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Print Date: Jan 14th 2016

Certificate of Analysis

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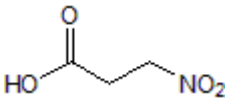
Product Name: **3-Nitropropionic acid** **Catalog No.: 4849** **Batch No.: 1**
CAS Number: 504-88-1

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	$C_3H_5NO_4$
Batch Molecular Weight:	119.08
Physical Appearance:	White solid
Solubility:	DMSO to 100 mM ethanol to 100 mM
Storage:	Store at +4°C
Batch Molecular Structure:	

2. ANALYTICAL DATA

HPLC:	Shows 98.7% purity
GC:	Shows 97.2% purity
^{1}H NMR:	Consistent with structure
Mass Spectrum:	Consistent with structure

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Product Name: **3-Nitropropionic acid** **Catalog No.: 4849** **Batch No.: 1**

CAS Number: 504-88-1

Description:

Irreversible mitochondrial respiratory complex II (succinate dehydrogenase) inhibitor; induces autophagy in SH-SY5Y cells. Recapitulates Huntington's disease-like pathology and symptoms in primate and rodent models.

Physical and Chemical Properties:

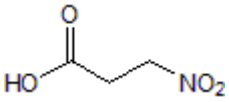
Batch Molecular Formula: $C_3H_5NO_4$

Batch Molecular Weight: 119.08

Physical Appearance: White solid

Minimum Purity: >97%

Batch Molecular Structure:



Storage: Store at +4°C

Solubility & Usage Info:

DMSO to 100 mM
ethanol to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Huang *et al* (2005) 3-nitropropionic acid is a suicide inhibitor of mitochondrial respiration that, upon oxidation by complex II, forms a covalent adduct with a catalytic base arginine in the active site of the enzyme. J.Biol.Chem. ***28*** 5965. PMID: 16371358.

de Oca Balderas *et al* (2013) Mitochondrial impairment induced by 3-nitropropionic acid is enhanced by endogenous metalloprotease activity inhibition in cultured rat striatal neurons. Neurosci.Lett. . PMID: 23643981.

Solesio *et al* (2013) 3-Nitropropionic acid induces autophagy by forming mitochondrial permeability transition pores rather than activating the mitochondrial fission pathway. Br.J.Pharmacol. ***168*** 63. PMID: 22509855.

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