Recombinant Human CD151 Fc Chimera

Catalog Number: 1884-CD

DESCRIPTION

Source Chinese Hamster Ovary cell line, CHO-derived human CD151 protein

MD	Human IgG_1 (Pro100-Lys330)	IEGR	Human CD151-LEL (Ala113-Arg221) Accession # P48509

N-terminus C-terminus

N-terminal Sequence Analysis Met

Structure / Form Disulfide-linked homodimer

Predicted Molecular Mass 39 kDa

SPECIFICATIONS

SDS-PAGE 41-55, and 90-102 kDa (non-reducible dimer), reducing conditions

Activity Measured by its binding ability in a functional ELISA.
When Recombinant Human Integrin αVβ3 (Catalog # 3050-AV) is immobilized at 1 µg/mL, 100 µL/well, Recombinant Human CD151 Fc Chimera binds with an ED_{50} of 0.3-1.8 µg/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 500 µg/mL in PBS.

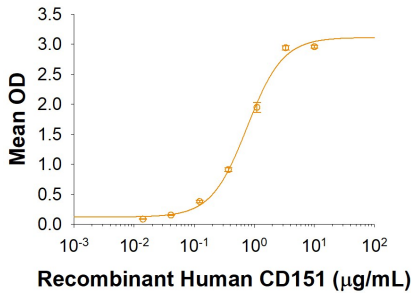
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage

- 12 months from date of receipt, ≤ -20 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, ≤ -20 °C under sterile conditions after reconstitution.

DATA

Binding Activity



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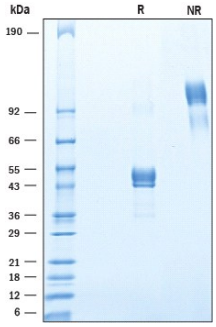
SDS-PAGE



2 µg/lane of Recombinant Human CD11b/Integrin alpha M was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 41-55 kDa and 80 - 110 kDa, respectively.

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BACKGROUND

Human CD151, also known as SFA-1, Tetraspanin-24, and GP27, is a palmitoylated glycoprotein in the tetraspanin superfamily. It is the first tetraspanin member to be identified as a promoter of cancer metastasis (1, 2), and it is found to participate in nearly all stages of cancer progression (3). CD-151 is normally expressed in endothelial cells, platelets, and frequently over-expressed in cancer cells (4). Mature CD-151 is a multi-pass membrane protein that contains four transmembrane domains, three cytoplasmic domains, and two extracellular loops. The region of amino acids (aa) 113-221 contains the largest extracellular loop (LEL) that involves in interacting with integrins and regulating integrin functions (5). Human CD151 LEL shares 88.9% and 87.0% aa identity with that of mouse and rat respectively. CD151 interacts with integrins such as αvβ3, α3β1, α6β1, α7β1, and α6β4 to regulate their activities and thus resulting in modulation of adhesion, spreading, migration, angiogenesis, invasion and metastasis (1, 3-5). CD151 can also complex with immunoglobulin super family proteins and other tetraspanins such as CD9, CD81, and CD63 (3). Clinically, high levels of CD151 are correlated with poor prognosis in a variety of tumors (3, 4). CD151 has been implicated as a potential diagnostic marker in osteosarcoma and prostate cancer and a putative target for antibody-based immunotherapy (3). CD-151 is a key player in the formation of basement membranes in kidney and skin tissues; it is also associated with human papillomavirus (HPV) infection (6, 7).

References:

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2. Hasegawa, H. *et al.* (1996). Journal of Virology **70**: 3258.
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4. Kumari, S. *et al.* (2015) Biomark Cancer **7**:7.
5. Yu J. *et al.* (2017) Biochem. J. **474(4)**:589.
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