

OMNIMMP[®] RED

fluorogenic substrate

Long emission wavelength reduces background

Highly-quenched, ultra-bright fluorogenic substrate for most MMPs. 6'-TAMRA fluorescence is thoroughly quenched by the TQ3 group until cleavage by MMPs separates the two moieties. The OMNIMMP[®] RED substrate offers key advantages over other MMP substrates.

Citations: 6

[View Online »](#)

Ordering Information

[Order Online »](#)

BML-P277-0100	100µg
---------------	-------

Manuals, SDS & CofA

[View Online »](#)

Handling & Storage

Use/Stability	As indicated on product label or CoA when stored as recommended.
Handling	Avoid freeze/thaw cycles of solution. Protect from moisture. Protect from light.
Long Term Storage	-20°C
Shipping	Blue Ice

Regulatory Status

RUO - Research Use Only

Product Details

Appearance	Lyophilized purple solid.
Application Notes	Useful for inhibitor screening, kinetic analysis, and cellular activity assay.
Emission Maximum	576nm; although the following Ex/Em can also be used: 540/590nm
Excitation Maximum	545nm
MW	1910.7
Purity	≥90% (HPLC)
Sequence	TQ3-GABA-Pro-Cha-Abu-Smc-His-Ala-Dab(6'-TAMRA)-Ala-Lys-NH ₂ [TQ3=quencher; GABA=4-aminobutyric acid; Cha=L-cyclohexylalanine; Abu=2-aminobutyric acid; Smc=S-methyl-L-cysteine; Dab=2,4-diaminobutyric acid; 6'-TAMRA=6'-tetramethylrhodamine]
Solubility	Soluble in DMSO (50mM).

1. Emission at the red end of the spectrum avoids the interference at lower wavelengths often exhibited by screening compounds, and by substances commonly found in biological samples and tissue culture medium.
2. MMP substrate peptides display poor aqueous solubility, often with K_m s near or above their limits of solubility, making enzyme and inhibitor kinetics difficult. MMP K_m s for OMNIMMP® RED substrate are below its solubility limit (~2µM in assay buffer), allowing for substrate concentrations higher than the K_m , a condition generally desirable in endpoint assays.
3. In addition to the efficient binding as exhibited by low K_m s, OMNIMMP® RED is avidly cleaved by MMPs, with k_{cat}/K_m s in the range of 10^5 - 10^7 M⁻¹sec⁻¹.
4. The high k_{cat}/K_m s and the ultra-strong fluorescence of OMNIMMP® RED allow for substrate concentrations much lower than the K_m , a condition generally desirable in inhibitor screening/kinetics assays.

The following kinetic data [k_{cat}/K_m (M⁻¹s⁻¹); K_m (µM)] have been determined in-house. These are approximate only; customer should determine kinetics based on his/her assay conditions. MMP-1 (6.7×10^6 ; 0.48), MMP-2 (4.2×10^7 ; 0.38), MMP-3 (cleaves well; kinetics not yet determined), MMP-7 (1.6×10^7 ; 1.33), MMP-8 (1.6×10^7 ; 0.53), MMP-9 (2.3×10^7 ; 0.35), MMP-10 (cleaves well; kinetics not yet determined), MMP-11 (does not cleave), MMP-12 (cleaves well; kinetics not yet determined), MMP-13 (cleaves well; kinetics not yet determined), MMP-14 (cleaves well; kinetics not yet determined), MMP-19 (2.7×10^5 ; 0.50), MMP-20 (cleaves; kinetics not yet determined).

Last modified: May 29, 2024



ENZO LIFE SCIENCES,
INC.
Phone: 800.942.0430
info-usa@enzolifesciences.com

European Sales Office
ENZO LIFE SCIENCES
(ELS) AG
Phone: +41 61 926 8989
info-eu@enzolifesciences.com

Belgium, The Netherlands
& Luxembourg
Phone: +32 3 466 0420
info-be@enzolifesciences.com

France
Phone: +33 472 440 655
info-fr@enzolifesciences.com

Germany
Phone: +49 7621 5500 526
info-de@enzolifesciences.com

UK & Ireland
Phone (UK customers):
0845 601 1488
Phone: +44 1392 825900
info-uk@enzolifesciences.com