

## E. coli L-Asparaginase - Purified

**Catalog No.:** AR10140PU-N

**Quantity:** 2.5 kIU

**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.

**Uniprot ID:** [P37595](#)

**NCBI:** [AP\\_001459.1](#)

**GeneID:** [945456](#)

**Species:** *E. coli*

**Source:** *E. coli*

**Format:** **State:** Sterile Filtered White lyophilized (freeze-dried) powder enzyme without additives.  
**Purity:** >96.0% as determined by:  
(a) Analysis by RP-HPLC.  
(b) Analysis by SDS-PAGE.

**Description:** L-Asparaginase produced from *E.coli* containing 303 amino acids and having a Molecular Mass of 31731 Dalton.  
**Biological Activity:** One IU of L- Asparaginase is defined as that amount of enzyme required to generate 1  $\mu$ mol of ammonia per minute at pH 7.3 and 37°C.

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

**Specific Activity:** 225 IU/mg

**Molecular weight:** 31731 Da

**Storage:** Store the antigen for 2 weeks at 2-8°C or at -20°C for longer.  
Avoid repeated freezing and thawing.  
Shelf life: One year from despatch.