Recombinant SUCA protein (His tag)

Catalog Number	542412
Synonyms	Succinyl-CoA synthetase subunit alpha; SCS-alpha
Species	Human
Expression System	E. coli
Accession	P53597
Molecular Weight	Predictes a molecular mass of 33.78 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 34 kDa band.

Product Information

Sequence Region	42-346
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>87%, 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 42-346 aa (P53597) 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 Succinate--CoA ligase [ADP/GDP-forming] subunit alpha, mitochondrial (SUCLG1) fragment (residues 42-346) from Homo sapiens. This 305-amino acid fragment is a stable, soluble unit ideal for structural studies and biochemical assays, capturing a key functional region of the enzyme involved in substrate-level phosphorylation in the citric acid cycle. Succinate--CoA ligase (also known as succinyl-CoA synthetase) is a critical enzyme in the citric acid cycle (TCA), where it catalyzes the only step of substrate-level phosphorylation. It hydrolyzes succinyl-CoA to synthesize either ATP or GTP, coupling this energy conservation to the metabolic pathway. The alpha subunit (encoded by SUCLG1) specifically binds coenzyme A and phosphate, while substrate specificity for ATP or GTP is determined by associated beta subunits. The full-length protein localizes to the mitochondrion, underscoring its central role in cellular energy production. This recombinant fragment represents a stable, soluble domain optimized for investigating the enzyme's mechanistic and structural properties.