

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived cynomolgus monkey CD7 protein Ala26-Pro180, with C-terminal 6-His tag Accession # XP_005585387.1
N-terminal Sequence Analysis	Ala26
Predicted Molecular Mass	17 kDa

SPECIFICATIONS

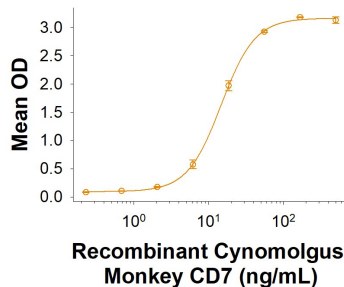
SDS-PAGE	37-44 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human SECTM1 Fc Chimera (Catalog # 7559-ST) is immobilized at 0.5 µg/mL (100 µL/well), the concentration of Recombinant Cynomolgus Monkey CD7 that produces 50% of the optimal binding response 8-40 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue 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.

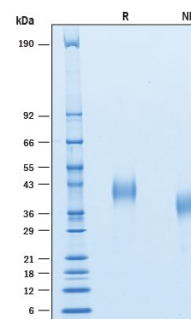
DATA

Binding Activity



When Recombinant Human SECTM1 Fc Chimera (Catalog # 7559-ST) is immobilized at 0.5 µg/mL, Recombinant Cynomolgus Monkey CD7 His-tag (Catalog # 10214-CD) binds with an ED₅₀ of 8-40 ng/mL.

SDS-PAGE



2 µg/lane of Recombinant Cynomolgus Monkey CD7 His-tag (Catalog # 10214-CD) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 37-44 kDa and 30-40 kDa, respectively.

BACKGROUND

CD7, also known as Leu-9, is an approximately 40 kDa glycosylated and palmitoylated transmembrane protein in the immunoglobulin superfamily (1). Mature human CD7 consists of a 155 amino acid (aa) extracellular domain (ECD), a 21 aa transmembrane segment, and a 39 aa cytoplasmic domain (2). Within the ECD, human CD7 shares 43% and 41% aa sequence identity with mouse and rat CD7, respectively. CD7 is expressed on T cells (2, 3), NK cells (4), myeloid progenitor cells (5), and CD19⁺ B progenitor cells (6). Among CD8⁺ T cells, the CD7-bright population preferentially contains naïve and memory cells, while more weak expressors are primarily effector cells (7). CD7 associates *in cis* with CD3 and CD45 and *in trans* with SECTM1 (8, 9). Ligation of CD7 with antibodies or SECTM1 co-stimulates the activation and proliferation of CD4⁺ and CD8⁺ T cells (10, 11) and NK cells (4, 9). It also enhances integrin-mediated adhesion of these cells to Fibronectin, ICAM-1, and VCAM-1 (3, 12). CD7 additionally mediates the Galectin-1 induced apoptosis of T cells (13) and facilitates the fusion of HIV-1 with target cells (14).

References:

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