Recombinant RPC6 protein (His tag)

Catalog Number	545913
Synonyms	RNA polymerase III subunit C6; DNA-directed RNA polymerase III subunit F; RNA polymerase III 39 kDa subunit; RPC39
Species	Human
Expression System	E. coli
Accession	Q9H1D9
Molecular Weight	Predictes a molecular mass of 37.21 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 38 kDa band.

Product Information

Sequence Region	2-316
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>89%, 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 2-316 aa (Q9H1D9) 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 RPC6 (POLR3F) fragment (amino acids 2-316) is a high-quality, stable protein preparation ideal for structural studies, biochemical assays, and research on RNA polymerase III function and innate immune signaling. This soluble fragment is designed to support investigations into transcription mechanisms and nucleic acid sensing. DNA-directed RNA polymerase III subunit RPC6, encoded by the POLR3F gene, is a specific peripheral component of RNA polymerase III (Pol III) in humans. Pol III catalyzes DNA transcription into RNA and synthesizes essential small non-coding RNAs, including 5S rRNA, snRNAs, tRNAs, and miRNAs, from over 500 genomic loci. As part of the POLR3C/RPC3-POLR3F/RPC6-POLR3G/RPC7 heterotrimer, RPC6 helps coordinate the dynamics of Pol III's stalk and clamp modules during the transition from apo to elongation states. Additionally, Pol III functions as a key innate immune sensor by detecting AT-rich double-stranded DNA (dsDNA) in the nucleus and cytosol, such as from intracellular bacteria or DNA viruses like varicella zoster virus. It transcribes non-self DNA into dsRNA (e.g., Epstein-Barr virus-encoded RNAs), triggering type I interferon and NF-kappa-B responses via the RIG-I pathway to limit infections. The protein preferentially binds dsDNA and is localized to the nucleus, underscoring its dual roles in transcription and immune defense.