

MMP14 Inhibitor Screening Assay Kit (Colorimetric) ab139454

4 图像

概述

产品名称	MMP14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 MMP14 Inhibitor Screening Assay Kit (Colorimetric) (ab139454) is a complete assay system designed to screen MMP14 inhibitors using a thiopeptide as a chromogenic substrate (Ac-PLG-[2-mercapto-4-methyl-pentanoyl]-LG-OC ₂ H ₅). 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 MMP14, 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

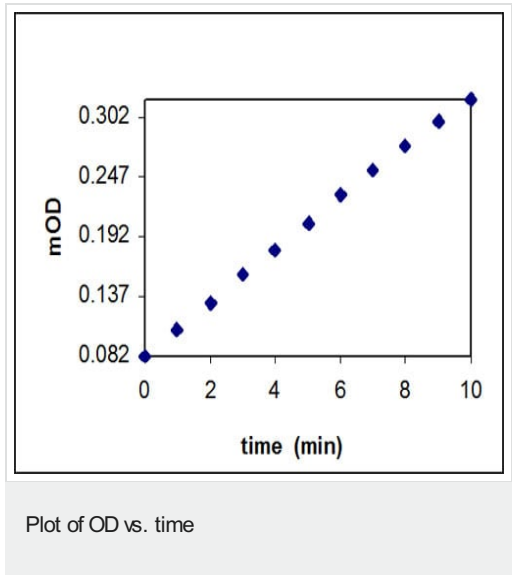
存放说明 Please refer to protocols.

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
MMP14 Enzyme (Human, Recombinant)	1 x 25μl

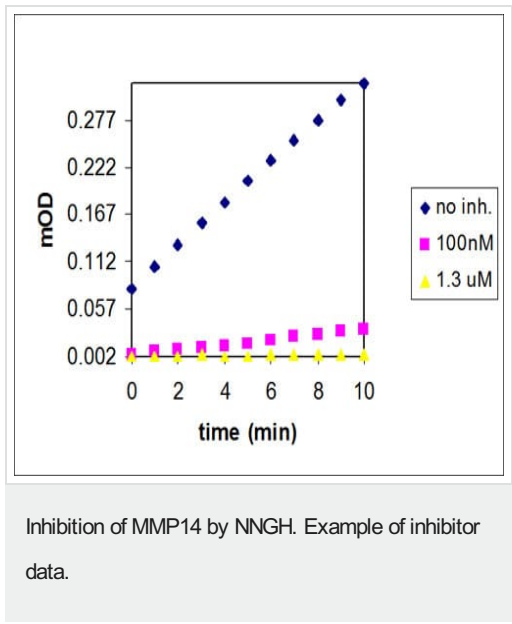
功能 Seems to specifically activate progelatinase A. May thus trigger invasion by tumor cells by

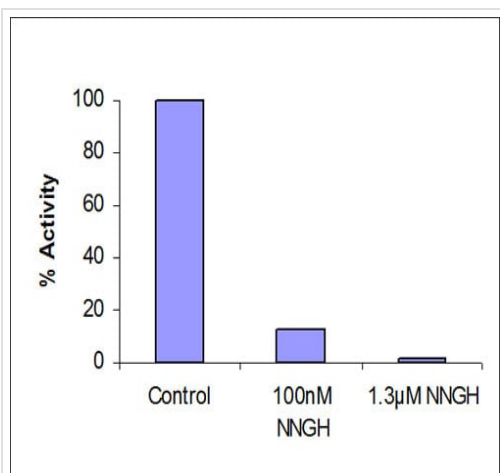
	activating progelatinase A on the tumor cell surface. May be involved in actin cytoskeleton reorganization by cleaving PTK7.
组织特异性	Expressed in stromal cells of colon, breast, and head and neck. Expressed in lung tumors.
序列相似性	Belongs to the peptidase M10A family. Contains 4 hemopexin-like domains.
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.
翻译后修饰	The precursor is cleaved by a furin endopeptidase.
细胞定位	Membrane. Melanosome. Identified by mass spectrometry in melanosome fractions from stage I to stage IV.

图片

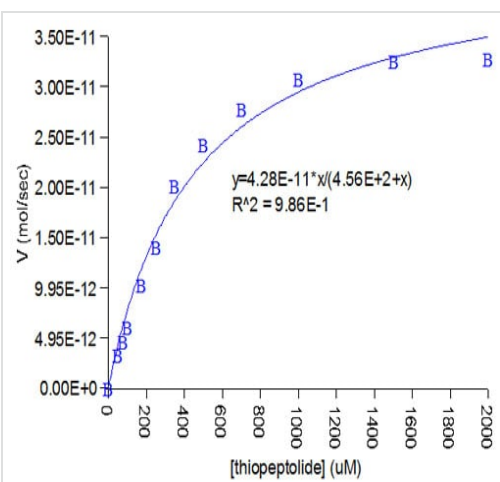


Slope=V=2.42E-02 OD/min





Inhibition of MMP14 by NNGH. Example of inhibitor data.



$K_m=456 \mu\text{M}$

$V_{\text{max}}=42.8 \text{ pmol/sec}$

Example graph for K_m and V_{max} determination.

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