

Recombinant Human MMP2

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Background:

MMP2 (gelatinase A), is a type IV collagenase, involved in endometrial menstrual breakdown, regulation of vascularization and the inflammatory response. MMP2 contains several distinct domains: a prodomain which is cleaved upon activation a catalytic domain containing the zinc binding site a fibronectin like domain thought to play a role in substrate targeting and a carboxyl terminal (hemopexin like) domain containing 2 N-linked glycosylation. MMP2 can degrade a broad range of substrates including type IV, V, VII and X collagens as well as gelatin type I.

MMP2 has also been shown to interact with THBS2, TIMP2, Thrombospondin 1, CCL7 and TIMP4. MMP2 autocatalytic cleavage in the C-terminal produces the anti-angiogenic peptide, PEX. The process appears to be facilitated by binding integrin α v/ β 3. Defects in MMP2 are the cause of Torg-Winchester syndrome (TWS), which is also known as multicentric osteolysis nodulosis and arthropathy (MONA).

Description:

Recombinant Human MMP2 produced by transiently transfected human cell is the proform (Accession#P08253) (Ala30 – Cys660) of human MMP2 fused with a polyhistidine tag at the C-terminus.

Quality Control:

Biological activity: Measured by its ability to cleave the colorimetric peptide substrate, Mca-PLGL-DpaAR-NH₂, The specific activity is > 1,000 pmoles/min/ μ g.

Purity: Greater than 90.0% as determined by:

(a) Analysis by RP-HPLC.

(b) Analysis by reducing and non-reducing SDS-PAGE Silver Stained gel.

Amino-Acid Sequence: Predicted N terminal amino acid is Ala30.

Endotoxin: Less than 0.1 ng/ μ g (1 EU/ μ g) of rHuMMP2.

Formulation:

Sterile and Lyophilized from a 0.2 μ m filtered solution in PBS.

Reconstitution:

It is recommended to reconstitute the lyophilized rHuMMP2 in sterile water not less than 100 μ g/ml.

Storage:

Lyophilized rHuMMP2 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution rHuMMP2 should be stored at 4°C between 2-7 days and aliquots of reconstituted samples containing 0.1% BSA are stable up to 3 months below -18°C for future use.

Please avoid freeze-thaw cycles.