

# Supplementary Data

## Real-time monitoring of the caspase cascade activation in living cells

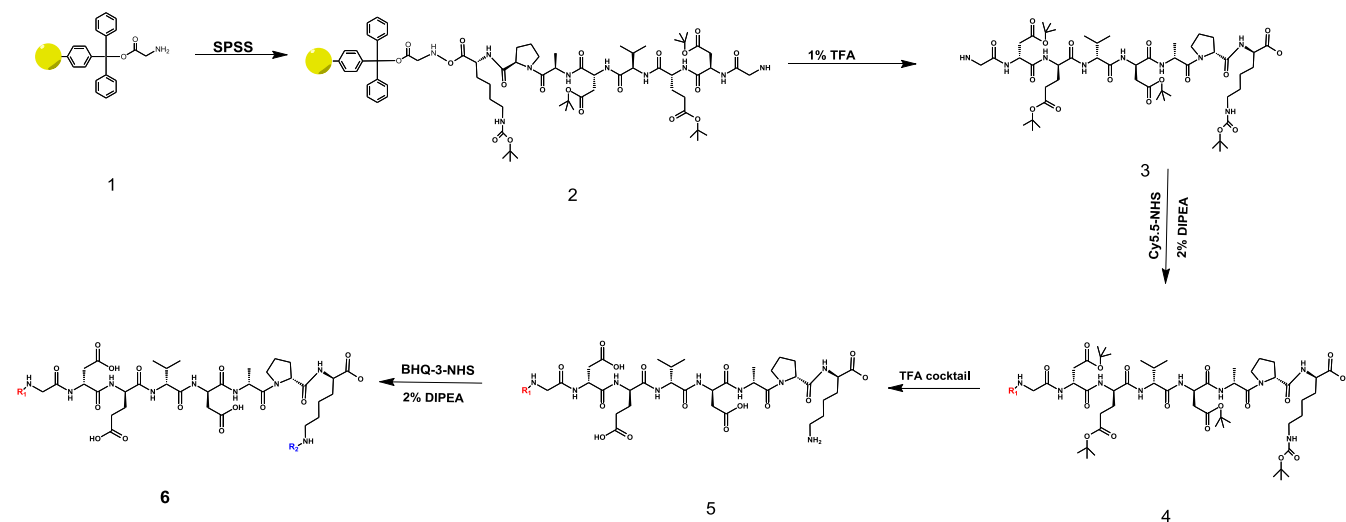
Lei Zhu<sup>1,2</sup>, Xinglu Huang<sup>2</sup>, Ki Yong Choi<sup>2</sup>, Ying Ma<sup>2</sup>, Fan Zhang<sup>1,2</sup>, Gang Liu<sup>1,2</sup>, Seulki Lee<sup>2</sup>\*,  
Xiaoyuan Chen<sup>2</sup>\*

<sup>1</sup>Center for Molecular Imaging and Translational Medicine, School of Public Health, Xiamen University, Xiamen, 361005, China

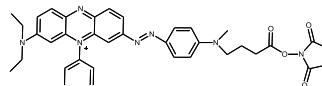
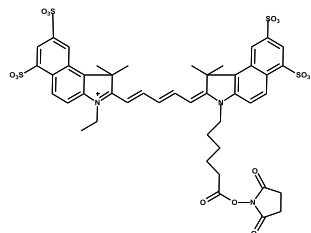
<sup>2</sup>Laboratory of Molecular Imaging and Nanomedicine (LOMIN), National Institute of Biomedical Imaging and Bioengineering (NIBIB), National Institutes of Health (NIH), Bethesda, MD 20892, USA.

L.Z. and X. H. contributed equally.

\* To whom correspondence should be addressed. Tel: +1 301 451 4246, Fax: +1 301 480 1679; E-mail: [shawn.chen@nih.gov](mailto:shawn.chen@nih.gov) (X.C.) or [seulki.lee@nih.gov](mailto:seulki.lee@nih.gov) (S.L.)



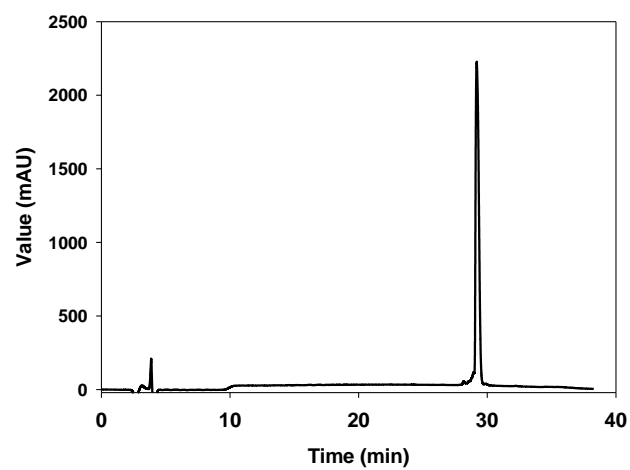
**Caspase-3 Activatable Fluorogenic Peptide**



