Recombinant RPC5 protein (His tag)

Catalog Number	548370
Synonyms	RNA polymerase III subunit C5; DNA-directed RNA polymerase III 80 kDa polypeptide
Species	Human
Expression System	E. coli
Accession	Q9NVU0
Molecular Weight	Predictes a molecular mass of 56.65 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 59 kDa band.

Product Information

Sequence Region	1-483
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 1-483 aa (Q9NVU0) 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-directed RNA polymerase III subunit RPC5 (POLR3E), encompassing amino acids 1-483, is a high-purity protein fragment designed for structural and biochemical studies. This stable and soluble unit enables researchers to investigate the transcription machinery and innate immune sensing functions of RNA polymerase III with precision. DNA-directed RNA polymerase III subunit RPC5, encoded by the POLR3E gene in Homo sapiens, is a specific peripheric component of RNA polymerase III (Pol III). This enzyme catalyzes DNA transcription into RNA and synthesizes small non-coding RNAs, including 5S rRNA, snRNAs, tRNAs, and miRNAs, from numerous genomic loci. As part of a subcomplex with POLR3D/RPC4, it facilitates Pol III assembly, recruitment to transcription initiation sites, and drives transcription from type 2 and 3 promoters, while also supporting efficient termination and reinitiation. Additionally, RPC5 plays a critical role in innate immunity by acting as a nuclear and cytosolic DNA sensor that detects non-self dsDNA, such as from intracellular bacteria or DNA viruses, and transcribes it into dsRNA to trigger type I interferon and NF-kappa-B responses via the RIG-I pathway. The protein is localized to the nucleus, underscoring its central role in transcriptional regulation and host defense mechanisms.