# BETA-1

**Cat. No.:** HY-152073

**CAS No.:** 2924598-24-1

**Molecular Formula:** $C_{37}H_{28}IN_3S_2$

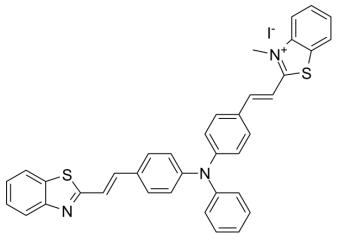
**Molecular Weight:** 705.67

**Target:** Fluorescent Dye

**Pathway:** Others

**Storage:** 4°C, sealed storage, away from moisture

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 25 mg/mL (35.43 mM; Need ultrasonic)

| Preparing Stock Solutions | Mass / Solvent / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 1.4171 mL | 7.0855 mL | 14.1709 mL |
| | 5 mM | 0.2834 mL | 1.4171 mL | 2.8342 mL |
| | 10 mM | 0.1417 mL | 0.7085 mL | 1.4171 mL |

Please refer to the solubility information to select the appropriate solvent.

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (3.54 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

BETA-1 is the first twisted intramolecular charge transfer (TICT)-aggregation-induced emission (AIE) integration molecule. BETA-1 emits cyan fluorescence in lipid droplets (LDs) and red fluorescence in mitochondria. BETA-1 can be used for the simultaneous and dual-color imaging of LDs and mitochondria in vivo and in vitro[1].

**In Vitro**

BETA-1 can be used for imaging of LDs and Mitochondria in live cells[1].
Wavelength: cyan: λex = 405 nm, λem = 430–500 nm; red: λex = 561 nm, λem = 600–700 nm).
1. HeLa cells were cultured in DMEM supplemented with 10% FBS in a $CO_2$/air (5%/95%) incubator at 37 °C.
2. A total of $5.0 \times 10^3$ HeLa cells per well were seeded on a glass-bottom 96-well plate and incubated for 24 h.
3. For cell imaging, live HeLa cells were stained with 5 μM BETA-1 at 37 °C for 30 min.
4. The emission of BETA-1 was collected under excitation at 405 or 561 nm. Digital images were recorded using an laser scanning confocal microscope. The images were analyzed with Fiji/ImageJ.
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## REFERENCES

[1]. Zeng ST, et al. Construction of a TICT-AIE-Integrated Unimolecular Platform for Imaging Lipid Droplet-Mitochondrion Interactions in Live Cells and In Vivo. ACS Sens. 2022 Dec 19.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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