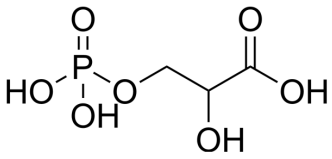
3-Phosphoglyceric acid

Cat. No.:	HY-113491
CAS No.:	820-11-1
Molecular Formula:	$C_3H_7O_7P$
Molecular Weight:	186.06
Target:	Biochemical Assay Reagents
Pathway:	Others
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

H_2O : 100 mg/mL (537.46 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	5.3746 mL	26.8731 mL	53.7461 mL
	5 mM	1.0749 mL	5.3746 mL	10.7492 mL
	10 mM	0.5375 mL	2.6873 mL	5.3746 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

3-Phosphoglyceric acid is a metabolic intermediate in both glycolysis and the Calvin cycle. 3-Phosphoglyceric acid is involved in alveolar macrophage epigenetic regulation.

IC_{50} & Target

Human Endogenous Metabolite

In Vitro

3-Phosphoglyceric acid (400 μM; 24 hours; BMDMs) treatment enhances Spp1 transcription in VHL-deficient macrophages, and the reduced H3K4me3 modification is also reversed[1].

3-Phosphoglyceric treatment significantly augmentes gene expression as well as H3K4me3 deposition of Spp1 in IL-4-stimulated macrophages[1].

In yeast, 3-Phosphoglyceric acid acts as a metabolic checkpoint for the formation of a multicomponent enzyme complex including serine metabolic enzymes and pyruvate kinase isoform 2 (PKM2) homologue, which senses both serine metabolism and glycolysis and regulates H3K4 methylation and histone phosphorylation[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

RT-PCR[1]

Cell Line:	Bone marrow-derived macrophages (BMDMs)
Concentration:	400 μM
Incubation Time:	24 hours
Result:	Enhanced Spp1 transcription in VHL-deficient macrophages, and the reduced H3K4me3 modification was also reversed.

REFERENCES

[1]. Zhang W, et al. The E3 ligase VHL controls alveolar macrophage function via metabolic-epigenetic regulation. J Exp Med. 2018 Dec 3;215(12):3180-3193.

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