bio-techne
TOCRIS

Print Date: Nov 3rd 2025

Certificate of Analysis

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Product Name: **Probenecid** **Catalog No.: 4107** **Batch No.: 2**

CAS Number: 57-66-9 EC Number: 200-344-3

IUPAC Name: 4-(Dipropylsulfamoyl)benzoic acid

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{13}H_{19}NO_4S$

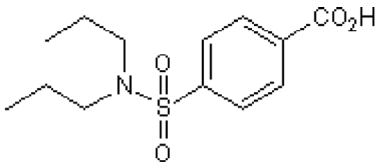
Batch Molecular Weight: 285.36

Physical Appearance: White solid

Solubility: DMSO to 100 mM
ethanol to 100 mM

Storage: Store at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.7% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	54.72	6.71	4.91
Found	54.43	6.65	4.67

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:

Probenecid is an inhibitor of multidrug resistance-associated proteins (MRP). Probenicid inhibits OAT3, organic acid transport in the kidney and other organs and exhibits inhibitory activity against pannexin 1 channels (IC_{50} ~ 150 µM). Probenecid potently inhibits SARS-CoV-2 replication in NHBE and Vero E6 cells (IC_{50} = 1.3 nM and 750 nM, respectively) and reduces lung virus titers in vivo. Probenicid also inhibits influenza A virus replication in vitro and in vivo.

Physical and Chemical Properties:

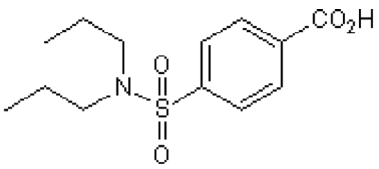
Batch Molecular Formula: $C_{13}H_{19}NO_4S$

Batch Molecular Weight: 285.36

Physical Appearance: White solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Store at RT

Solubility & Usage Info:

DMSO to 100 mM
ethanol 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. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

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:

Murray *et al* (2021) Probenecid inhibits SARS-CoV-2 replication *in vivo* and *in vitro*. Sci.Rep. ***11***. PMID: 34508172.

Perwitasai *et al* (2013) Targeting organic anion transporter 3 with probenecid as a novel anti-influenza a virus strategy. Antimicrob.Agents Chemother. ***57*** 475. PMID: 23129053.

Ishikawa *et al* (2010) Function and expression of ATP-binding cassette transporters in cultured human Y79 retinoblastoma cells. Biol.Pharm.Bull. ***33*** 504. PMID: 20190417.