

## Adenosine Deaminase/ADA Protein, Human (sf9, His)

Cat. No.:	HY-P74429
Synonyms:	Adenosine deaminase; ADA; ADA1
Species:	Human
Source:	Sf9 insect cells
Accession:	P00813 (M1-L363)
Gene ID:	100
Molecular Weight:	Approximately 44 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 $\mu$ m filtered solution of 20 mM Tris, 500 mM NaCl, 10% Glycerol, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/ $\mu$ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 $\mu$ g/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

Adenosine Deaminase (ADA) protein serves as a crucial enzyme, orchestrating the hydrolytic deamination of adenosine and 2-deoxyadenosine. This enzymatic activity is fundamental to purine metabolism and contributes significantly to adenosine homeostasis. Beyond its direct role in nucleotide catabolism, ADA plays a multifaceted role in cellular signaling events. It acts as a positive regulator of T-cell coactivation, influencing lymphocyte-epithelial cell adhesion through its interaction with DPP4. Additionally, ADA enhances dendritic cell immunogenicity, affecting costimulatory molecule expression and cytokine secretion. The protein also modulates adenosine receptors ADORA1 and ADORA2A, contributing to ligand affinity via conformational changes. Furthermore, ADA participates in plasminogen activation, influences CD4+ T-cell differentiation and proliferation, and plays roles in male fertility and early postimplantation embryonic development.

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

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