Recombinant PRI1 protein (His tag)

Catalog Number	547022
Synonyms	DNA primase 49 kDa subunit; p49
Species	Human
Expression System	E. coli
Accession	P49642
Molecular Weight	Predictes a molecular mass of 51.56 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 55 kDa band.

Product Information

Sequence Region	1-420
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 1-420 aa (P49642) 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 DNA Primase Small Subunit (PRIM1, p49), encompassing amino acids 1-420, is a high-purity, stable protein fragment ideal for investigating the catalytic mechanisms of DNA replication initiation. This fragment retains key functional regions, making it suitable for structural studies, enzymatic assays, and biochemical research on primase activity. The DNA primase small subunit (PRIM1) is the catalytic component of the DNA primase complex and an essential part of the DNA polymerase alpha complex (primosome/replisome), playing a critical role in initiating DNA synthesis during the S phase of the cell cycle. It catalyzes the oligomerization of short RNA primers on both leading and lagging strands, a fundamental step in DNA replication. The primase complex, comprising PRIM1 and its regulatory subunit PRIM2, is recruited to replicative forks and synthesizes 9-mer RNA primers, preferentially starting with template thymine or cytidine and incorporating only ribonucleotides. These primers are subsequently extended by DNA polymerases for processive DNA synthesis. PRIM1's function is vital for genome stability and cell division, with implications in understanding replication mechanisms and related diseases.