors C3, C4, and C5. Alternate splicing of human CD109 generates two isoforms with short deletions and one that is truncated within the bait region. CD109 is expressed on activated T cells and platelets, hematopoietic stem cells, megakaryocyte precursors, vascular endothelial cells, basal and myoepithelial cells of secretory glands, and squamous cell carcinomas (2, 5-9). It is produced as a 170-180 kDa glycoprotein that is autocatalytically processed to 150 kDa and 120 kDa forms (2, 6, 10). CD109 on keratinocytes binds TGF-β and associates with TGF-β RI and TGF-β RII, resulting in inhibition of TGF-β signaling (11). Polymorphisms of CD109 include the platelet-specific Gov antigen and the blood group ABH antigens (12, 13). Alloantibodies directed against these antigens result in unsuccessful platelet transfusions, neonatal alloimmune thrombocytopenia, and posttransfusion purpura (14).

References:

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