Recombinant DHSO protein (His tag)

Catalog Number	547170
Synonyms	SDH; (R,R)-butanediol dehydrogenase; L-iditol 2-dehydrogenase; Polyol dehydrogenase; Ribitol dehydrogenase; RDH; Xylitol dehydrogenase; XDH
Species	Human
Expression System	E. coli
Accession	Q00796
Molecular Weight	Predictes a molecular mass of 39.85 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 40 kDa band.

Product Information

Sequence Region	2-357
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>86%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 2-357 aa (Q00796) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human Sorbitol Dehydrogenase (SDH) Fragment (residues 2-357) is a high-purity, soluble protein designed for structural and biochemical studies. This fragment retains key enzymatic activity, enabling research into polyol metabolism and its implications in metabolic disorders. Sorbitol dehydrogenase (SDH), encoded by the SORD gene in humans, is a polyol dehydrogenase that catalyzes the reversible NAD+-dependent oxidation of sugar alcohols such as D-sorbitol, xylitol, and ribitol to their corresponding ketoses. It plays a central role in the polyol pathway, an alternate glucose metabolism route implicated in diabetic complications like neuropathy and retinopathy under hyperglycemic conditions. SDH also contributes to sperm motility by utilizing sorbitol as an energy source and exhibits stereospecific oxidation of substrates like (R,R)-butanediol. The enzyme is localized to mitochondrial membranes and flagellar structures in sperm, and it is secreted via epididymosomes to transfer proteins to sperm surfaces. This recombinant fragment (residues 2-357) encompasses a stable, soluble domain ideal for investigating SDH's catalytic mechanisms and physiological roles.