Certificate of Analysis

Product Name: **3-Mercaptopicolinic acid hydrochloride** **Catalog No.: 7577** **Batch No.: 1**

CAS Number: 320386-54-7

IUPAC Name: 3-Mercapto-2-pyridinecarboxylic acid hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_6H_5NO_2S.HCl.¾H_2O$

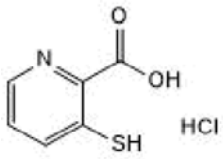
Batch Molecular Weight: 205.14

Physical Appearance: Beige solid

Solubility: DMSO to 20 mM
water to 10 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen	Chlorine
Theoretical	35.13	3.69	6.83	17.28
Found	34.67	3.82	6.5	16.82

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IUPAC Name: 3-Mercapto-2-pyridinecarboxylic acid hydrochloride

Description:

3-Mercaptopicolinic acid hydrochloride is a phospoenolpyruvate carboxykinase (PEPCK) inhibitor (IC_{50} = 7.5 µM at hPEPCK). Inhibits glucose synthesis. In vitro, 3-Mercaptopicolinic acid reduces proliferation of T_{reg} cells, induces myogenic differentiation of C2C12 cells, and reduces colony growth formation of MCF7 cells. Also sensitizes melanoma cells to Vemurafenib (Cat. No. 7309) via inhibition of cytoplasmic PEPCK.

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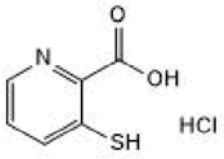

Storage: Store at -20°C

Solubility & Usage Info:

DMSO to 20 mM
water to 10 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:

Ren *et al* (2022) Overcoming chemoresistance to b-raf inhibitor in melanoma via targeted inhibition of phosphoenolpyruvate carboxykinase1 using 3-mercaptopropionic acid. Bioengineered ***13*** 13571.

Watson *et al* (2021) Metabolic support of tumour-infiltrating regulatory T cells by lactic acid. Nature ***591*** 645. PMID: 33589820.

Aragó *et al* (2020) Pharmacology and preclinical validation of a novel anticancer compound targeting PEPCK-M. Biomed.Pharmacother. ***121*** 109601. PMID: 31739159.