Recombinant RFA1 protein (His tag)

Catalog Number	537649
Synonyms	RP-A p70; Replication factor A protein 1; RF-A protein 1; Single-stranded DNA-binding protein
Species	Human
Expression System	E. coli
Accession	P27694
Molecular Weight	Predictes a molecular mass of 50.83 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 53 kDa band.

Product Information

Sequence Region	183-616
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>85%, 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 183-616 aa (P27694) 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 Replication Protein A 70 kDa DNA-Binding Subunit (RPA1) Fragment (183-616) is a high-purity, stable protein designed for structural and biochemical studies. This fragment captures a soluble and functional unit of RPA1, essential for DNA replication and repair mechanisms, offering researchers a reliable tool for investigating single-stranded DNA-binding interactions and associated pathways. The full-length Replication Protein A 70 kDa DNA-Binding Subunit (RPA1) is a critical component of the heterotrimeric RPA complex in humans, playing a central role in DNA metabolism by binding and stabilizing single-stranded DNA intermediates during replication and stress responses. It facilitates DNA damage repair by recruiting key factors like ATRIP, RAD51, RAD52, XPA, and XPG, thereby activating checkpoints and promoting nucleotide excision repair, base excision repair, and telomere maintenance. Additionally, RPA1 supports helicase activity and is involved in alternative replication complexes for DNA synthesis and repair. Located predominantly in the nucleus and enriched in PML bodies during telomere elongation, RPA1 is indispensable for genomic stability and cellular response to DNA damage, making it a vital target for cancer and aging research.