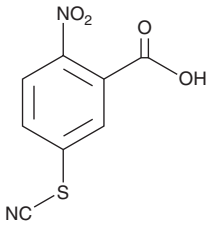
PRODUCT INFORMATION

2-Nitro-5-thiocyanatobenzoic Acid

Item No. 18236

CAS Registry No.:	30211-77-9
Formal Name:	2-nitro-5-thiocyanato-benzoic acid
Synonym:	NTCB
MF:	$C_8H_4N_2O_4S$
FW:	224.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 280 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

2-Nitro-5-thiocyanatobenzoic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the 2-nitro-5-thiocyanatobenzoic acid in the solvent of choice, which should be purged with an inert gas. 2-Nitro-5-thiocyanatobenzoic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 2-nitro-5-thiocyanatobenzoic acid in ethanol and DMF is approximately 25 mg/ml and approximately 11 mg/ml in DMSO.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 2-nitro-5-thiocyanatobenzoic acid can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 2-nitro-5-thiocyanatobenzoic acid in PBS, pH 7.2, is approximately 0.3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

2-Nitro-5-thiocyanatobenzoic acid is used to cyanylate proteins and to specifically cleave the amino-terminal peptide bond of cysteine residues.[1,2]

References

1. Tang, H.-Y. and Speicher, D.W. Identification of alternative products and optimization of 2-nitro-5-thiocyanatobenzoic acid cyanylation and cleavage at cysteine residues. *Anal. Biochem.* **334**, 48-61 (2004).
2. Degani, Y. and Patchornik, A. Cyanylation of sulfhydryl groups by 2-nitro-5-thiocyanobenzoic acid. High-yield modification and cleavage of peptides at cysteine residues. *Biochem.* **13(1)**, 1-11 (1974).

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