**R1 = Cy5.5-NHS**

**R2 = BHQ-3 Succinimidyl ester**

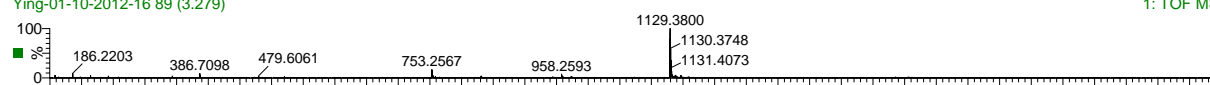
**Scheme S1. A) Synthesis scheme of C3**



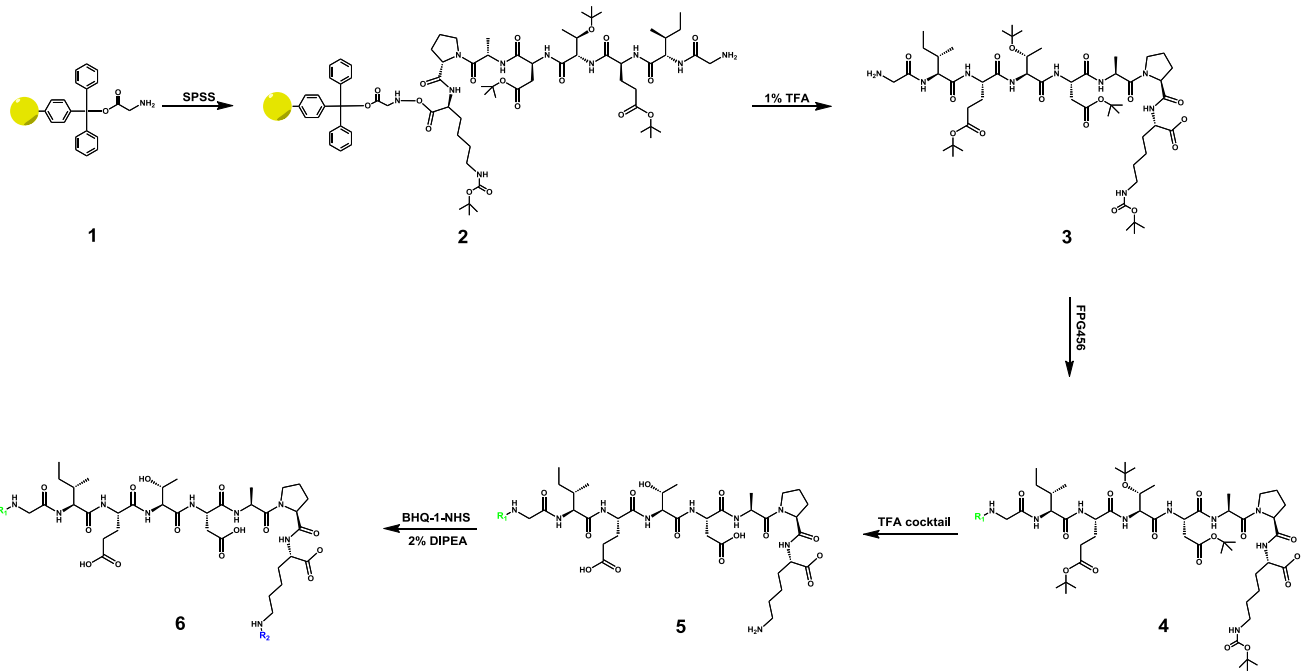
Lei C3

10-Jan-2012  
17:18:04  
1: TOF MS ES+  
399

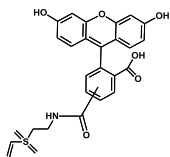
Ying-01-10-2012-16 89 (3.279)



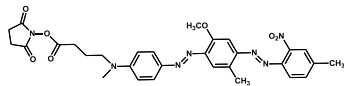
**Figure S1.** RP-HPLC (upper) and LC/MS (lower) spectra of C3.



