

COLAER_02088 Protein, *Collinsella aerofaciens*

Cat. No.:	HY-P702131
Synonyms:	7beta-hydroxysteroid dehydrogenase; 7beta-HSDH; NADP-dependent 7beta-hydroxysteroid dehydrogenase
Species:	Others
Source:	E. coli
Accession:	A4ECA9 (T189V,V207M)
Gene ID:	/
Molecular Weight:	

PROPERTIES

Appearance	Solution.
Formulation	Supplied as a 0.22 µm filtered solution of 50 mM Tris-HCl, pH7.5, 200 mM NaCl, 20% glycerol.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	Please use rapid thawing with running water to thaw the protein.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background	<p>The COLAER_02088 Protein, known as 7beta-hydroxysteroid dehydrogenase, acts as an enzyme that facilitates the reduction of the 7-oxo group of 7-oxo-lithocholate (7-oxo-LCA), resulting in the production of ursodeoxycholate (UDCA). Given that <i>C.aerofaciens</i> is an intestinal bacterium, it is likely that this enzyme plays a role in the formation of UDCA in the human colon. UDCA is considered a beneficial secondary bile acid with chemopreventive properties due to its low hydrophobicity, which helps safeguard hepatocytes and bile duct epithelial cells against necrosis and apoptosis induced by more hydrophobic secondary bile acids such as deoxycholate (DCA) (Probable). Additionally, this enzyme has the ability to catalyze the reverse reaction, oxidizing the 7beta-hydroxy group of UDCA back to 7-oxo-LCA. It also exhibits some activity on the taurine- and glycine-conjugates of ursodeoxycholate, albeit to a lesser extent. Notably, COLAER_02088 Protein specifically utilizes NADPH/NADP(+) as the electron acceptor/donor, as it is not active with NADH/NAD(+). Furthermore, when NADPH is present, 7beta-HSDH can also reduce dehydrocholate. Lastly, it has been shown to have the capability to oxidize ursocholate.</p>
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Caution: Product has not been fully validated for medical applications. For research use only.

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