CA5A Protein, Human (His-Met)

Cat. No.:	HY-P76753
Synonyms:	Carbonic anhydrase 5A, mitochondrial; Carbonic anhydrase VA; CA-VA; CA5
Species:	Human
Source:	E. coli
Accession:	P35218 (A40-S305)
Gene ID:	763
Molecular Weight:	Approximately 33 kDa

PROPERTIES

Biological Activity	Measured by its esterase activity. The specific activity is >500 pmoles/min/μg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of 50 mM NaAc, 50 mM NaCl, 0.05% Brij 35, pH 5.0. 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	CA5A protein is a mitochondrial carbonic anhydrase crucial for the reversible conversion of carbon dioxide to bicarbonate/HCO3 within the mitochondria, as indicated by its catalytic activity. Given that mitochondria are impermeable to HCO3, the role of CA5A becomes pivotal in supplying bicarbonate for various mitochondrial enzymes. These enzymes are integral to the synthesis of essential metabolites in intermediary metabolism, particularly in processes such as the urea and Krebs cycles. The activity of CA5A underscores its significance in maintaining the metabolic integrity of mitochondrial functions by facilitating the availability of bicarbonate for key enzymatic reactions.

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