

# MMP13 Inhibitor Screening Assay Kit (Colorimetric) ab139450

1 References 4 图像

概述

产品名称	MMP13抑制剂Screening Assay试剂盒(Colorimetric)
检测方法	Colorimetric
样品类型	Inhibitor compounds
检测类型	Enzyme activity
产品概述	Abcam MMP13 Inhibitor Screening Assay Kit (Colorimetric) (ab139450) is a complete assay system designed to screen MMP13 inhibitors using a thiopeptide as a chromogenic substrate (Ac-PLG-[2-mercapto-4-methyl-pentanoyl]-LG-OC <sub>2</sub> H <sub>5</sub> ). The MMP cleavage site peptide bond is replaced by a thioester bond in the thiopeptide. Hydrolysis of this bond by an MMP produces a sulfhydryl group, which reacts with DTNB [5,5'-dithiobis(2-nitrobenzoic acid), Ellman's reagent] to form 2-nitro-5-thiobenzoic acid, which can be detected by its absorbance at 412 nm ( $\epsilon=13,600\text{ M}^{-1}\text{ cm}^{-1}$ at pH 6.0 and above). The assays are performed in a convenient 96-well microplate format.
说明	<p>This kit is useful to screen inhibitors of MMP13, a potential therapeutic target. The MMP inhibitor NNGH is also included as a prototypic control inhibitor.</p> <p>Thiol inhibitors should not be used with this kit, as they may interfere with the colorimetric assay.</p>
平台	Microplate reader

性能

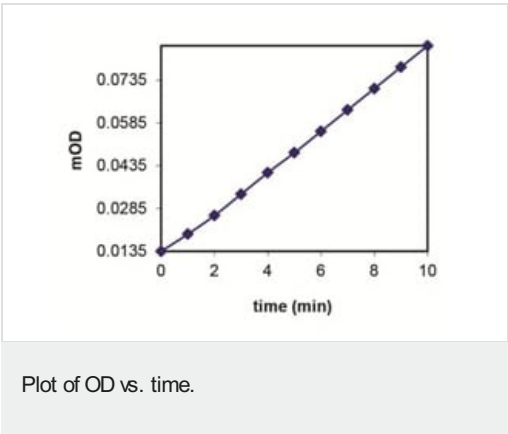
存放说明 Please refer to protocols.

组件	1 x 96 tests
96-well Clear Microplate 1/2 Volume	1 unit
Colorimetric Assay Buffer	1 x 20ml
MMP Inhibitor	1 x 50μl
MMP Substrate	1 x 50μl
MMP13 Enzyme (Human, Recombinant)	1 x 53μl

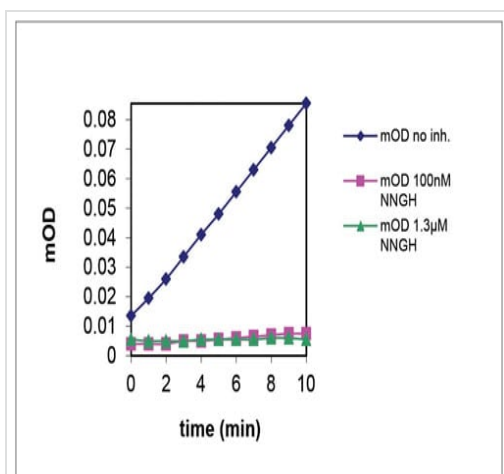
功能 Degrades collagen type I. Does not act on gelatin or casein. Could have a role in tumoral process.

组织特异性	Seems to be specific to breast carcinomas.
疾病相关	<p>Defects in MMP13 are the cause of spondyloepimetaphyseal dysplasia Missouri type (SEMD-MO) [MIM:602111]. A bone disease characterized by moderate to severe metaphyseal changes, mild epiphyseal involvement, rhizomelic shortening of the lower limbs with bowing of the femora and/or tibiae, coxa vara, genu varum and pear-shaped vertebrae in childhood. Epimetaphyseal changes improve with age.</p> <p>Defects in MMP13 are the cause of metaphyseal anadysplasia type 1 (MANDP1) [MIM:602111]. Metaphyseal anadysplasia consists of an abnormal bone development characterized by severe skeletal changes that, in contrast with the progressive course of most other skeletal dysplasias, resolve spontaneously with age. Clinical characteristics are evident from the first months of life and include slight shortness of stature and a mild varus deformity of the legs. Patients attain a normal stature in adolescence and show improvement or complete resolution of varus deformity of the legs and rhizomelic micromelia.</p>
序列相似性	<p>Belongs to the peptidase M10A family.</p> <p>Contains 4 hemopexin-like domains.</p>
结构域	The conserved cysteine present in the cysteine-switch motif binds the catalytic zinc ion, thus inhibiting the enzyme. The dissociation of the cysteine from the zinc ion upon the activation-peptide release activates the enzyme.
细胞定位	Secreted > extracellular space > extracellular matrix.

图片



Slope=V=7.00E-03 OD/min

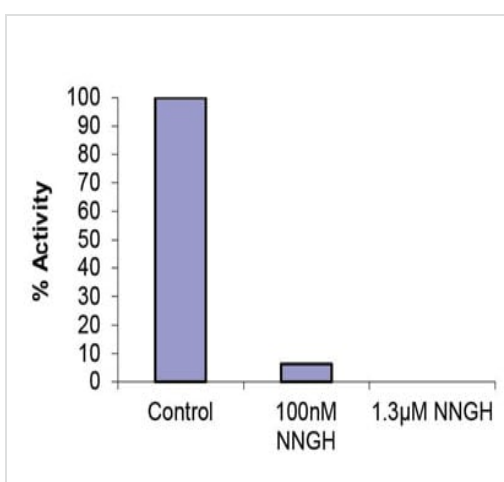


Inhibition of MMP13 by NNGH

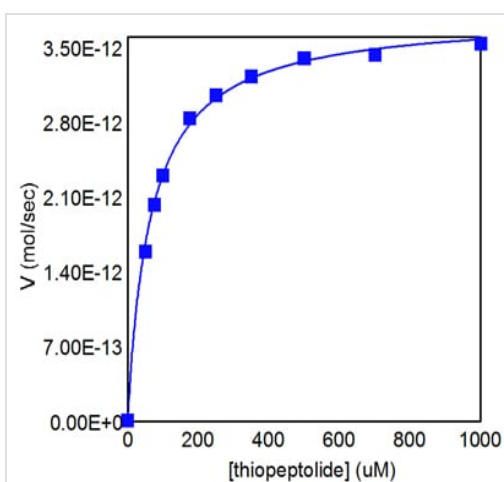
control slope =  $7.00\text{E-}03$  OD/min

inhibitor (100nM) slope =  $4.50\text{E-}04$  OD/min

inhibitor % activity remaining =  $(4.50\text{E-}04 / 7.00\text{E-}03) \times 100 = 6.4\%$



Inhibition of MMP13 by NNGH



Example graph for Km and Vmax determination

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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