Recombinant Mouse CD69

Catalog Number: 8469-CD

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived Gly64-Arg199 with an N-terminal 9-His tag Accession # P37217
N-terminal Sequence Analysis	His
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	17 kDa

SPECIFICATIONS

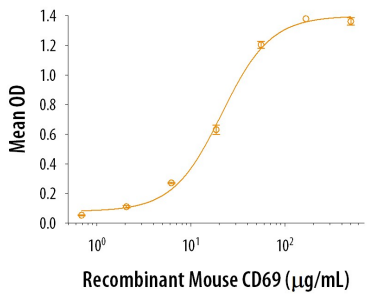
SDS-PAGE	25-37 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Mouse CD69 is coated at 1 µg/mL (100 µL/well), the concentration of Recombinant Mouse Galectin-1 (Catalog # 1245-GA) that produces a 50% optimal binding response is typically 15-90 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE with silver staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 250 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
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. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

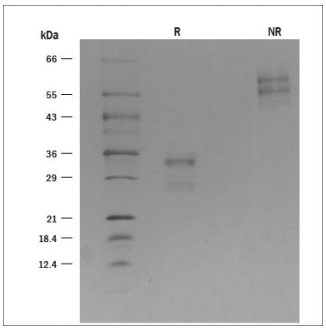
DATA

Binding Activity



When Recombinant Mouse CD69 (Catalog # 8469-CD) is coated at 1 µg/mL (100 µL/well), Recombinant Mouse Galectin-1 (Catalog # 1245-GA) binds with an ED_{50} of 15-90 ng/mL.

SDS-PAGE



1 µg/lane of Recombinant Mouse CD69 was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by silver staining, showing R bands at 25 - 37 kDa and NR bands at 55-60 kDa.

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Catalog Number: 8469-CD

BACKGROUND

CD69, also known as CLEC2C, is a type 2 transmembrane glycoprotein in the C-type lectin family. It plays roles in immune cell trafficking, inflammation, T cell memory, and humoral immune responses (1). Mature mouse CD69 consists of a 40 amino acid (aa) cytoplasmic domain, a 21 aa transmembrane segment, and a 138 aa extracellular domain with one C-type lectin domain (CTL) (3). Within the ECD, mouse CD69 shares 57% and 76% aa sequence identity with human and rat CD69, respectively. CD69 is expressed on the cell surface as an approximately 60 kDa disulfide-linked homodimer (3-5). It is found on $CD4^+$ T cells, $CD8^+$ T cells, NK cells, NKT cells, gamma delta cells dendritic cells (DC) and is up-regulated on activated T cells and DC (6-8). Ligation of CD69 on DC induces IL-2 production, leading to T cell proliferation (6). CD69 is important for the homing of $CD4^+$ T cells and plasmablasts to the bone marrow but inhibits the migration of dermal DC to draining lymph nodes (7, 9). It supports the expression of multiple chemokines and chemokine receptors but suppresses the expression of others (10, 11). It associates with and negatively regulates S1P1 expression on DC and $CD4^+$ T cells, resulting in a decreased chemotactic response to S1P (7, 12, 13). S1P1 similarly inhibits the cell surface expression of CD69 (12). The direct interaction of CD69 with Galectin-1 contributes to the ability of CD69 to limit Th17 mediated inflamamtion while supporting the differentiation of regulatory T cells (8, 10, 13-16). In various disease models, CD69 has been shown to have both enhancing and inhibitory effects on Th17 and Th2 cell mediated inflammation (8, 10, 11, 13, 16, 17).

References:

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