



TiNIR
P030
1 μ mol

- **Known Property** Tumor Initiating Cell (TIC) probe
- **Application** Immunofluorescence and therapeutic treatment for TIC in animal model
- **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
- www.senprobe.com

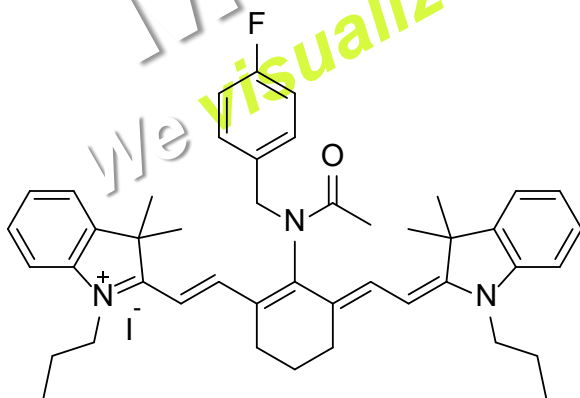
General Use Guide

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.



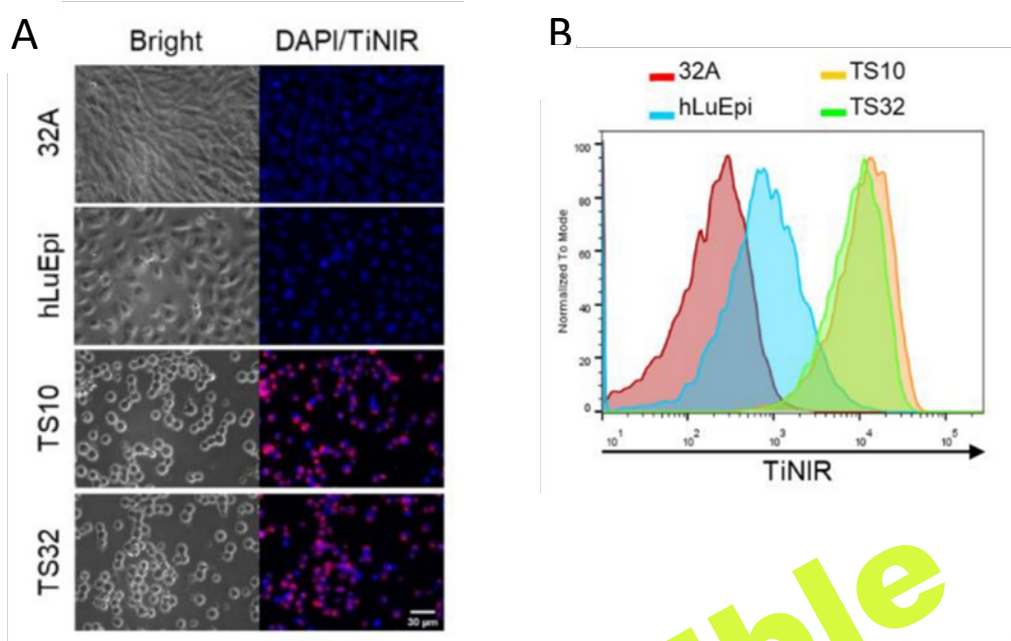
Molecular Weight

797.84 (C₄₅H₅₃FIN₃O₂)

$\lambda_{ex} / \lambda_{em}$

805 / 825 nm

The long wavelength of **TiNIR** allowed the in vivo imaging of tumor in mouse model both is fluorescence and photoacoustic imaging. The affinity of **TiNIR** to target proteins were monitored by fluorescence and the bound protein was identified as heme oxygenase 2 (HMOX2). TIC maintain high level of reactive oxygen species (ROS) in the cell, and HMOX2 seem to detoxify cells by removing intracellular ROS.



Discovery of the NIR fluorescence probe for human lung TIC. (A) Fluorescence images show 32A, hLuEpi, TS10, and TS32 cells after being stained with TiNIR (100 nM) and DAPI (1 μg/mL) for 40 min, 37 °C. (B) Flow cytometry analyzed fluorescence intensity of 32A, hLuEpi, TS10, and TS32 cells after being stained with TiNIR (10 nM, 40 min, RT).

- Related probes: TiY

Reference

1. **A NIR probe tracks and treats lung tumor initiating cells by targeting HMOX2**, Kim, J. J.; Lee, Y. A.; Su, D.; Lee, J.; Park, S. J.; Kim, B.; Lee, J. H. J.; Liu, X.; Kim, S. S.; Bae, M. A.; Lee, J. S.; Hong, S. C.; Wang, L.; Samanta, A.; Kwon, H. Y.; Choi, S. Y.; Kim, J. Y.; Yu, Y. H.; Ha, H. H.; Wang, Z.; Tam, W. L.; Lim, B.; Kang, N. Y.*; Chang, Y. T.* J. Am. Chem. Soc. 2019, 141, 14673-14686.