



L-Asparaginase

Catalog No: 99972
Lot No: XXXXX
Source: Escherichia Coli.
Synonyms: ansB, b2957, Colaspase, EC=3.5.1.1, L-ASNase II, L-asparaginase 2, L-asparaginase II, L-asparagine amidohydrolase II

Background

L-Asparaginase is an enzyme that depletes L-Asparagine "an important nutrient for cancer cells" resulting in cancer/tumor cell starvation. L-asparaginase is an anti-tumor agent derived from E.coli, which can inhibit the growth of malignant cells. It is used mainly for the induction of remission in acute lymphoblastic leukaemia. Because of the lymph node origin of malignant B cells in Multiple Myeloma, L-Asparagine is an essential amino acid for their cell metabolism, and, consequently, L-Asparaginase may be of value in managing the disease. The rationale behind asparaginase is that it takes advantage of the fact that ALL cells are unable to synthesize the non-essential amino acid asparagine whereas normal cells are able to make their own asparagine. These leukemic cells depend on circulating asparagine. Asparaginase however catalyzes the conversion of L-asparagine to aspartic acid and ammonia. This deprives the leukemic cell of circulating asparagine.

Description

L-Asparaginase purified from E.coli ASI.357 is a tetrameric polypeptide chain having a molecular mass of 34,564 Dalton.

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation

The enzyme was lyophilized with no additives.

Solubility

It is recommended to reconstitute the lyophilized L-Asparaginase in 18M-cm H₂O at 1mg/ml.

Stability

Lyophilized L-Asparaginase although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution L-Asparaginase should be stored at 4°C between 2-7 days and for future use below -18°C. Please prevent freeze-thaw cycles.

Purity

Greater than 96.0% as determined by SDS-PAGE.

Unit Definition

One unit of enzyme catalyzes hydrolyzation of 10 nanomoles of dUTP to dUMP in one hour at 85 Centigrade.

Biological Activity

One IU of L-Asparaginase is defined as that amount of enzyme required to generate 1 µmol of ammonia per minute at pH 7.3 and 37°C. The specific activity was found to be 256 IU/mg.

Usage

This product is offered by Biomol for research purposes only. Not for diagnostic purposes or human use. It may not be resold or used to manufacture commercial products without written approval of Biomol GmbH

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