

Argininosuccinate lyase Protein, Human (sf9, His-GST)

Cat. No.:	HY-P75501
Synonyms:	Argininosuccinate lyase; ASAL; Argininosuccinase; ASL
Species:	Human
Source:	Sf9 insect cells
Accession:	P04424 (M1-A464)
Gene ID:	435
Molecular Weight:	Approximately 68 kDa

PROPERTIES

Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μ m filtered solution of 20 mM Tris, 500 mM NaCl, 3 mM DTT, pH 8.0, 10% Glycerol. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/ μ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μ g/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

The Argininosuccinate lyase protein assumes a critical role in nitrogen detoxification and L-arginine synthesis by catalyzing the reversible cleavage of L-argininosuccinate into fumarate and L-arginine, a pivotal intermediate reaction in the urea cycle. This process primarily occurs in the liver, contributing to hepatic nitrogen detoxification by converting nitrogenous waste into excretable urea. Moreover, Argininosuccinate lyase is essential for de novo L-arginine synthesis in nonhepatic tissues. Beyond its role in the urea cycle, this protein serves as a crucial regulator of intracellular and extracellular L-arginine pools. As part of the citrulline-nitric oxide cycle, Argininosuccinate lyase forms tissue-specific multiprotein complexes with argininosuccinate synthase ASS1, transport protein SLC7A1, and nitric oxide synthase NOS1, NOS2, or NOS3. This complex allows for cell-autonomous L-arginine synthesis and channels extracellular L-arginine into the nitric oxide synthesis pathway, underscoring its multifaceted role in cellular homeostasis and nitrogen metabolism.

Caution: Product has not been fully validated for medical applications. For research use only.

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