

PRODUCT INFORMATION



CD69 Extracellular Domain (human, recombinant)

Item No. 43694

Overview and Properties

Synonyms: Activation Inducer Molecule, AIM, CLEC2C, Cluster of Differentiation 69, EA1, Early Activation Antigen CD69, Early T-cell Activation Antigen p60, C-type Lectin Domain Family 2 Member C, Leukocyte Surface Antigen Leu-23, MLR-3

Source: Recombinant human C-terminal His-tagged CD69 extracellular domain expressed in HEK293 cells

Amino Acids: 62-199

Uniprot No.: Q07108

Molecular Weight: 17.4 kDa

Storage: -80°C (as supplied)

Stability: ≥1 year

Purity: ≥90% estimated by SDS-PAGE

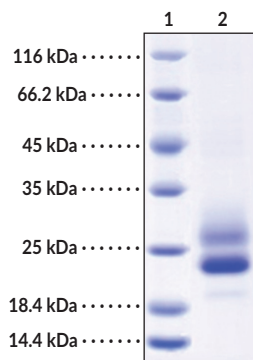
Supplied in: Lyophilized from sterile PBS, pH 7.4

Endotoxin Testing: <1.0 EU/μg, determined by the LAL endotoxin assay

Protein

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: CD69 Extracellular Domain

SDS-PAGE Analysis of CD69 Extracellular Domain. This protein has a calculated molecular weight of 17.4 kDa and a predicted N-terminus of Ser62 after signal peptide cleavage. The homodimer migrates at approximately 26.99 and 23.11 kDa by SDS-PAGE under reducing conditions.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

CD69 is a membrane-bound type II C-lectin receptor and early activation marker of leukocytes.¹⁻³ It is composed of an extracellular C-type lectin domain, a neck region, a transmembrane domain, and a cytoplasmic tail and exists as a homodimer.³ CD69 is expressed in activated hematopoietic cells, such as T cells, B cells, and platelets, as well as neutrophils, eosinophils, and epidermal Langerhans cells.⁴ It is involved in many biological processes, including T cell differentiation, cell migration, immune checkpoint regulation, and metabolic reprogramming, and acts as a receptor for various ligands, such as galectin-1 (Gal-1) and oxidized low-density lipoprotein (oxLDL).¹⁻³ CD69 also acts as an agonist of sphingosine-1-phosphate receptor 1 (S1P₁).^{2,3,5} Increased intratumoral levels of CD69 are associated with poor prognosis in patients with hepatocellular carcinoma.⁶ Cayman's CD69 Extracellular Domain (human, recombinant) protein is a disulfide-linked homodimer. The reduced monomer, composed of CD69 (amino acids 62-199) fused to a signal peptide and His-tag at the N- and C-terminus, respectively, consists of 149 amino acids, has a calculated molecular weight of 17.4 kDa, and a predicted N-terminus of Ser62 after signal peptide cleavage. The homodimer migrates at approximately 26.99 and 23.11 kDa by SDS-PAGE under reducing conditions.

References

1. Jiménez-Fernández, M., de la Fuente, H., Martín, P., *et al.* Unraveling CD69 signaling pathways, ligands and laterally associated molecules. *EXCLI J.* **22**, 334-351 (2023).
2. Cibrián, D. and Sánchez-Madrid, F. CD69: From activation marker to metabolic gatekeeper. *Eur. J. Immunol.* **47**(6), 946-953 (2017).
3. Radulovic, K. and Niess, J.H. CD69 is the crucial regulator of intestinal inflammation: A new target molecule for IBD treatment? *J. Immunol. Res.* **497056** (2015).
4. Hamann, J., Fiebig, H., and Strauss, M. Expression cloning of the early activation antigen CD69, a type II integral membrane protein with a C-type lectin domain. *J. Immunol.* **150**(11), 4920-4927 (1993).
5. Chen, H., Qin, Y., Chou, M., *et al.* Transmembrane protein CD69 acts as an S1PR1 agonist. *bioRxiv [Preprint]* (2023).
6. Tang, K., Li, X., Mo, J., *et al.* CD69 serves as a potential diagnostic and prognostic biomarker for hepatocellular carcinoma. *Sci. Rep.* **13**(1), 7452 (2023).

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