IR-990

Cat. No.: HY-151109

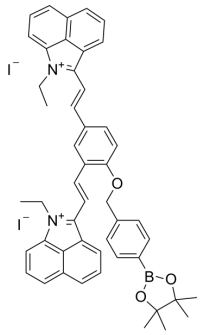
Molecular Formula: $C_{49}H_{47}BI_2N_2O_3$

Molecular Weight: 976.53

Target: Fluorescent Dye

Pathway: Others

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

IR-990 is an activatable NIR-II fluorescent probe with an acceptor-π-acceptor (A-π-A) skeleton for real-time detection of H_2O_2 in vivo. IR-990 is a powerful diagnosis of agent-induced liver injury (DILI)[1].

In Vitro

IR-990 (0-30 μM) treatment shows high cell viability[1].

IR-990 (10 μM; 1 h) can sensitively visualize endogenous H_2O_2 levels in cells, and possess excellent ability to detect H_2O_2 in the cell model of acetaminophen-induced liver injury[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Cytotoxicity Assay[1]

Cell Line:	HeLa and HepG2 cells
Concentration:	0-30 μM
Incubation Time:	
Result:	Observed high cell viability after the cells treated with different concentrations of IR-990.

Cell Viability Assay[1]

Cell Line:	HeLa cells
Concentration:	10 μM
Incubation Time:	1 hour
Result:	Observed NIR-II fluorescence with 1.7-fold fluorescence enhancement, when the cells were pretreated with different concentrations of lipopolysaccharide (50-100 μM).

Cell Viability Assay[1]

Cell Line:	HeLa cells
Concentration:	10 μM
Incubation Time:	1 hour

Result:	Exhibited higher NIR-II fluorescence intensity when pretreated with acetaminophen, resulting in remarkable fluorescence enhancement up to 8.5-fold.

In Vivo

IR-990 (intravenous injection; 195.31 μg per mouse; once) is a powerful tool for real-time detection of H_2O_2[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Female BALB/c mice (6–8 weeks old, 18–20 g) with acetaminophen-induced liver injury[1]
Dosage:	195.31 μg per mouse
Administration:	Intravenous injection; 195.31 μg per mouse; once
Result:	Observed NIR-II fluorescence after 20 min for the acetaminophen-treated group, exhibiting the highest fluorescence intensity at 1 h postinjection and a high signal-to-background ratio up to 11.3/1.

REFERENCES

[1]. Yang Tian, et al. H2O2-Activated NIR-II Fluorescent Probe with a Large Stokes Shift for High-Contrast Imaging in Drug-Induced Liver Injury Mice. Anal Chem. 2022 Aug 16;94(32):11321-11328.

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