Fluorescent Substrate: Dabcyl-LRAEQQRLKSK(5FAM)-NH_2

Catalog Number: **PEPDAB022**

Use: This fluorescent peptide substrate is used primarily to assess activity of ADAM proteinases.

Typically, the peptide is dissolved in DMSO to make a stock solution of about 10mM concentration. When used for in vitro assays, the substrate is often used at about 10μM concentration. Remember to keep the DMSO concentration in the final reaction at 1% or below, to avoid DMSO effects on the reaction, and remember to have an equivalent percentage of DMSO in the background wells.

For use with ADAMs, the buffer should consist of 25mM Tris, pH 8, 6×10^{-4} Brij detergent, and 10mM $CaCl_2$. If used with ADAM17 or ADAM10, the $CaCl_2$ is not required.

For use with the MMPs, the buffer should contain 50 mM Tris, pH 7.5, 150 mM NaCl, 2 mM $CaCl_2$, 5 μM $ZnSO_4$, and 0.01% Brij-35

Excitation and emission wavelengths are 485 and 530 nm respectively.

Molecular Weight: 1965 g/mol

Purity: Greater than 95% as assessed by HPLC and Mass Spectrometry.

Solubility: 1 mg/ml in water

Appearance: Red lyophilized powder

Shipping: The peptide powder is shipped at room temperature.

Storage: Upon receiving, the peptide should be stored at -70 ^{o}C. Avoid repeated freeze-thaw cycles. If dissolved in liquid (such as DMSO), aliquot into separate tubes to minimize the number of freeze-thaw cycles.

Stability: Samples are stable up to 6 months at -70^{o}C.

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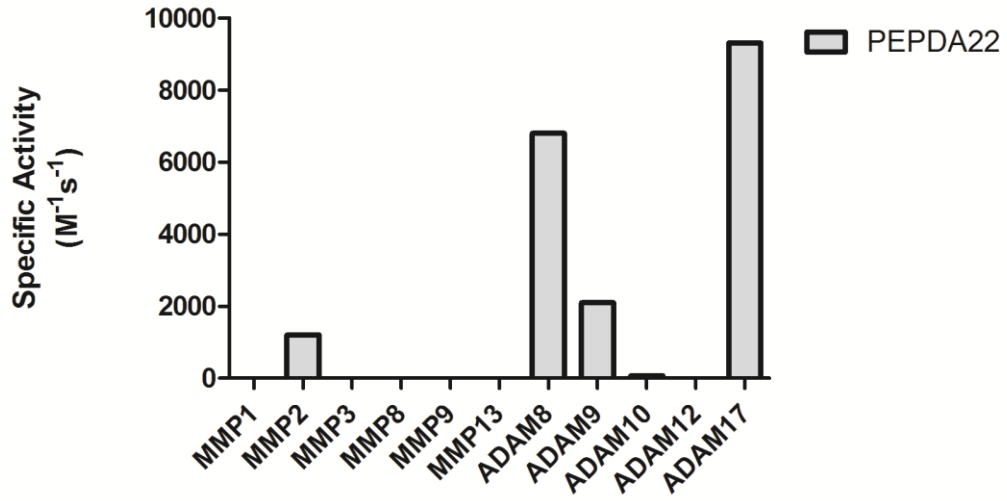

Specificity values, ($M^{-1}s^{-1}$), of substrates tested against MMPs 1, 2, 3, 8, 9, 13, and 14 and ADAMs 8, 10, 12, and 17 (TACE)

Enzyme \ Substrate	(PEPDAB015)
MMP1	ND
MMP2	1.2×10^3
MMP3	ND
MMP8	ND
MMP9	ND
MMP13	ND
MMP14	NA
ADAM8	6.8×10^3
ADAM9	2.1×10^3
ADAM10	6.9×10^1
ADAM12	ND
ADAM17 (TACE)	9.4×10^3

[a] ND, no turnover detected
[b] NA, not attempted\

References:

1. Proteolytic Activity Matrix Analysis (PrAMA) for simultaneous determination of multiple protease activities. Miles A Miller, Layla Barkal, Karen Jeng, Andreas Herrlich, Marcia Moss, Linda G Griffith, Douglas A Lauffenburger. Integrative Biology 2010; 3(4):422-38.

2.Fluorescent substrates useful as high-throughput screening tools for ADAM9. Marcia L Moss, Fred H Rasmussen, Raphael Nudelman, Peter J Dempsey, Jason Williams Combinatorial chemistry & high throughput screening 12/2009; 13(4):358-65.

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