



**TiY**  
**P028**  
**1  $\mu$ mol**

- **Known Property** Tumor Initiating Cell (TIC) probe.
- **Application** Immunofluorescence and therapeutic treatment for TIC
- **Cell selectivity mechanism:** POLD (heme oxygenase 2: HMOX2)
- **Storage**
  - ① Delivery: Room Temperature
  - ② Dried compound: 4 °C or -20 °C
  - ③ Compound solution: 4 °C or -20 °C

## ■ ORDER

- SenPro
- [order@senprobe.com](mailto:order@senprobe.com)
- [www.senprobe.com](http://www.senprobe.com)

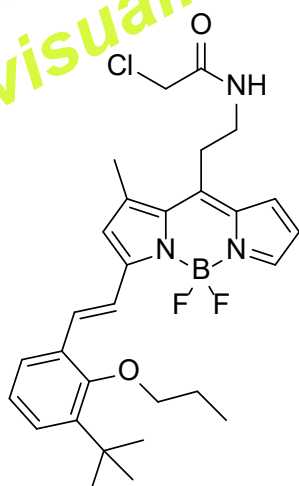
## ■ General Use Guide

More than 1/100 dilution of 10mM of DMSO stock solution is essential

For biomedical use to avoid DMSO concentration higher than 1%.

Working concentrations for specific applications should be determined by the investigator.

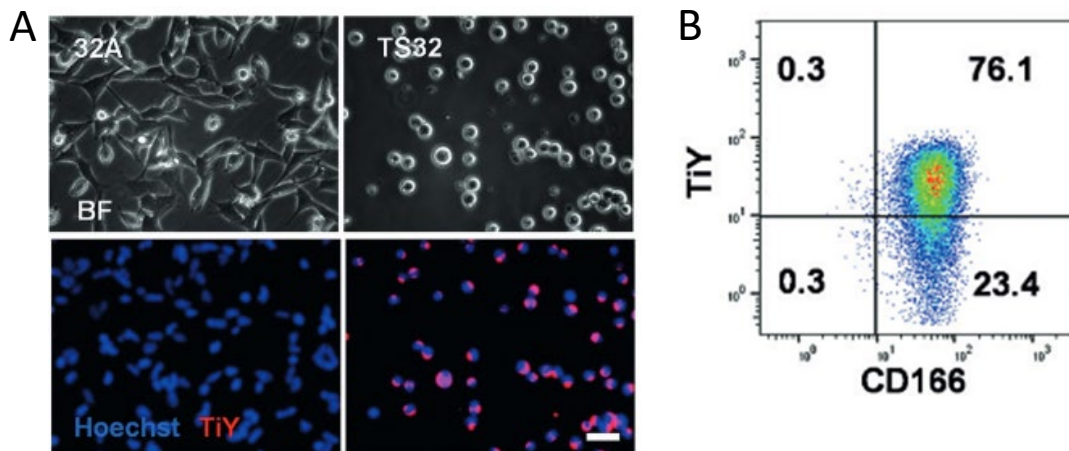
It is recommended to use up the buffer diluted solution within one day. The compound may be decomposed or precipitated out from buffer solution.



Molecular Weight 541.87 (C<sub>29</sub>H<sub>35</sub>BClF<sub>2</sub>N<sub>3</sub>O<sub>2</sub>)

$\lambda_{ex} / \lambda_{em}$  553 / 573 nm

The chloroacetyl motif of **TiY** facilitated the binding target protein from TS32 cells, elucidating vimentin as **TiY**'s target. Vimentin is an intermediate filament and EMT (Epithelial-mesenchymal transition) marker. **TiY** shows the inhibitor function against vimentin, and has higher affinity to tetramer comparing to monomer vimentin. At high dose, **TiY** suppresses the tumor sphere growth of TIC, without much effect to differentiated cancer cells or normal epithelial cells.



Discovery of a fluorescent probe for lung TICs (A) S-cell-selective staining by TiY (B) Flow cytometry quadrant dot plot of 32A and TS32 cells after dual staining with TiY and CD166.

- Related probes: TiNIR

## Reference

1. **Identification of Tumor Initiating Cells by a Small Molecule Fluorescent Probe through Vimentin as the Biomarker**, Lee, Y. A.; Kim, J. J.; Lee, J.; Lee, J. H. J.; Sahu, S.; Kwon, H. Y.; Park, S. J.; Jang, S. Y.; Lee, J. S.; Wang, Z.; Tam, W. L.; Lim, B.; Kang, N. Y.\*; Chang, Y. T.\* *Angew. Chem. Int. Ed. Engl.* 2018, 57, 2851-2854.