Mouse CD109 Alexa Fluor® 647-conjugated Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF7717R
100 µg

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse CD109 in direct ELISAs and Western blots. In direct ELISAs, approximately 65% cross-reactivity with recombinant human CD109 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant mouse CD109 Ala22-Ser1269 Accession # Q8R422
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *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.*

Western Blot	Optimal dilution of this antibody should be experimentally determined.

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 (also CPAMD7, p180, r150, Gov antigen and GPI-anchored α2-macroglobulin-related protein) is a 170-180 kDa member of the I39 protease inhibitor/α2-macroglobulin family of thioester-containing proteins. It is expressed by endothelium, activated platelets and T cells, megakaryocyte lineage stem cells, myoepithalial cells, fibroblasts and keratinocytes. On keratinocytes, it is suggested to be a critical component of the TGF-β receptor (TβR) complex. Here it has been shown to specifically interact with both TGF-β1 and TβRI, and generally with TβRII and betaglycan. These interactions are inhibitory to TGF-β signaling, likely the result of CD109's ability to promote internalization and degradation of the TβR complex via caveolar endosomes. In human, mature CD109 is proposed to arise from a 205 kDa precursor that is cleaved intracellularly into an N-terminal 180 kDa mature molecule, and a C-terminal 25 kDa GPI-linked fragment. This occurs at an Arg tetrapeptide motif that is also conserved in mouse. On the cell surface, the 180 and 25 kDa molecules either stay "associated", or the 180 kDa mature molecule dissociates from the fragment, resulting in its solubilization. In either case, 180 kDa CD109 has the potential to be "activated" by proteolytic cleavage, generating either a 150 or 120 kDa form that may participate in covalent binding to immediately adjacent targets. Mouse CD109 is synthesized as a 1442 amino acid (aa) precursor. It contains a 21 aa signal sequence, a C-terminal prosegment (aa 1420-1442), and a 1398 aa intervening region (aa 22-1419) that possesses a potential furin processing site over aa 1271-1274. The definitive mature molecule (aa 22-1270) contains an MG2 domain (aa 129-220), a Cys thioester bond (Cys923-Gln926), and an α2-macroglobulin-like region (aa 961-1197). Over aa 22-1269, mouse CD109 shares 73% and 81% aa sequence identity with human and rat CD109, respectively.

PRODUCT SPECIFIC NOTICES

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