Human CD109
Alexa Fluor® 350-conjugated Antibody

Monoclonal Mouse IgG_{2A} Clone # 496920

Catalog Number: FAB4385U

100 µg

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
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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	0.25-1 µg/10^6 cells	A431 human epithelial carcinoma cell line

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** ● 12 months from date of receipt, 2 to 8 °C as supplied.

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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