

Certificate of Analysis

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Product Name: Furamide dihydrochloride

Catalog No.: 5202

Batch No.: 1

CAS Number: 55368-40-6

IUPAC Name: 4,4'-(2,5-Furandiyl)bis-benzenecarboximidamide dihydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₈H₁₆N₄O·2HCl·¾H₂O

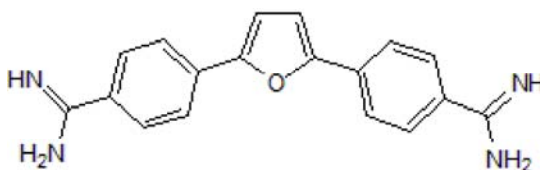
Batch Molecular Weight: 390.78

Physical Appearance: Yellow solid

Solubility: water to 50 mM
DMSO to 50 mM

Storage: Desiccate at RT

Batch Molecular Structure:



2HCl

2. ANALYTICAL DATA

HPLC: Shows 99.0% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	55.32	5.03	14.34
Found	55.36	5.07	14.14

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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Description:

Furamide dihydrochloride is a selective protein arginine methyltransferase 1 (PRMT1) inhibitor ($IC_{50} = 9.4 \mu M$). Exhibits selectivity over PRMT5, PRMT6 and CARM1 (IC_{50} values are 166, 283 and $>400 \mu M$ respectively). Inhibits tyrosyl-DNA phosphodiesterase 1 (TDP-1) ($IC_{50} = 1.2 \mu M$). Inhibits cell proliferation in leukemia cell lines, suppresses neuroblastoma tumor growth, and reduces mis-splicing in in vitro and in vivo models of myotonic dystrophy type 1. Also shows dose-dependent inhibition of platelet aggregation ($IC_{50} = 14.8 \mu M$). Cell-permeable.

Physical and Chemical Properties:

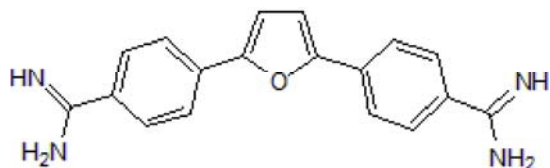
Batch Molecular Formula: $C_{18}H_{16}N_4O \cdot 2HCl \cdot \frac{3}{4}H_2O$

Batch Molecular Weight: 390.78

Physical Appearance: Yellow solid

Minimum Purity: $\geq 98\%$

Batch Molecular Structure:



2HCl

References:

Marsden et al (2021) Inhibition of arginine methylation impairs platelet function. *ACS Pharmacol. Transl. Sci.* **4** 1567. PMID: 34661075.

Hua et al (2020) PRMT1 promotes neuroblastoma cell survival through ATF5. *Oncogenesis* **9** 50. PMID: 32415090.

Jenquin et al (2018) Furamide rescues myotonic dystrophy type I associated mis-splicing through multiple mechanisms. *ACS Chem. Biol.* **13** 2708. PMID: 30118588.

Storage: Desiccate at RT

Solubility & Usage Info:

water to 50 mM

DMSO to 50 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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