

New EnSens® Technology Enables *Selective, Non-FRET* MMP Activity Detection Is your MMP assay as selective as you think it is?



Matrix Metalloproteinases (MMPs) are a family of closely related zincdependent endopeptidases that play critical roles in a variety of major diseases and developmental pathways. MMP substrates are notoriously non-selective, each being cleaved by multiple MMPs. EnSens® protease substrates have been engineered to increase selectivity between closely related proteases within a family.

New EnSens® fluorescent protease assay technology offers critical advantages:

- <u>Selective</u>: Substrate module can accommodate up to 200aa protease recognition sequences
- <u>Versatile</u>: Modular, protein-based substrates enable us to easily customize to your favorite protease
- Sensitive and Quantitative at picomolar levels of active protease. Repeatable, Reproducible, and Robust
- <u>Fewer False Positives and Negatives</u>: 6-30X signal-to-noise ratios; red wavelengths give greater sensitivity and accuracy
- Cell Based Assays: Stable, protein-based (scFv) substrate & nontoxic dye allow cell surface detection of protease activity
- <u>Bead Based Assays</u> allow for multiplexing in flow cytometry and other applications
- <u>HTS and HCS</u>—EnSens[®] substrates are naturally resistant to degradation
- <u>High Signal Stability</u>, resistant to photobleaching over 48 hours
- Easy: Mix and Read. No antibodies, no special equipment or complicated data analysis



How EnSens® Technology Works



- Each EnSens® substrate (blue) is engineered with a specific protease recognition site and a masked dye-binding site.
- Cleavage of EnSens® substrate by a cognate protease (red) reveals the dye-binding site.
- The molecular rotor dye (green), which exhibits no fluorescence unless bound to EnSens® substrate, emits a far-red signal (Ex./Em. 635/665 nm) for minimal background interference.

EnSens® Protease Activity Assay Kits

Protease Target	Kit Name	Catalog Number
Available Now Custom Substrate Service		
Coming Soon – Substrate Library Screening		
MMP-2	EnSens® MMP-2 Activity Detection Kit	032014-01
MMP-9	EnSens® MMP-9 Activity Detection Kit	032014-02
MMP-14	EnSens® MMP-14 Activity Detection Kit	032014-03
MMP-25	EnSens® MMP-25 Activity Detection Kit	032014-04
ADAM10	EnSens® ADAM10 Activity Detection Kit	032014-08
ADAM17 (TACE)	EnSens® ADAM17 Activity Detection Kit	032014-09
Furin	EnSens® Furin Activity Detection Kit	032014-05
Thrombin	EnSens® Thrombin Activity Detection Kit	032014-06
Factor Xa	EnSens® Factor Xa Activity Detection Kit	032014-07