

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived human CD69 protein Gly64-Lys199 with an N-terminal 9-His tag Accession # Q07108
N-terminal Sequence Analysis	His
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	17 kDa

SPECIFICATIONS

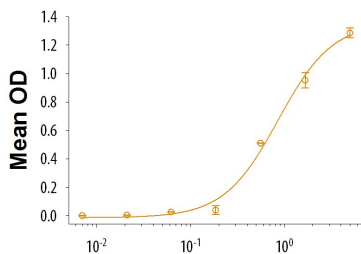
SDS-PAGE	20-30 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human CD69 is coated at 5 µg/mL (100 µL/well), the concentration of Recombinant Human Galectin-1 (Catalog # 1152-GA) that produces a 50% optimal binding response is 0.4-2 µg/mL.
Endotoxin 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. <ul style="list-style-type: none"> • 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

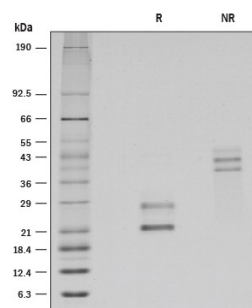
Binding Activity



Recombinant Human Galectin-1 (µg/mL)

When Recombinant Human CD69 is coated at 5 µg/mL (100 µL/well), the concentration of Recombinant Human Galectin-1 (Catalog # 1152-GA) that produces a 50% optimal binding response is 0.4-2 µg/mL.

SDS-PAGE



1 µg/lane of Recombinant Human CD69 was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by silver staining, showing R bands at 22.0, 27.9 kDa and NR bands at 39.3, 42.1, 47.2 kDa.

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 human 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) (2-4). Within the ECD, human CD69 shares 57% aa sequence identity with mouse and rat CD69. 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 inflammation 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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