

# MMP1 Inhibitor Screening Assay Kit (Colorimetric) ab139443

2 References 4 图像

概述	
产品名称	MMP1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 MMP1 Inhibitor Screening Assay Kit (Colorimetric) (ab139443) is a complete assay system designed to screen MMP1 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 MMP1, 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
MMP1 Enzyme (Human, Recombinant)	1 x 66µl

功能 Cleaves collagens of types I, II, and III at one site in the helical domain. Also cleaves collagens of

types VII and X. In case of HIV infection, interacts and cleaves the secreted viral Tat protein, leading to a decrease in neuronal Tat's mediated neurotoxicity.

#### 序列相似性

Belongs to the peptidase M10A family.

Contains 4 hemopexin-like domains.

#### 结构域

There are two distinct domains in this protein; the catalytic N-terminal, and the C-terminal which is involved in substrate specificity and in binding TIMP (tissue inhibitor of metalloproteinases).

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.

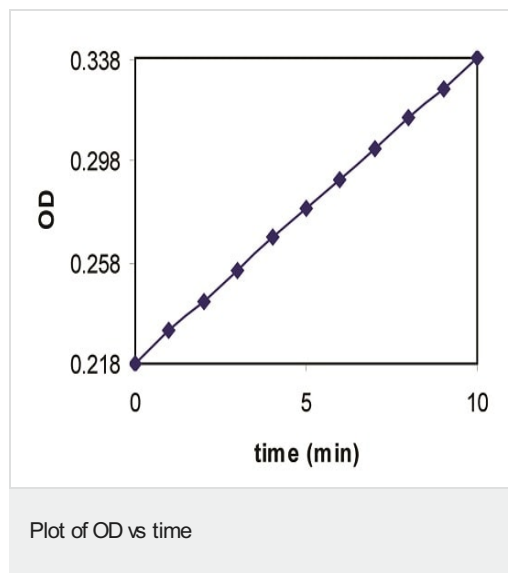
#### 翻译后修饰

Undergoes autolytic cleavage to two major forms (22 kDa and 27 kDa). A minor form (25 kDa) is the glycosylated form of the 22 kDa form. The 27 kDa form has no activity while the 22/25 kDa form can act as activator for collagenase.

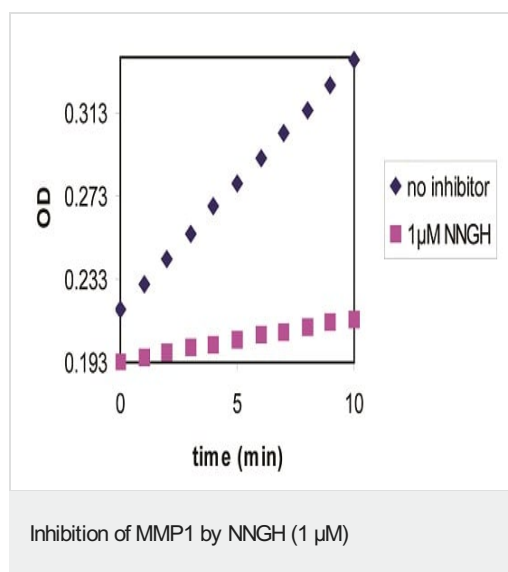
#### 细胞定位

Secreted > extracellular space > extracellular matrix.

#### 图片



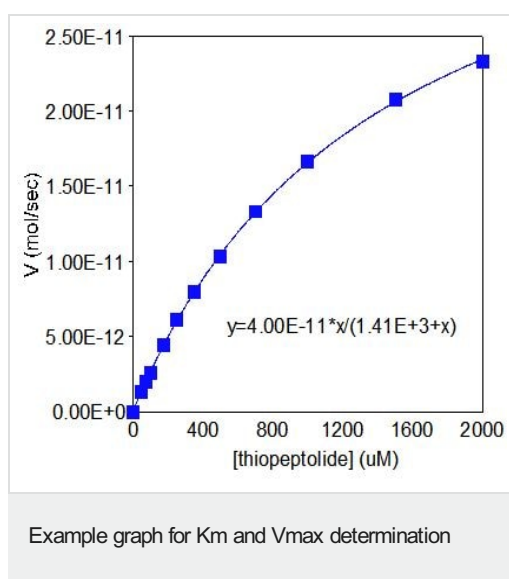
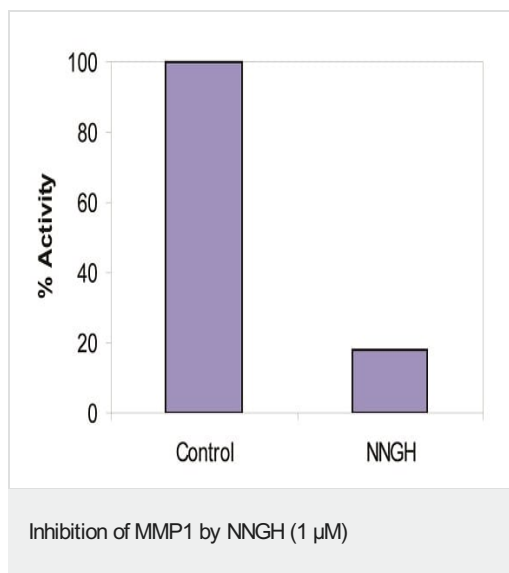
Slope =  $V = 1.20E-02$  OD/min



control slope =  $1.20E-02$  OD/min

inhibitor slope =  $2.13E-03$  OD/min

inhibitor % activity remaining =  $(2.13E-03 / 1.20E-02) \times 100 = 17.7\%$



Km = 1410  $\mu$ M  
Vmax = 40.0 pmol/sec

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

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