CREATIVE BIOMART®
Assay Kit

MMP-14 Inhibitor Screening Kit

Product Information

Cat.No. Kit-2123

Product Overview

MMP-14 Inhibitor Screening Kit provides a simple, fast and high-throughput adaptable method to screen/study/characterize potential MMP-14 inhibitors. The assay utilizes the ability of MMP-14 to cleave a synthetic MCA-based peptide substrate to release free MCA (7-Methoxycoumarin-4-acetic acid), which can be easily quantified using a fluorometer or fluorescence microplate reader at Ex/Em = 325/420 nm. In the presence of a MMP-14 specific inhibitor, the cleavage of the substrate is reduced/abolished, resulting in decrease or total loss of the MCA fluorescence.

Size

100 assays

Description

The Matrix metalloproteinase-14 (MMP-14) (MT1-MMP) belongs to a family of zinc-dependent endopeptidases that are responsible for the degradation of the extracellular matrix (ECM) proteins including collagens, elastins, gelatin, matrix glycoproteins and proteoglycans, during normal development and disease processes. MMPs can be classified into at least four different families of closely related members - collagenases, gelatinases, stromelysins, and membrane-type MMPs (MT-MMPs). MMP-14 belongs to the family of MT-MMPs and is localized on cell surfaces via its transmembrane domain. MMP-14 is expressed in adult lung, placenta, kidney, ovaries, intestine, prostate and spleen along with certain carcinomas. The ability of MMP-14 to degrade type I collagen, and activate pro-MMP-2 and pro-MMP-9 makes it a key enzyme in many physiological and pathological processes such as angiogenesis and tumor invasion.

Applications

Screening/studying/characterizing potential MMP-14 inhibitors

Storage

Store the kit at -20°C, protected from light. Once opened, store the kit components as per the

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respective temperatures mentioned below. Briefly centrifuge small vials prior to opening. Read the entire protocol before performing the assay.MMP-14 Assay Buffer: Bring to room temperature (RT) before use. Store at 4°C or -20°C.MMP-14 Substrate: Ready to use. Aliquot and store at -20°C. Avoid repeated freeze/thaw. Keep on ice while in use.MMP-14 Enzyme: Reconstitute with 110 µl dH2O. Aliquot and store at -20°C. Freeze/thaw should be limited to 1 time. During use, keep the solution on ice at all times.MMP-14 Inhibitor: Ready to use. Aliquot and store at -20°C. Dilute to 1:20 with MMP-14 Assay Buffer just before use.

Kit Components

MMP-14 Assay Buffer: 25 mlMMP-14 Substrate (4 mM): 100 µlMMP-14 Enzyme: 1 VialMMP-14 Inhibitor (NNGH, 2 mM): 50 µl

Detection method Fluorescence (Ex/Em = 325/420 nm)

Compatible Sample Types

Chemical libraries, small molecules

Features & Benefits

• Simple, fast assay.• Fluorometric detection.

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