Recombinant Mouse EMMPRIN/CD147 His-tag

Catalog Number: 772-EM

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived mouse EMMPRIN/CD147 protein Ala22-Arg325, with a C-terminal 6-His tag Accession # P18572
N-terminal Sequence Analysis	Ala22
Predicted Molecular Mass	34 kDa

SPECIFICATIONS

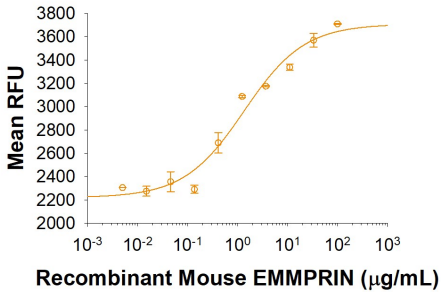
SDS-PAGE	43-66 kDa, reducing conditions
Activity	Measured by the ability of the immobilized protein to induce active MMP-1 secretion by NHLF human normal lung fibroblasts. The ED_{50} for this effect is 0.6-4.8 µg/mL
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by 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.

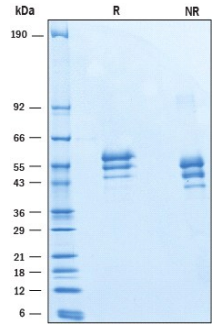
DATA

Bioactivity



Recombinant Mouse EMMPRIN/CD147 induces NHLF human normal lung fibroblasts active MMP-1 secretion. The ED_{50} for this effect is 0.6-4.8 µg/mL.

SDS-PAGE



2 µg/lane of Recombinant Mouse EMMPRIN/CD147 was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 43-66 kDa.

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BACKGROUND

Extracellular matrix metalloproteinase (MMP) inducer (EMMPRIN), also known as basigin, membrane glycoprotein gp42, and CD147, is a 45-55 kDa, N-glycosylated type 1 transmembrane molecule which is categorized as a member of immunoglobulin superfamily (1-4). Mouse EMMPRIN is 389 amino acid (aa) in length and contains 21 aa signal sequence, 304 aa extracellular domain (ECD), 24 aa transmembrane (TM) segment, and 40 aa cytoplasmic tail (CT). The ECD contains one C2-type and one V-type Ig-like domain. EMMPRIN is expressed in areas of tissue remodeling, including endometrium, placenta, skin, and regions undergoing angiogenesis (1, 2, 5, 6). It is also expressed on cells with high metabolic activity, such as lymphoblasts, macrophages and particularly tumor cells (2, 7). On such cells, EMMPRIN is often co-expressed with the amino acid transporter CD98h (8). EMMPRIN also interacts with caveolin1 (via its C2-type domain), and this reduces the level of EMMPRIN glycosylation and subsequent EMMPRIN multimerization and activity (9). In addition, EMMMPRIN is reported to complex with both annexin II and β1 integrins α3 and α6, an interaction that contributes to tumor growth and metastasis (10-12). Finally, the soluble calcium binding protein S100A9 has now been identified as a ligand for EMMPRIN, and it may mediate many of the tumorigenic activities attributed to EMMPRIN (13). EMMPRIN's TM sequence contains a charged aa (Glu), and a Pro important for intracellular interactions with cyclophilins (CyP) (3, 14, 15). CyPA (cyclosporin A receptor) and CyP60 interactions with the TM segment promote leukocyte inflammatory chemotaxis and surface expression of EMMPRIN, respectively (14, 15). An active 22 kDa fragment can be shed from tumor cells by MT1-MMP (1). Tumor cells can also release active, full length EMMPRIN in microvesicles (16, 17). EMMPRIN Plays an important role in targeting the monocarboxylate transporters SLC16A1, SLC16A3, SLC16A8 and SLC16A11 to the plasma membrane. It also plays pivotal roles in spermatogenesis, embryo implantation, neural network formation and tumor progression. EMMPRIN stimulates adjacent fibroblasts to produce matrix metallo-proteinases (MMPS) and seems to be a receptor for oligomannosidic glycans. *In vitro*, it promotes outgrowth of astrocytic processes (18, 19). Finally, EMMPRIN is known to induce urokinase type plasminogen activator (uPA), VEGF, hyaluronan and multiple MMPs (1, 2, 6).

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