

DESCRIPTION

Source Human embryonic kidney cell, HEK293-derived
Glu18-Glu1454, with a C-terminal 6-His tag
Accession # NP_653271

N-terminal Sequence Analysis Starts at Glu18

Predicted Molecular Mass 160 kDa

SPECIFICATIONS

SDS-PAGE 155-175 kDa, reducing conditions

Activity Measured by its binding ability in a functional ELISA.
When Recombinant Human α_2 -Macroglobulin-like1 is immobilized at 2 μ g/mL (100 μ L/well), the concentration of Recombinant Human LRP-1 Cluster II Fc Chimera (Catalog # [2368-L2](#)) that produces 50% of the optimal binding response is approximately 1-5 μ g/mL.

Endotoxin Level <0.10 EU per 1 μ g of the protein by the LAL method.

Purity >75%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation Lyophilized from a 0.2 μ m filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 100 μ g/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.

BACKGROUND

α_2 -Macroglobulin like-1 (A2ML1) is an approximately 180 kDa secreted glycoprotein that is structurally and functionally similar to α_2 -Macroglobulin (A2M) (1). Mature human A2ML1 shares 40% amino acid sequence identity with human A2M. It functions as a broad spectrum protease inhibitor with activity toward chymotrypsin, papain, thermolysin, and subtilisin A (2). Like A2M, A2ML1 binds to proteases covalently and contains a bait region (2). When the bait region is cleaved by a targeted protease, A2M undergoes a conformational change which blocks the protease's active site and also promotes A2M clearance from the circulation (1). In contrast to the dimeric and tetrameric A2M, A2ML1 is secreted as a monomer (2, 3). A2ML1 is expressed in epidermis, testis, thymus, and placenta (2). It binds to Kallikrein 7, a protease that regulates epidermal desquamation by disrupting corneocyte adhesion (2, 4). The C-terminal domain of A2ML1 mediates binding to LRP1 on the surface of macrophages followed by endocytosis (5). A2M has a similar receptor-binding domain which is responsible for A2M interactions with LRP1 (6). A2ML1 is also known as the keratinocyte p170 autoantigen in the skin disease paraneoplastic pemphigus (7). During zebrafish development, an A2ML1-like protein is required for liver formation (8).

References:

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7. Schepens, I. *et al.* (2010) PLoS ONE **5**:e12250.
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