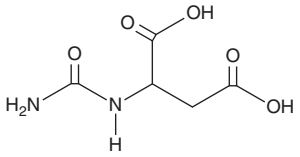
PRODUCT INFORMATION

Ureidosuccinic Acid

Item No. 34126

CAS Registry No.: 923-37-5
Formal Name: N-(aminocarbonyl)-aspartic acid
Synonyms: N-Carbamoylaspartic Acid,
N-Carbamoyl-DL-Aspartic Acid, NSC 120033
MF: $C_5H_8N_2O_5$
FW: 176.1
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

Ureidosuccinic acid is supplied as a solid. A stock solution may be made by dissolving the ureidosuccinic acid in the solvent of choice, which should be purged with an inert gas. Ureidosuccinic acid is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of ureidosuccinic acid in these solvents is approximately 1 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of ureidosuccinic acid can be prepared by directly dissolving the solid in aqueous buffers. The solubility of ureidosuccinic acid in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Ureidosuccinic acid is an intermediate in the *de novo* pyrimidine nucleotide biosynthesis pathway.[1,2] It is formed from aspartate and carbamoyl phosphate *via* aspartate carbamoyltransferase.[1] Ureidosuccinic acid (350 mg/kg) inhibits antitumor activity and toxicity induced by the aspartate carbamoyltransferase inhibitor N-phosphonacetyl-L-aspartate (PALA) in a murine Lewis lung carcinoma model.[3]

References

1. Lowenstein, J.M. and Cohen, P.P. Studies on the biosynthesis of carbamylaspartic acid. *J. Biol. Chem.* **220(1)**, 57-70 (1956).
2. Anderson, E.P., Yen, C.Y., Mandel, H.G., *et al.* Ureidosuccinic acid as a precursor of nucleic acid pyrimidines in normal and tumor-bearing mice. *J. Biol. Chem.* **213(2)**, 625-633 (1955).
3. Johnson, R.K. Reversal of toxicity and antitumor activity of N-(phosphonacetyl)-L-aspartate by uridine or carbamyl-DL-aspartate in vivo. *Biochem. Pharmacol.* **26(1)**, 81-84 (1977).

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