



# SZABO SCANDIC

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### SZABO-SCANDIC HandelsgmbH

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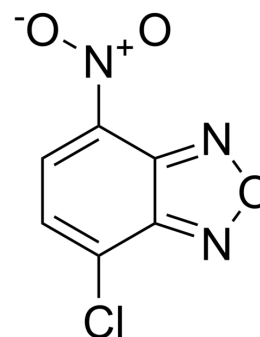
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## NBD-Cl

Cat. No.:	HY-D0042
CAS No.:	10199-89-0
Molecular Formula:	C <sub>6</sub> H <sub>2</sub> ClN <sub>3</sub> O <sub>3</sub>
Molecular Weight:	200
Target:	Fluorescent Dye
Pathway:	Others
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



### SOLVENT & SOLUBILITY

In Vitro	DMSO : ≥ 100 mg/mL (500.00 mM) H <sub>2</sub> O : < 0.1 mg/mL (insoluble) * "≥" means soluble, but saturation unknown.																		
	Preparing Stock Solutions	<table border="1"> <thead> <tr> <th>Solvent Concentration</th> <th>1 mg</th> <th>5 mg</th> <th>10 mg</th> </tr> </thead> <tbody> <tr> <td>1 mM</td> <td>5.0000 mL</td> <td>25.0000 mL</td> <td>50.0000 mL</td> </tr> <tr> <td>5 mM</td> <td>1.0000 mL</td> <td>5.0000 mL</td> <td>10.0000 mL</td> </tr> <tr> <td>10 mM</td> <td>0.5000 mL</td> <td>2.5000 mL</td> <td>5.0000 mL</td> </tr> </tbody> </table>	Solvent Concentration	1 mg	5 mg	10 mg	1 mM	5.0000 mL	25.0000 mL	50.0000 mL	5 mM	1.0000 mL	5.0000 mL	10.0000 mL	10 mM	0.5000 mL	2.5000 mL	5.0000 mL	Please refer to the solubility information to select the appropriate solvent.
Solvent Concentration	1 mg	5 mg	10 mg																
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10 mM	0.5000 mL	2.5000 mL	5.0000 mL																
In Vivo	1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (12.50 mM); Clear solution																		

### BIOLOGICAL ACTIVITY

Description	NBD-Cl is a nonfluorescent reagent which becomes highly fluorescent after reaction with thiol or amino groups <sup>[1]</sup> .
In Vitro	NBD-Cl (NBD chloride) forms highly fluorescent derivatives for detection of all the protein amino acids. In addition, NBD-Cl provides a simple and sensitive method for determination of N-terminal amino acids. The differences in intensity and color of fluorescence can be used to advantage to identify prolyl peptides <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### PROTOCOL

Kinase Assay <sup>[1]</sup>	Fluorescence Measurements <sup>[1]</sup>
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Fluorescence spectra are recorded on a Hitachi MPF-24 Fluorescence Spectrophotometer. The emission spectrum is determined at the optimal wavelength of 464 nm. Thin-layer chromatography is carried out on Brinkmann glass supported analytical silica G thin-layer plates without fluorescent indicator. The NBD derivatives are visualized on thin-layer plates either by examination under an ultraviolet lamp with a long wavelength filter or by using the same lamp with a 2×2-in. Corning 5-57 filter and viewing the spots through a 2×2-in. Corning 3-68 filter. The former method produces a more intense fluorescence, but the latter produces a much greater contrast appearing as white spots against a dark background. NBD-Cl (NBD chloride) is allowed to react with amino acids and peptides under the conditions. Into 3 mL Pyrex test tubes are pipette the following: (1) 2.0 mL of ethanol, (2) 0.1 mL NBD-Cl solution in ethanol 1.41 µg/mL, (3) 0.1 mL ethanol saturated with sodium acetate, (4) 0.1 mL of amino acid solution 400-600µg/mL, and the mixture incubated at 75°C for 20 min. For reaction with peptides, 1.5 mL of ethanol, 0.1 mL ethanolic sodium acetate, 0.4 mL ethanolic NBD-Cl, 1.41 µg/mL, are added to 0.4 mL of the peptide and incubated under the same conditions.

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

## CUSTOMER VALIDATION

- Biosens Bioelectron. 2021 Apr 19;184:113235.

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## REFERENCES

[1]. Fager RS, et al. The use of NBD chloride (7 chloro-4-nitrobenzo-2-oxa-1,3-diazole) in detecting amino acids and as an N-terminal reagent. Anal Biochem. 1973 May;53(1):290-4.

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

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