acnB Protein, E. coli

Cat. No.:	HY-P75559
Synonyms:	Aconitate hydratase B; ACN; Aconitase; RNA-binding protein; acnB; yacI; yacJ
Species:	Virus
Source:	E. coli
Accession:	P36683 (M1-V865)
Gene ID:	61752637
Molecular Weight:	Approximately 95 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 40 mM Tris, 1 mM DTT, pH 8.2. 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.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
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 acnB Protein plays a multifaceted role in the catabolism of short-chain fatty acids (SCFA) through both the tricarboxylic acid (TCA) pathway, specifically the acetyl degradation route, and the 2-methylcitrate cycle I, associated with propionate degradation. This enzyme exhibits catalytic versatility, facilitating the reversible isomerization of citrate to isocitrate via cis-aconitate, as well as the hydration of 2-methyl-cis-aconitate to generate (2R,3S)-2-methylisocitrate. Beyond its metabolic functions, the apo form of AcnB serves as a RNA-binding regulatory protein, particularly during oxidative stress. In this state, the inactive AcnB apo-enzyme lacking iron-sulfur clusters binds the acnB mRNA 3' untranslated regions, stabilizing acnB mRNA and augmenting AcnB synthesis. This intricate regulatory mechanism establishes a post-transcriptional positive autoregulatory switch. Additionally, AcnB influences the stability of the sodA transcript, revealing its broader impact on cellular processes beyond its primary metabolic functions.

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

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA