

Recombinant Human Matrix Metalloproteinase 13 (collagenase 3)

Cat. No. MMP13-411H **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Species Human

Source Mammalian Cells

Description

Matrix metalloproteinase 13 (collagenase 3), also known as MMP13, is a glycosylated protein and a member of the matrix metalloproteinase (MMP) family of neutral endopeptidases, which is expressed in the skeleton during embryonic development and are involved in the breakdown of extracellular matrix in normal physiological processes, such as embryonic development, reproduction, and tissue remodeling, as well as in disease processes, such as arthritis and metastasis. MMP-13 is tightly bound to tissues and utilizes heparan sulfate proteoglycans as extracellular docking molecules. It is produced by many different cell types as an inactive proform that requires proteolytic activation to gain activity. Mutations causing lack of MMP-13 expression have been shown to be associated with skeletal disorders characterized by defective growth and modeling of the spine and long bones (spondyloepimetaphyseal dysplasias).

Sequence

The DNA sequence encoding the human MMP-13 enzyme (Leu20-Cys471) was expressed in NSO cells.

Molecular Weight

The predicted molecular weight of Recombinant Human MMP-13 is 52 kDa. However, the actual molecular weight as observed by migration on SDS Page is 55 kDa.

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State Of Matter	Solution.
Formulation	The protein is supplied as a 0.2 ml filtered solution of 25 mM MES, 10 mM CaCl ₂ , 0.15 M NaCl, 0.05% Brij-35, pH 6.0 containing 10 mg of rhMMP-13 at a concentration of 0.2 mg/ml. It is recommended to centrifuge the vial prior to opening.
Purity	>90% by SDS Page and analyzed by silver stain.
Endotoxin	<1.0 EU/g as determined by the LAL method.
Biological Activity	The biological activity of Human MMP-13 was determined by its ability to cleave the fluorogenic peptide substrate, MCAPLGLDPAARN H2. The specific activity is >2,000 pmoles/min/μg.
Storage	This lyophilized protein is stable for six to twelve months when stored desiccated at -20°C to -70°C. After aseptic reconstitution, this protein may be stored at 2°C to 8°C for one month or at -20°C to -70°C in a manual defrost freezer. Avoid Repeated Freeze Thaw Cycles. See Product Insert for exact lot specific storage instructions.

GENE INFORMATION

Gene Name	MMP13 matrix metalloproteinase 13 (collagenase 3) [Homo sapiens]
Synonyms	MMP13; matrix metalloproteinase 13 (collagenase 3); matrix metalloproteinase 13 (collagenase 3); collagenase 3; EC=3.4.24.-; Matrix metalloproteinase-13; MMP-13; CLG3; MANDP1; collagenase 3
Gene ID	4322
mRNA Refseq	NM_002427

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Protein Refseq	NP_002418
MIM	600108
UniProt ID	P45452
Chromosome Location	11q22.3
Function	calcium ion binding; metalloendopeptidase activity; peptidase activity; zinc ion binding
PDB rendering based on 1cxv.	