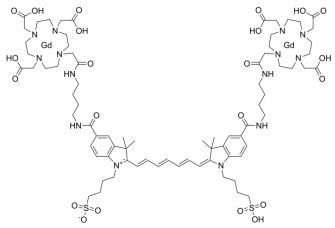
Gd-NMC-3

Cat. No.:	HY-150979
CAS No.:	2678579-76-3
Molecular Formula:	$C_{77}H_{116}Gd_2N_{14}O_{22}S_2$
Molecular Weight:	1968.46
Target:	Fluorescent Dye
Pathway:	Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Gd-NMC-3 is a near-infrared fluorescence/magnetic resonance (NIRF/MR) bimodal imaging probe. Gd-NMC-3 shows high resolution and sensitivity in tumor imaging with good biocompatibility, indicating huge application potential[1].

In Vitro

Gd-NMC-3 shows the maximum excitation wavelength and emission wavelength are 755 and 792 nm, respectively. Both wavelengths are located in the near-infrared region[1].
Gd-NMC-3 acts as a bimodal imaging molecule, can be accumulated in tumor sites[1].
Gd-NMC-3 (50 μM; 24 h) can be internalized into cancer cells by OATPs and NTCP, indicating an excellent specificity to tumor tissues[1].
Gd-NMC-3 (6.25-800 μM, 24 h) exhibits significant fluorescence accumulation (with the optimal concentration of 100, 200 μM) and reasonable relaxation property (11.64 M/m/s) in tumors[1].
Gd-NMC-3 (6.25-100 μM, 48 h) displays low cytotoxicity and good biocompatibility[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Cytotoxicity Assay[1]

Cell Line:	HepG2 and LM3: human hepatocarcinoma cell line; L02: human hepatocyte cell line
Concentration:	6.25-100 μM
Incubation Time:	48 hours
Result:	Resulted more than 90% cell viability maintained after 48 h.

In Vivo

Gd-NMC-3 (20 mg/kg; i.v.) holds an excellent tumor targeting ability, shows high resolution and sensitivity and provides real-time visual navigation in LM3 orthotopic and subcutaneous tumor models to guide the resection of tumors[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	HepG2 subcutaneous xenograft mice[1]
Dosage:	20 mg/kg
Administration:	Intravenous injection; 1.5 h later dissected tumors
Result:	Accumulated in the tumor after injection and produced stronger fluorescence intensity in

	tumor tissues. Remained fluorescence signal longer than 1.5 h, and provided high-resolution images of the tumor tissues with a SNR of 4.32.

Animal Model:	LM3 orthotopic mice[1]
Dosage:	20 mg/kg
Administration:	Intravenous injection
Result:	Decreased gradually the fluorescence intensity in LM3 orthotopic liver tumors after administration, whereas tumor-to-skin fluorescence ratios increased due to high accumulation and low clearance in tumor tissues.

REFERENCES

[1]. Li Q, et al. Tumor-Targeting NIRF/MR Dual-Modal Molecular Imaging Probe for Surgery Navigation. Anal Chem. 2022 Aug 3.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA