Active Matrix Metalloproteinase 13 (MMP13)

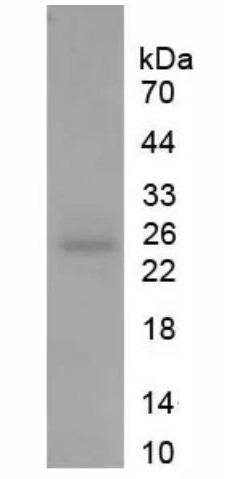
Catalog#:PXH12176

概述（Summary）

别称（Alternative Names）	CLG3; Collagenase 3
纯度（Purity）	Greater than 95% as determined by reducing SDS-PAGE.
内毒素（Endotoxin level）	Please contact with the lab for this information
蛋白构建（Construction）	【Glu103-Leu290】
Accession #	P45452
表达宿主（Host）	-
种属（Species）	Homo sapiens (Human)
预测分子量（Predicted MW）	22.3 kDa
制剂（Form）	Lyophilized from a 0.2 μm filtered solution of 20mM Tris, 150mM NaCl, pH8.0, containing 1mM EDTA, 1mM DTT, 0.01% SKL, 5% Trehalose and Proclin300.
运输方式（Shipping）	The product is shipped with ice bag. Upon receipt, store it immediately at the temperature listed below.
稳定性&储存（Stability &Storage）	12 months at -20°C to -80°C in lyophilized state.6 months at -20°C to -80°C under sterile conditions after reconstitution.7-10 days at 2°C to 8°C under sterile conditions after reconstitution.Please minimize freeze-thaw cycles.
复溶（Reconstitution）	Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
背景介绍（References）	Plays a role in the degradation of extracellular matrix proteins including fibrillar collagen, fibronectin, TNC and ACAN. Cleaves triple helical collagens, including type I, type II and type III collagen, but has the highest activity with soluble type II collagen. Can also degrade collagen type IV, type XIV and type X. May also function by activating or degrading key regulatory proteins, such as TGFB1 and CCN2. Plays a role in wound healing, tissue remodeling, cartilage degradation, bone development, bone mineralization and ossification. Required for normal embryonic bone development and ossification. Plays a role in the healing of bone fractures via endochondral ossification. Plays a role in wound healing,

probably by a mechanism that involves proteolytic activation of TGFB1 and degradation of CCN2. Plays a role in keratinocyte migration during wound healing. May play a role in cell migration and in tumor cell invasion.

电泳图（SDS-PAGE image）



Greater than 95% as determined by reducing SDS-PAGE.

活性图（Bioactivity image）

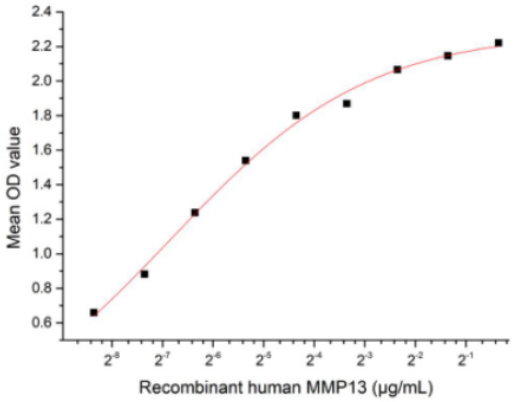


Figure 1. The binding activity of recombinant human MMP13 and human RUNX2

Matrix Metalloproteinase 13 (MMP13) is a member of the matrix metalloproteinase family that plays a critical role in the degradation of extracellular matrix components, particularly type II collagen. It is primarily expressed in skeletal tissues and is essential for bone development, remodeling, and endochondral ossification. MMP13 activity is tightly regulated at multiple levels, including transcriptional control, pro-enzyme activation, and inhibition by tissue inhibitors of metalloproteinases. Dysregulation of MMP13 expression contributes to various pathological conditions such as osteoarthritis, rheumatoid arthritis, and tumor metastasis. Its expression is induced by various growth factors and cytokines, and it serves as a key enzyme in both normal physiological processes and disease pathogenesis involving connective tissue turnover. MMP13 expression is directly activated by RUNX2 through binding to its promoter region, promoting extracellular matrix degradation during bone development and osteoarthritis progression. Thus a functional ELISA assay was conducted to detect the interaction of recombinant human MMP13 and recombinant human RUNX2. Briefly, MMP13 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 µl were then transferred to RUNX2-coated microtiter wells and incubated for 1h at 37℃. Wells

were washed with PBST and incubated for 1h with anti-MMP13 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50 µL stop solution to the wells and read at 450/630nm immediately. The binding activity of recombinant human MMP13 and recombinant human RUNX2 was shown in Figure 1, the EC50 for this effect is 0.0087 µg/mL.

注意事项（Note）

For Research Use Only , Not for Diagnostic Use.