1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: \( \text{C}_3\text{H}_5\text{NO}_4 \)
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
Product Name: 3-Nitropropionic acid

CAS Number: 504-88-1

Catalog No.: 4849  Batch No.: 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: C₇H₅NO₄
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. 280 5965. PMID: 16371358.