bio-techne
TOCRIS

Print Date: Apr 5th 2023

Certificate of Analysis

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Product Name: **ZLN 024 hydrochloride** **Catalog No.: 5285** **Batch No.: 1**

CAS Number: 1883548-91-1

IUPAC Name: 2-[[2-(2-Bromo-4-methylphenoxy)ethyl]thio]pyrimidine hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{13}H_{13}BrN_2OS.HCl$

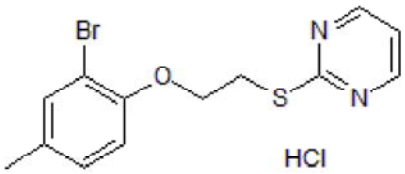
Batch Molecular Weight: 361.69

Physical Appearance: White solid

Solubility: DMSO to 100 mM

Storage: Store at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.2% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	43.17	3.9	7.75
Found	43.37	3.9	7.72

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Description:

ZLN 024 hydrochloride is an allosteric AMP-activated protein kinase (AMPK) activator; allosterically stimulates active AMPK heterotrimers, increasing the activity of α1β1γ1 by 1.5-fold and α2β1γ1 by 1.7-fold (EC_{50} values are 0.42 and 0.95 μM, respectively). Inhibits dephosphorylation of AMPK Thr-172 by PP2Cα. Stimulates glucose uptake and fatty acid oxidation without increasing the ADP/ATP ratio. Also decreases fatty acid synthesis and glucose output in primary hepatocytes. Improves glucose tolerance and decreases cholesterol content in db/db mice.

Physical and Chemical Properties:

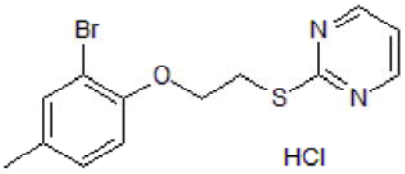
Batch Molecular Formula: $C_{13}H_{13}BrN_2OS.HCl$

Batch Molecular Weight: 361.69

Physical Appearance: White solid

Minimum Purity: ≥99%

Batch Molecular Structure:



Storage: Store at +4°C

Solubility & Usage Info:

DMSO 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:

Li *et al* (2013) Novel small-molecule AMPK activator orally exerts beneficial effects on diabetic db/db mice. Toxicol.Appl.Pharmacol. ***273*** 325. PMID: 24055643.

Zhang *et al* (2013) Novel small-molecule AMP-activated protein kinase allosteric activator with beneficial effects in db/db mice. PLoS One ***8*** e72092. PMID: 23977216.

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