Recombinant ADRO protein (His tag)

Catalog Number	537623
Synonyms	AR; Adrenodoxin reductase; Ferredoxin--NADP(+) reductase; Ferredoxin reductase
Species	Human
Expression System	E. coli
Accession	P22570
Molecular Weight	Predictes a molecular mass of 51.21 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 51 kDa band.

Product Information

Sequence Region	37-491
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>88%, 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 37-491 aa (P22570) 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 NADPH:adrenodoxin oxidoreductase (FDXR, EC 1.18.1.6), a critical mitochondrial enzyme fragment (residues 37-491), designed for structural and biochemical studies. This 455-amino acid fragment offers a stable, soluble unit essential for investigating electron transfer in mitochondrial P450 systems and coenzyme Q biosynthesis. NADPH:adrenodoxin oxidoreductase (Adrenodoxin reductase), encoded by the FDXR gene in humans, functions as the primary electron transfer protein in mitochondrial P450 systems. It facilitates key metabolic processes, including cholesterol side chain cleavage in steroidogenic tissues, steroid 11-beta hydroxylation in the adrenal cortex, 25-OH-vitamin D3-24 hydroxylation in the kidney, and sterol C-27 hydroxylation in the liver. Additionally, it acts as a ferredoxin-NADP(+) reductase vital for coenzyme Q biosynthesis, working with FDX2 to supply electrons for hydroxylation by COQ6. The protein localizes to the mitochondrial inner membrane as a peripheral membrane protein, underscoring its role in oxidative metabolism and cellular energy regulation.