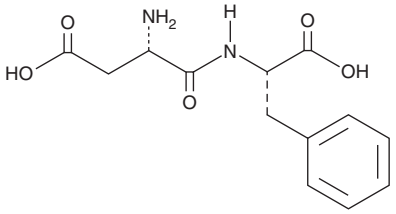
PRODUCT INFORMATION

L-Aspartyl-L-phenylalanine

Item No. 34197

CAS Registry No.: 13433-09-5
Formal Name: L-α-aspartyl-L-phenylalanine
Synonyms: α-Aspartylphenylalanine, Asp-Phe
MF: $C_{13}H_{16}N_2O_5$
FW: 280.3
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

L-Aspartyl-L-phenylalanine is supplied as a solid. A stock solution may be made by dissolving the L-aspartyl-L-phenylalanine in the solvent of choice, which should be purged with an inert gas. L-Aspartyl-L-phenylalanine is soluble in the organic solvent DMSO. The solubility of L-aspartyl-L-phenylalanine in DMSO is approximately 5 mg/ml.

L-Aspartyl-L-phenylalanine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, L-aspartyl-L-phenylalanine should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. L-Aspartyl-L-phenylalanine has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

L-Aspartyl-L-phenylalanine is a dipeptide inhibitor of angiotensin-converting enzyme (ACE) and a metabolite of the synthetic non-caloric sweetener aspartame (Item No. 26089).[1,2] It is formed from aspartame by intestinal intracellular esterases.[2] L-Aspartyl-L-phenylalanine inhibits ACE with a K_i value of 11 µM for the rabbit enzyme.[1] Serum levels of L-aspartyl-L-phenylalanine are positively associated with pancreatic ductal adenocarcinoma.[3]

References

1. Grobelny, D. and Galardy, R.E. A metabolite of aspartame inhibits angiotensin converting enzyme. *Biochem. Biophys. Res. Commun.* **128(2)**, 960-964 (1985).
2. Tobey, N.A. and Heizer, W.D. Intestinal hydrolysis of aspartylphenylalanine--the metabolic product of aspartame. *Gastroenterology* **91(4)**, 931-937 (1986).
3. Stolzenberg-Solomon, R.Z., Derkach, A., Moore, S., *et al*. Associations between metabolites and pancreatic cancer risk in a large prospective epidemiological study. *Gut* **69(11)**, 2008-2015 (2020).

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