

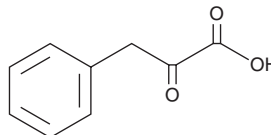
PRODUCT INFORMATION



Phenylpyruvic Acid

Item No. 36363

CAS Registry No.: 156-06-9
Formal Name: α -oxo-benzenepropanoic acid
Synonyms: Phenylpyroracemic Acid,
3-Phenylpyruvic Acid,
 β -Phenylpyruvic Acid, PPA
MF: C₉H₈O₃
FW: 164.2
Purity: \geq 95%
UV/Vis.: λ_{\max} : 289 nm
Supplied as: A solid
Storage: -20°C
Stability: \geq 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Phenylpyruvic acid is supplied as a solid. A stock solution may be made by dissolving the phenylpyruvic acid in the solvent of choice, which should be purged with an inert gas. Phenylpyruvic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of phenylpyruvic acid in ethanol and DMSO is approximately 10 mg/ml and approximately 25 mg/ml in DMF.

Description

Phenylpyruvic acid is an active metabolite of the essential amino acid L-phenylalanine (Item No. 31498) and a biosynthetic precursor to the antifungal phenyl alkanoic acid 3-phenyllactic acid (Item No. 36365).^{1,2} It inhibits glucose-6-phosphate dehydrogenase (G6PDH) in rat brain homogenates when used at concentrations of 0.6 and 1.2 mM.¹ Addition of phenylpyruvic acid to the culture medium of lactic acid bacteria increases 3-phenyllactic acid levels in, and the antifungal activity of, the cell-free culture supernatant.² Urinary levels of phenylpyruvic acid are increased in patients with phenylketonuria (PKU), an inborn error of metabolism characterized by a deficiency in phenylalanine hydroxylase (PAH) activity.³

References

1. Rosa, A.P., Jacques, C.E.D., Moraes, T.B., *et al.* Phenylpyruvic acid decreases glucose-6-phosphate dehydrogenase activity in rat brain. *Cell. Mol. Neurobiol.* **32(7)**, 1113-1118 (2012).
2. Valerio, F., Di Biase, M., Lattanzio, V.M.T., *et al.* Improvement of the antifungal activity of lactic acid bacteria by addition to the growth medium of phenylpyruvic acid, a precursor of phenyllactic acid. *Int. J. Food Microbiol.* **222**, 1-7 (2016).
3. Xiong, X., Sheng, X., Liu, D., *et al.* A GC/MS-based metabolomic approach for reliable diagnosis of phenylketonuria. *Anal. Bioanal. Chem.* **407(29)**, 8825-8833 (2015).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 08/08/2023

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM