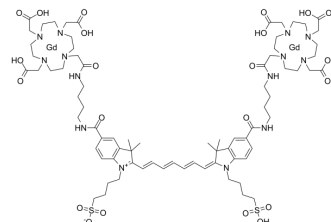


Gd-NMC-3

Cat. No.:	HY-150979
Molecular Formula:	$C_{77}H_{116}Gd_2N_{14}O_{22}S_2$
Molecular Weight:	1968.46
Target:	Others
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	<p>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].</p> <p>Gd-NMC-3 acts as a bimodal imaging molecule, can be accumulated in tumor sites^[1].</p> <p>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].</p> <p>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].</p> <p>Gd-NMC-3 (6.25-100 μM, 48 h) displays low cytotoxicity and good biocompatibility^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Cytotoxicity Assay^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>HepG2 and LM3: human hepatocarcinoma cell line; L02: human hepatocyte cell line</td> </tr> <tr> <td>Concentration:</td> <td>6.25-100 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>48 hours</td> </tr> <tr> <td>Result:</td> <td>Resulted more than 90% cell viability maintained after 48 h.</td> </tr> </table>	Cell Line:	HepG2 and LM3: human hepatocarcinoma cell line; L02: human hepatocyte cell line	Concentration:	6.25-100 μ M	Incubation Time:	48 hours	Result:	Resulted more than 90% cell viability maintained after 48 h.
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In Vivo	<p>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].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1"> <tr> <td>Animal Model:</td> <td>HepG2 subcutaneous xenograft mice^[1]</td> </tr> <tr> <td>Dosage:</td> <td>20 mg/kg</td> </tr> <tr> <td>Administration:</td> <td>Intravenous injection; 1.5 h later dissected tumors</td> </tr> <tr> <td>Result:</td> <td>Accumulated in the tumor after injection and produced stronger fluorescence intensity in</td> </tr> </table>	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
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	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.
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Animal Model:	LM3 orthotopic mice ^[1]
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Dosage:	20 mg/kg
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Administration:	Intravenous injection
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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.
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REFERENCES

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

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

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