Human MMP-2 / CLG4A Protein

Catalog Number: **10082-HNAH**

Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

CLG4; CLG4A; MMP-2; MMP-II; MONA; TBE-1

Protein Construction:

A DNA sequence encoding the native human MMP2 (NP_004521.1) (Met 1-Cys 660) was expressed and purified.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: > (74.7+17.3) % as determined by SDS-PAGE

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 (Cat: 10396-H01H). The EC_{50} of human TIMP2/Fc is 0.02 µg/mL. (Activation description: The proenzyme needs to be activated by APMA for an activated form)

Endotoxin:

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

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Ala 30

Molecular Mass:

The recombinant human MMP2 consists of 631 amino acids and migrates as an 72 kDa band as predicted in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 0.05 % Brij-35, 150 mM NaCl, 5 mM CaCl2, 50 mM Tris, pH 7.5.

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

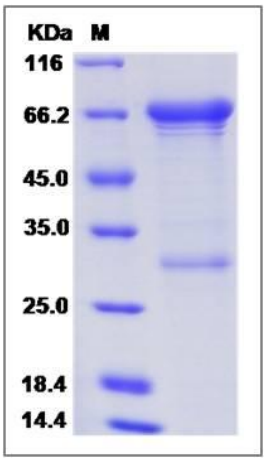
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

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.

References

1.Thompson EW, *et al.* (1994) Collagen induced MMP-2 activation in human breast cancer. Breast Cancer Res Treat. 31(2-3): 357-70. 2.Jezierska A, *et al.* (2009) Matrix metalloproteinase-2 involvement in breast cancer progression: a mini-review. Med Sci Monit. 15(2): RA32-40. 3.Fredrich M, *et al.* (2010) MMP-2 is involved in synaptic remodeling after cochlear lesion. Neuroreport. 21(5): 324-7.