Caspase-8 Activatable Fluorogenic Peptide, C8

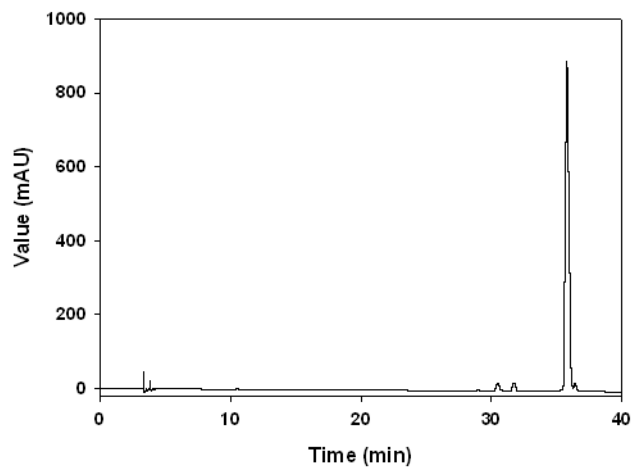


R1 = FPG456



R2 = BHQ-1 Succinimidyl ester

Scheme S2. A) Synthesis scheme of C8



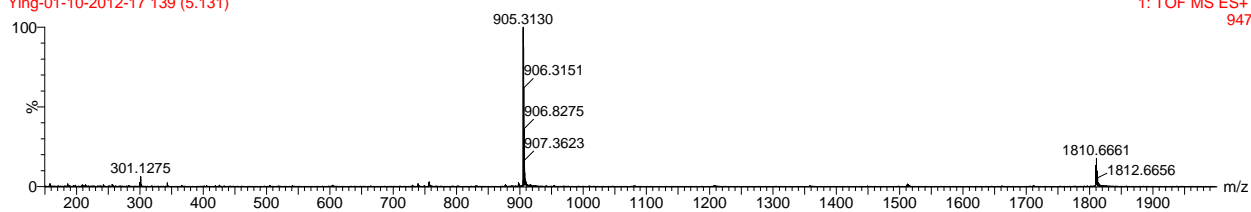
Lei C8

10-Jan-2012

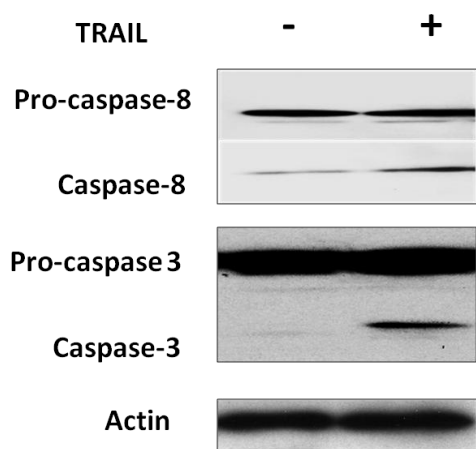
17:30:55

Ying-01-10-2012-17 139 (5.131)

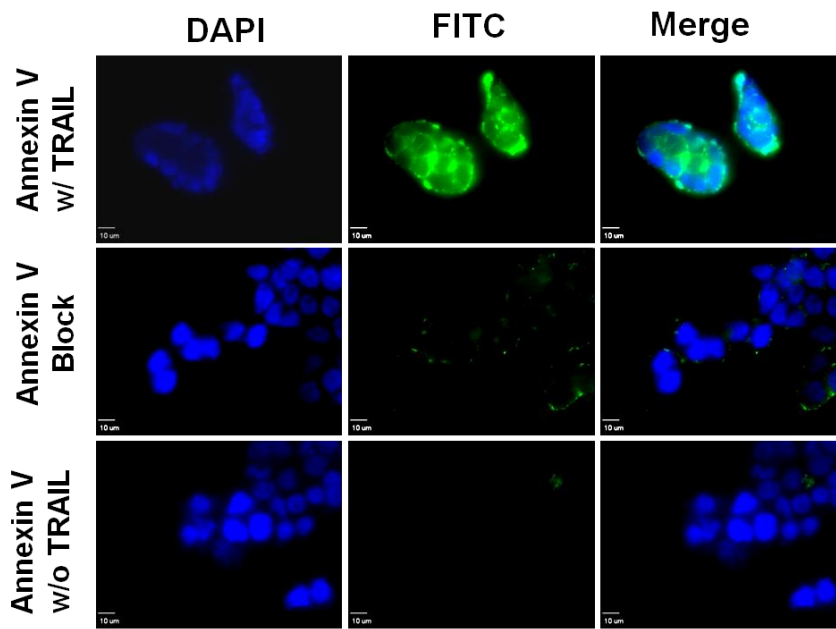
1: TOF MS ES+  
947



**Figure S2.** RP-HPLC (upper) and LC/MS (lower) spectra of C8.



**Figure S3.** Caspase-8 and caspase-3 activities in MDA-MB-435 cells before and after TRAIL treatment.



**Figure S4.** Assessment of TRAIL-induced apoptosis in MDA-MB-435 cells by FITC-annexin V staining. Blue (DAPI), nucleus; green (FITC-annexin V), apoptotic marker.