



Recombinant Protein Technical Manual

Recombinant Human MMP-2 Protein (Active)

RPES2264

Product Data:

Product SKU: RPES2264

Size: 10µg

Species: Human

Expression host: HEK293 Cells

Uniprot: NP_004521.1

Protein Information:

Molecular Mass:

AP Molecular Mass: 72 kDa

Tag:

Bio-activity:

1. Measured by its ability to cleave the fluorogenic peptide substrate Mca-PLGL-Dpa-AR-NH₂ (AnaSpec, Catalog # 27076). The specific activity is > 1,000 pmoles/min/µg. 2. Measured by its binding ability in a functional ELISA. 3. Immobilized human MMP2 at 10 µg/mL (100 µl/well) can bind human TIMP2/Fc. The EC₅₀ of human TIMP2/Fc is 0.02 µg/mL. (Activation description: The proenzyme needs to be activated by APMA for an activated form)

Purity:

> (74.7+17.3) % as determined by reducing SDS-PAGE.

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method.

Storage:

Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.

Shipping:

This product is provided as lyophilized powder which is shipped with ice packs.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Reconstitution:

Please refer to the printed manual for detailed information.

Application:

Functional ELISA

Synonyms:

72 kDa Type IV Collagenase; 72 kDa Gelatinase; Gelatinase A; Matrix Metalloproteinase-2; MMP-2; TBE; MMP2; CLG4A; CLG4; MMP-II; MONA; TBE

Immunogen Information:

Sequence: Met 1-Cys 660

Background:

Matrix Metalloproteinase-2 (MMP-2) is an enzyme that degrades components of the extracellular matrix and thus plays a pivotal role in cell migration during physiological and pathological processes. MMP-2 expression is dependent on extracellular matrix metalloproteinase inducer (EMMPRIN), Her2/neu, growth factors, cytokines, and hormones. Pro-MMP-2 activation needs MT1-MMP and TIMP-2 contribution. MMP-2 is changed in distribution and increased in amount in the ventral cochlear nucleus after unilateral cochlear ablation. A low level of MMP-2 is linked to favorable prognosis in patients with a hormone receptor-negative tumor, usually associated with high risk. As a zymogen requiring proteolytic activation for catalytic activity, MMP-2 has been implicated broadly in the invasion and metastasis of many cancer model systems, including human breast cancer (HBC). Blocking MMP-2 secretion and activation during breast carcinoma development may decrease metastasis. The detection of active MMP-2 alone or the rate of pro-MMP-2 and active MMP-2 is considered a very sensitive indicator of cancer metastasis. Modulation of MMP-2 expression and activation through specific inhibitors and activators may thus provide a new mechanism for breast cancer treatment.