

Product Name: CD38 inhibitor 78c

Catalog No.: 6391

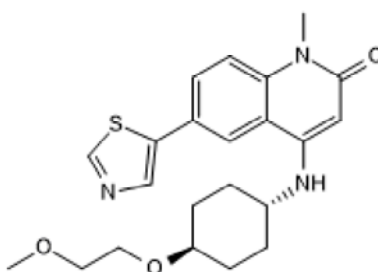
Batch No.: 2

CAS Number: 1700637-55-3

IUPAC Name: 4-[[*trans*-4-(2-Methoxyethoxy)cyclohexyl]amino]-1-methyl-6-(5-thiazolyl)-2(1*H*)-quinolinone

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₂H₂₇N₃O₃S
Batch Molecular Weight: 413.54
Physical Appearance: Yellow solid
Solubility: DMSO to 100 mM
Storage: Store at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98.8% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure

Microanalysis:

| | Carbon | Hydrogen | Nitrogen |
|-------------|--------|----------|----------|
| Theoretical | 63.9 | 6.58 | 10.16 |
| Found | 63 | 6.55 | 9.99 |

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

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Description:

CD38 inhibitor 78c is a potent CD38 (ADP ribosyl cyclase/hydrolase) inhibitor (IC₅₀ values are 1.9 and 7.3 nM at mouse and human CD38, respectively). Catalyzes breakdown of NAD to nicotinamide and ADPR, and hydrolyzes NAADP to adenosine-5'-O-diphosphoribose phosphate. Elevates NAD⁺ levels >5-fold in liver and >1.2-fold in muscle of diet-induced obese (DIO) C57Bl6 mice. Also prevents age-related NAD⁺ decline in mice. Improves glucose intolerance, cardiac function and improves physiological and metabolic parameters in old mice.

Physical and Chemical Properties:

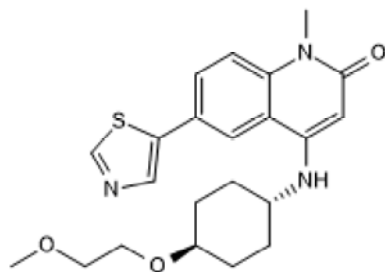
Batch Molecular Formula: C₂₂H₂₇N₃O₃S

Batch Molecular Weight: 413.54

Physical Appearance: Yellow solid

Minimum Purity: ≥98%

Batch Molecular Structure:



References:

Tarrago *et al* (2018) A potent and specific CD38 inhibitor ameliorates age-related metabolic dysfunction by reversing tissue NAD⁺ decline. *Cell Metab.* **27** 1081. PMID: 29719225.

Haffner *et al* (2015) Discovery, synthesis, and biological evaluation of thiazoloquin(az)olin(on)es as potent CD38 inhibitors. *J.Med.Chem.* **58** 3548. PMID: 25828863.

Storage: Store at -20°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.

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