abcam

Product datasheet

MMP14 Inhibitor Screening Assay Kit (Fluorometric) ab139455

1 Image

Overview

Product name	MMP14 Inhibitor Screening Assay Kit (Fluorometric)
Detection method	Fluorescent
Sample type	Inhibitor compounds
Assay type	Enzyme activity
Product overview	Abcam MMP14 Inhibitor Screening Assay Kit (Fluorometric) (ab139455) is a complete assay system designed to screen MMP14 inhibitors using a quenched fluorogenic peptide: MMP Fluorogenic Substrate Mca-Pro-Leu-Gly-Leu-Dpa-Ala-Arg-NH_2 [Mca=(7-methoxycoumarin-4-yl)-acetyl; Dpa=N-3-(2,4-dinitrophenyl)-L-α-β-diaminopropionyl]. Mca fluorescence is quenched by the Dpa group until cleavage by MMPs at the Gly-Leu bond separates the two moieties. The assays are performed in a convenient 96-well microplate format.
Notes	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.
Platform	Microplate reader

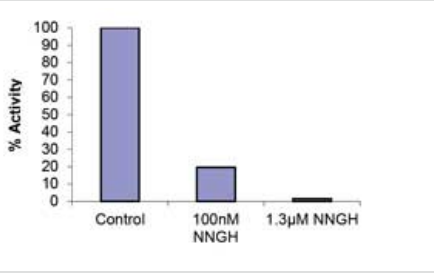
Properties

Storage instructions	Please refer to protocols.

Components	1 x 96 tests
96-well White Microplate 1/2 Volume	1 unit
Fluorometric Assay Buffer	1 x 20ml
MMP Calibration Standard	1 x 50µl
MMP Fluorogenic Substrate	1 x 200µl
MMP Inhibitor	1 x 50µl
MMP14 Enzyme (Human, Recombinant)	1 x 25µl

Function	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.
Tissue specificity	Expressed in stromal cells of colon, breast, and head and neck. Expressed in lung tumors.
Sequence similarities	Belongs to the peptidase M10A family. Contains 4 hemopexin-like domains.
Domain	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.
Post-translational modifications	The precursor is cleaved by a furin endopeptidase.
Cellular localization	Membrane. Melanosome. Identified by mass spectrometry in melanosome fractions from stage I to stage IV.

Images



Inhibition of MMP14 by NNGH

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