



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

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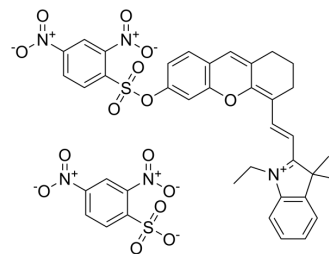
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## NIR-Thiol dinitrobenzenesulfonate

|                           |   |
|---------------------------|---|
| <b>Cat. No.:</b>          | HY-D1066  |
| <b>Molecular Formula:</b> | C <sub>39</sub> H <sub>33</sub> N <sub>5</sub> O <sub>15</sub> S <sub>2</sub>             |
| <b>Molecular Weight:</b>  | 875.83  |
| <b>Target:</b>            | Fluorescent Dye   |
| <b>Pathway:</b>           | Others  |
| <b>Storage:</b>           | Please store the product under the recommended conditions in the Certificate of Analysis. |



### BIOLOGICAL ACTIVITY

|                    |   |
|--------------------|---|
| <b>Description</b> | NIR-Thiol dinitrobenzenesulfonate has both absorption and emission in the NIR region. NIR-Thiol dinitrobenzenesulfonate responds to thiol with a large turn-on NIR fluorescence signal upon excitation in the NIR region. NIR-Thiol dinitrobenzenesulfonate is capable of imaging endogenously produced thiol in living cells and mice <sup>[1]</sup> .   |
| <b>In Vitro</b>    | NIR-Thiol dinitrobenzenesulfonate is highly selective to typical small molecular weight biological thiols (Cys, Hcy, and GSH) over other biorelevant species, such as Phe, Gly, Arg, Lys, Tyr, Leu, glucose, Ser, and Val <sup>[1]</sup> .<br>To assess the ability of the sensor NIR-Thiol dinitrobenzenesulfonate for NIR imaging of thiols in living cells, the sensor is incubated with living HeLa or Bel 7702 cells, and bright fluorescence is observed. Thus, the sensor appears to be cell membrane permeable and capable of NIR imaging of thiols in living cell. NIR-Thiol dinitrobenzenesulfonate has some prominent features, including NIR absorption and emission, rapid response, high sensitivity, excellent selectivity, good cell membrane permeability, and low cytotoxicity <sup>[1]</sup> .<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only.  |
| <b>In Vivo</b>     | A different amount (0, 20, 40, or 160 nanomoles) of NIR-Thiol dinitrobenzenesulfonate is injected into the ip cavity of mice. Strong fluorescence is noted for the mice injected with 20 nanomoles of NIR-Thiol dinitrobenzenesulfonate, whereas almost no fluorescence is observed in the control mice without being injected with the sensor. In addition, the mice injected with a higher amount (40 or 160 nanomoles) of NIR-Thiol dinitrobenzenesulfonate provides brighter fluorescence. A very large signal-to-noise contrast ratio (ca. 700-fold enhancement) is observed for the mice injected with 20 nanomoles of NIR-Thiol dinitrobenzenesulfonate. In addition, the signal-to-noise contrast ratio jumped to ca. 2900- or 7400-fold enhancement when the mice are injected with 40 or 160 nanomoles of NIR-Thiol dinitrobenzenesulfonate, respectively <sup>[1]</sup> .<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

### REFERENCES

[1]. Yuan L, et al. A unique approach to development of near-infrared fluorescent sensors for in vivo imaging. J Am Chem Soc. 2012 Aug 15;134(32):13510-23.

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

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