

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Mouse                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects mouse CD109 in direct ELISAs and Western blots. In direct ELISAs, approximately 65% cross-reactivity with recombinant human CD109 is observed.                                                                                                                      |
| <b>Source</b>             | Polyclonal Sheep IgG                                                                                                                                                                                                                                                        |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                   |
| <b>Immunogen</b>          | Chinese hamster ovary cell line CHO-derived recombinant mouse CD109<br>Ala22-Ser1269<br>Accession # Q8R422                                                                                                                                                                  |
| <b>Conjugate</b>          | Alexa Fluor 532<br>Excitation Wavelength: 534 nm<br>Emission Wavelength: 553 nm                                                                                                                                                                                             |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*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, myoepithelial 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

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.