Data Sheet (Cat.No.TMPH-03008)

TargetMol

ENR Protein, Mycobacterium tuberculosis, Recombinant (His)

General Information

Synonyms:	ENR;Enoyl-[acyl-carrier-protein] reductase [NADH];inhA;Enoyl-ACP reductase;NADH-dependent 2-trans-enoyl-ACP reductase;FAS-II enoyl-ACP reductase
Protein Construction:	1-269 aa
Species:	Mycobacterium tuberculosis
Expression Host:	E. coli
Accession:	P9WGR0
Molecular Weight:	32.6 kDa (predicted)
AA Sequence:	MTGLLDGKRILVSGIITDSSIAFHIARVAQEQGAQLVLTGFDRLRLIQRITDRLPAKAPLLELDVQNEEHLASLAG RVTEAIGAGNKLDGVVHSIGFMPQTGMGINPFFDAPYADVSKGIHISAYSYASMAKALLPIMNPGGSIVGMDF DPSRAMPAYNWMTVAKSALESVNRFVAREAGKYGVRSNLVAAGPIRTLAMSAIVGGALGEEAGAQIQLLEE GWDQRAPIGWNMKDATPVAKTVCALLSDWLPATTGDIIYADGGAHTQLL

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Tris-based buffer, 50% glycerol

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Enoyl-ACP reductase of the type II fatty acid syntase (FAS-II) system, which is involved in the biosynthesis of mycolic acids, a major component of mycobacterial cell walls. Catalyzes the NADH-dependent reduction of the double bond of 2-trans-enoyl-[acyl-carrier protein], an essential step in the fatty acid elongation cycle of the FAS-

II pathway. Shows preference for long-chain fatty acyl thioester substrates (>C16), and can also use 2-trans-enoyl-CoAs as alternative substrates. The mycobacterial FAS-II system utilizes the products of the FAS-I system as primers to extend fatty acyl chain lengths up to C56, forming the meromycolate chain that serves as the precursor for final mycolic acids.; Is the primary target of the first-line antitubercular drug isoniazid (INH) and of the second-line drug ethionamide (ETH). Overexpressed inhA confers INH and ETH resistance to M.tuberculosis. The mechanism of isoniazid action against InhA is covalent attachment of the activated form of the drug to the nicotinamide ring of NAD and binding of the INH-NAD adduct to the active site of InhA. Similarly, the ETH-NAD adduct binds InhA.

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