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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

6042 Cornerstone Court West, Ste. B
San Diego CA 92121
Tel: 1.858.202.1401
Fax: 1.858.481.8694
Email: info@bpsbioscience.com

Data Sheet

Fluorogenic MMP1 Assay Kit

Catalog #79983
Size: 96 reactions

BACKGROUND: MMP1 (matrix metalloproteinase 1) is a member of the matrix metalloproteinase (MMP) family involved in the degradation of the extracellular matrix. MMP1 is also associated with the regulation of cytokines and chemokines, suggesting a role for MMP1 in inflammation.

DESCRIPTION: The *Fluorogenic MMP1 Assay Kit* is designed to measure MMP1 activity for screening and profiling applications, in a homogeneous assay with no time-consuming washing steps. The kit comes in a convenient 96-well format, with purified MMP1 enzyme, fluorogenic substrate, and MMP1 assay buffer for 100 enzyme reactions.

COMPONENTS:

Catalog #	Component	Amount	Storage	
80214	MMP1, His-tag	4 µg	-80°C	***Avoid freeze/ thaw cycles!***
79919	1 mM MMP Substrate	10 µl	-80°C	
79917	1X MMP Assay Buffer 1	25 ml	-20°C	
79685	Black, low binding black microtiter plate	1	Room Temperature	

APPLICATIONS: Great for studying enzyme kinetics and HTS applications.

STABILITY: One year from date of receipt when stored as directed.

REFERENCE(S):

1. Foley, C.J., and Kuliopulos, A. Mouse Matrix metalloprotease-1a (Mmp1a) Gives New Insight Into MMP Function. *J. Cell Physiol.* 2014 Dec; **229(12):**1875-80.

2. Pardo, A., and Selman, M. MMP-1: The Elder of the Family. *Int. J. Biochem. Cell Biol.* 2005 Feb; **37(2):**283-8.

MATERIALS OR INSTRUMENTS REQUIRED BUT NOT SUPPLIED:
Fluorescent microplate reader capable of reading exc/em=328 nm/393 nm

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ASSAY PROTOCOL:

All samples and controls should be tested in duplicate.

1) Dilute 1 mM MMP substrate 1:100 in 1X assay buffer, to make a 10 µM solution. Dilute only enough as is required for the assay.

2) Prepare the substrate solution: N wells × (20 µl 1X assay buffer + 5 µl diluted (10 µM) MMP Substrate).

3) Add 25 µl of the substrate solution to each well (Final concentration of the MMP substrate in a 50 µl reaction is 1 µM).

Component	Positive Control	Test Sample	Blank
Substrate solution	25 µl	25 µl	25 µl
Test Inhibitor	–	5 µl	–
10% DMSO in water (Inhibitor buffer)	5 µl	–	5 µl
MMP1 (1.6 ng/µl)	20 µl	20 µl	–
1X Assay Buffer	–	–	20 µl
Total	**50 µl**	**50 µl**	**50 µl**

4) Prepare the inhibitor solution.

   The final concentration of DMSO in the assay should not exceed 1%. If the inhibitor compound is dissolved in DMSO, make a 100-fold higher concentration of the compound than the highest concentration you want to test in DMSO. Then make a 10-fold dilution in 1X assay buffer (at this step the compound concentration is 10-fold higher than the final concentration in 10% DMSO). To determine an IC50 or to test lower concentrations of the compound, prepare a series of further dilutions in 1X assay buffer containing 10% DMSO (the final concentration of the DMSO will be 1% in all samples).

   If the inhibitor compound is dissolved in water, make a solution of the compound 10-fold higher than the final concentration in 1X assay buffer.

5) Add 5 µl inhibitor solution to each well designated “Test Sample.” Add 5 µl of 10% DMSO in water (inhibitor buffer) to “Blank” and “Positive Control” wells.

6) Thaw MMP1 on ice. Upon first thaw, briefly spin tube containing enzyme to recover the full content of the tube. Aliquot MMP1 into single use aliquots. Store

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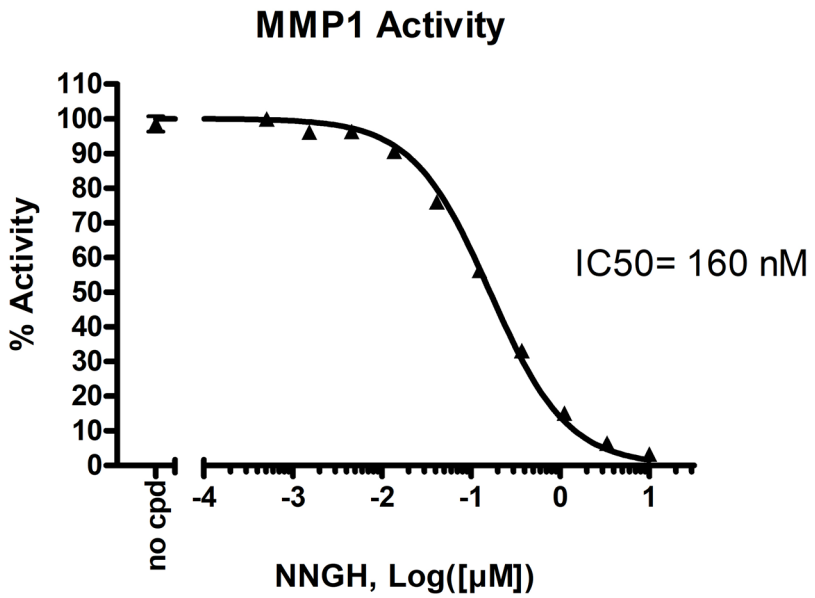
remaining undiluted enzyme in aliquots at -80°C. Note: MMP1 enzyme is sensitive to freeze/thaw cycles. Do not re-use diluted enzyme.

7) Dilute MMP1 in 1x assay buffer at 1.6 ng/µl (32 ng per reaction).

8) Add 20 µl diluted MMP1 enzyme solution to wells designated as "Positive Control" and "Test Sample." Add 20 µl 1X assay buffer to the "Blank" wells.

9) Incubate at room temperature for 30 minutes. Measure the fluorescence intensity in a microtiter plate-reading fluorimeter capable of excitation at a wavelength 328 nm and detection of emission at a wavelength 393 nm. The fluorescence intensity can also be measured kinetically. "Blank" value is subtracted from all other values.

EXAMPLE OF ASSAY RESULTS:



Inhibition of MMP1 enzyme activity by NNGH, measured using the *Fluorogenic MMP1 Assay Kit (BPS Bioscience #79983).* Fluorescence intensity was measured using a Tecan fluorescent microplate reader. *Data shown is lot-specific. For lot-specific information, please contact BPS Bioscience, Inc. at info@bpsbioscience.com*

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RELATED PRODUCTS

Product	Cat. #	Size
MMP1, His-Tag (Human)	80214	20 µg
MMP2, His-Tag (Human)	80213	20 µg
MMP3(K45E), His-Tag (Human)	11346	100 µg
MMP8, His-Tag (Human)	100552	100 µg
MMP9(Q279R), His-Tag (Human)	80215	20 µg
MMP3 (K45E) Inhibitor Screening Assay Kit	79907	384 rxns.
Fluorogenic MMP2 Assay Kit	79918	96 rxns.
Fluorogenic MMP9 (Q279R) Assay Kit	79915	96 rxns.