

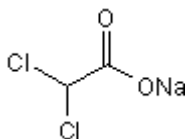
Certificate of Analysis

Product Name: DCA
CAS Number: 2156-56-1
IUPAC Name: Dichloroacetate

Catalog No.: 2755 **Batch No.:** 1
EC Number: 218-461-3

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_2HCl_2NaO_2 \cdot H_2O$
Batch Molecular Weight: 168.94
Physical Appearance: White crystalline solid
Solubility: water to 100 mM
DMSO to 100 mM
ethanol to 50 mM
Storage: Desiccate at RT
Batch Molecular Structure:



2. ANALYTICAL DATA

1H NMR: Consistent with structure

| | Carbon Hydrogen Nitrogen | | | Sodium |
|-------------|--------------------------|------|--|--------|
| | | | | |
| Theoretical | 14.22 | 1.79 | | 13.61 |
| Found | 14.35 | 1.47 | | 13.67 |

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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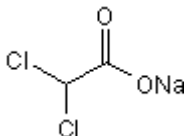
Description:

Inhibitor of mitochondrial pyruvate dehydrogenase kinase (PDK). Shifts pyruvate metabolism from glycolysis and lactate production to glucose oxidation in the mitochondria. Induces mitochondrial-dependent apoptosis and reverses the inhibition/downregulation of $K_{v1.5}$ channels in cancer but not normal cells. Decreases tumor growth in vitro and in vivo.

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Storage: Desiccate at RT

Solubility & Usage Info:

water to 100 mM
DMSO to 100 mM
ethanol to 50 mM

CAUTION - This product is hygroscopic and we recommend that it is desiccated upon arrival.

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:

Stacpoole (1989) The pharmacology of dichloroacetate. *Metabolism Clin.Exp.* **38** 1124.

Bowker-kinley et al (1998) Evidence for existence of tissue-specific regulation of the mammalian pyruvate dehydrogenase complex. *Biochem.J.* **329** 191. PMID: 9405293.

Bonnet et al (2007) A mitochondria- K^+ channel axis is suppressed in cancer and its normalization promotes apoptosis and inhibits cancer growth. *Cancer Cell* **11** 37. PMID: 17222789.

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bio-techne.com
info@bio-techne.com
techsupport@bio-techne.com

North America
Tel: (800) 343 7475

China
info.cn@bio-techne.com
Tel: +86 (21) 52380373

Europe Middle East Africa
Tel: +44 (0)1235 529449

Rest of World
www.tocris.com/distributors
Tel: +1 612 379 2956