

Certificate of Analysis

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Product Name: O-Phospho-L-serine

Catalog No.: 0238

Batch No.: 14

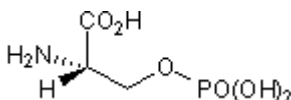
CAS Number: 407-41-0

EC Number: 206-986-0

IUPAC Name: L-Serine-O-phosphate

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₃H₈NO₆P
Batch Molecular Weight: 185.07
Physical Appearance: White solid
Solubility: 1eq. NaOH to 100 mM
 water to 100 mM
 physiological buffer solution to 100 mM
Storage: Store at RT
Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.47 (Pyridine:Acetic acid:Water:Butanol [3:8:11:33])
Melting Point: Between 191 - 193°C
¹H NMR: Consistent with structure
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	19.47	4.36	7.57
Found	19.35	4.55	7.63

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

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IUPAC Name: L-Serine-O-phosphate

Description:

Group III metabotropic glutamate receptor agonist; analog of L-AP4 (Cat. No. 0103). Neuroprotective against excitotoxicity in cortical cell cultures. Inhibits proliferation and enhances neuronal differentiation in progenitor cells.

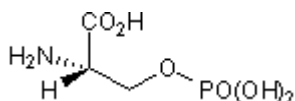
Physical and Chemical Properties:

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Batch Molecular Weight: 185.07

Physical Appearance: White solid

Batch Molecular Structure:



Storage: Store at RT

Solubility & Usage Info:

1eq. NaOH to 100 mM

water to 100 mM

physiological buffer solution to 100 mM

CAUTION - Solutions of this product should be made up and used on the day of preparation. Solutions that are frozen should be aliquoted and used within 1 week.

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:

Yang et al (2016) A chemical biology route to site-specific authentic protein modifications. *Science* **354** 623. PMID: 27708052.

Park et al (2011) Expanding the genetic code of *Escherichia coli* with phosphoserine. *Science* **333** 1151. PMID: 21868676.

Saxe et al (2007) A phenotypic small-molecule screen identifies an orphan ligand-receptor pair that regulates neural stem cell differentiation. *Chem.Biol.* **14** 1019. PMID: 17884634.

Bruno et al (1996) Activation of group III metabotropic glutamate receptors is neuroprotective in cortical cultures. *Eur.J.Pharmacol.* **310** 61. PMID: 8880068.

Eriksen and Thomsen (1995) [³H]-L-2-amino-4-phosphonobutyrate labels a metabotropic glutamate receptor, mGluR4a. *Br.J.Pharmacol.* **116** 3279. PMID: 8719808.

Thoreson and Ulphani (1995) Pharmacology of selective and non-selective metabotropic glutamate receptor agonists at L-AP4 receptors in ON bipolar cells. *Brain Res.* **676** 93. PMID: 7796182.

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