

Certificate of Analysis

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Product Name: 3-Bromopyruvate

Catalog No.: 7512

Batch No.: 1

CAS Number: 1113-59-3

IUPAC Name: 3-Bromo-2-oxopropanoic acid

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₃H₃BrO₃.½H₂O

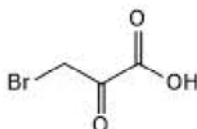
Batch Molecular Weight: 175.97

Physical Appearance: White solid

Solubility: water to 100 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	20.48	2.29	
Found	20.54	2.24	

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

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

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Catalog No.: 7512

Batch No.: 1

CAS Number: 1113-59-3

IUPAC Name: 3-Bromo-2-oxopropanoic acid

Description:

3-Bromopyruvate is a monocarboxylate transporter (MCT1) inhibitor (IC_{50} = 14.7 μ M, 24.2 μ M and 28.6 μ M in SiHa, UM-UC-3, and HCT-116 human cancer cell lines, respectively). 3-Bromopyruvate shows antitumor activity in vitro and in vivo. 3-Bromopyruvate is also an inhibitor of hexokinase II, and decreases apoptosis in dopaminergic neurons in Parkinson's disease models in vitro and in vivo.

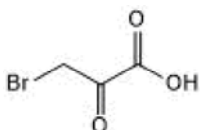
Physical and Chemical Properties:

Batch Molecular Formula: $C_3H_3BrO_3 \cdot \frac{1}{2}H_2O$

Batch Molecular Weight: 175.97

Physical Appearance: White solid

Batch Molecular Structure:



References:

Li *et al* (2022) Upregulated hexokinase 2 expression induces the apoptosis of dopaminergic neurons by promoting lactate production in Parkinson's disease. *Neurobiol. Dis.* **163** 105605. PMID: 34973450.

Vander Linden *et al* (2021) Therapy-induced DNA methylation inactivates MCT1 and renders tumor cells vulnerable to MCT4 inhibition. *Cell Rep.* **35** 109202. PMID: 34077729.

Storage: Store at -20°C

Solubility & Usage Info:

water 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.

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