

## ALDH4A1 Protein, Human (sf9, His-GST)

Cat. No.:	HY-P76139
Synonyms:	Delta-1-pyrroline-5-carboxylate dehydrogenase; P5C dehydrogenase; ALDH4; P5CDH
Species:	Human
Source:	Sf9 insect cells
Accession:	P30038 (K25-Q563)
Gene ID:	8659
Molecular Weight:	Approximately 75 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 µm filtered solution of 20 mM Tris, 500 mM NaCl, pH 8.5, 10% Glycerol. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> 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	ALDH4A1, a pivotal enzyme, catalyzes the irreversible conversion of delta-1-pyrroline-5-carboxylate (P5C), derived from either proline or ornithine, into glutamate. This enzymatic transformation serves as a crucial step in the intricate pathway linking the urea and tricarboxylic acid cycles. The preferred substrate for ALDH4A1 is glutamic gamma-semialdehyde, while it also accepts other substrates such as succinic, glutaric, and adipic semialdehydes. The enzymatic activity of ALDH4A1 plays a central role in maintaining the metabolic balance between proline, ornithine, and glutamate, contributing to the efficient utilization of these amino acids within the interconnected cellular pathways.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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