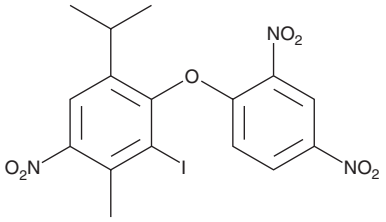
PRODUCT INFORMATION

DNP-INT

Item No. 9003061

CAS Registry No.:	69311-70-2
Formal Name:	2-(2,4-dinitrophenoxy)-3-iodo-4-methyl-1-(1-methylethyl)-5-nitro-benzene
MF:	$C_{16}H_{14}IN_3O_7$
FW:	487.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 280 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

DNP-INT is supplied as a crystalline solid. A stock solution may be made by dissolving the DNP-INT in the solvent of choice. DNP-INT is soluble in organic solvents such as DMSO and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of DNP-INT in these solvents is approximately 5 and 10 mg/ml, respectively.

DNP-INT is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, DNP-INT should first be dissolved in DMF and then diluted with the aqueous buffer of choice. DNP-INT has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

DNP-INT is a quinone analog that inhibits electron transport in plants by competitively inhibiting plastoquinol oxidation by binding at the Q_o site of cytochrome b_6f (K_d = 1.4 nM).[1] It inhibits electron flow from water to NADP or methylviologen by 50 and 100% when used at concentrations of 0.5 or 5 µM, respectively.[2,3]

References

1. Barbagallo, R.P., Finazzi, G., and Forti, G. Effects of inhibitors on the activity of the cytochrome b6f complex: Evidence for the existence of two binding pockets in the lumenal site. *Biochemistry* **38(39)**, 12814-12821 (1999).
2. Trebst, A., Wietoska, H., Draber, W., *et al.* The inhibition of photosynthetic electron flow in chloroplasts by the dinitrophenylether of bromo-or iodo-nitrothymol. *Zeitschrift für Naturforschung C* **33(11-12)**, 919-927 (1978).
3. Malkin, R. Interaction of stigmatellin and DNP-INT with the Rieske iron-sulfur center of the chloroplast cytochrome b6f complex. *FEBS Lett.* **208(2)**, 317-320 (1986).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

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