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Anti-POLR3G Antibody (Internal)

Rabbit Anti Human Polyclonal Antibody
Catalog # ALS17445

Product Information

Application	WB, IHC-P
Primary Accession	O15318
Predicted	Human, Mouse, Rat, Monkey
Host	Rabbit
Clonality	Polyclonal
Calculated MW	25914
Concentration (mg/ml)	1 mg/ml

Additional Information

Gene ID	10622
Alias Symbol	POLR3G
Other Names	POLR3G, RPC32, RPC7, RNA polymerase III subunit C7
Target/Specificity	Recognizes endogenous levels of POLR3G protein.
Reconstitution & Storage	PBS, pH 7.3, 0.01% sodium azide, 30% glycerol. Store at -20°C. Aliquot to avoid freeze/thaw cycles.
Precautions	Anti-POLR3G Antibody (Internal) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	POLR3G (HGNC:30075)
Function	DNA-dependent RNA polymerase catalyzes the transcription of DNA into RNA using the four ribonucleoside triphosphates as substrates (PubMed:20413673, PubMed:33558764, PubMed:34675218, PubMed:35637192). Specific peripheric component of RNA polymerase III (Pol III) which synthesizes small non-coding RNAs including 5S rRNA, snRNAs, tRNAs and miRNAs from at least 500 distinct genomic loci (PubMed:20154270, PubMed:20413673, PubMed:35637192). Acts as a long tether that bridges POLR3C/RPC3-POLR3F/RPC6-POLR3G/RPC7 heterotrimer and the mobile stalk of Pol III, coordinating the dynamics of Pol III stalk and clamp modules during the transition from apo to elongation state. Pol III exists as two alternative complexes defined by the mutually exclusive incorporation of subunit POLR3G/RPC7alpha or POLR3GL/RPC7beta. POLR3G/RPC7alpha modulates Pol III transcriptome by specifically enhancing the transcription of snaR-A non-coding RNAs. At resting state, occupies the active site of apo Pol III and

	keeps Pol III in an autoinhibitory mode, preventing non-specific transcription (PubMed:33558764, PubMed:33558766, PubMed:35637192). Pol III plays a key role in sensing and limiting infection by intracellular bacteria and DNA viruses. Acts as a nuclear and cytosolic DNA sensor involved in innate immune response. Can sense non-self dsDNA that serves as template for transcription into dsRNA. The non-self RNA polymerase III transcripts, such as Epstein-Barr virus-encoded RNAs (EBERs), induce type I interferon and NF-kappa-B through the RIG-I pathway (PubMed:19609254, PubMed:19631370).
Cellular Location	Nucleus. Cytoplasm {ECO:0000250|UniProtKB:Q6NXY9}. Note=Excluded from nucleoli (PubMed:21898682). In zygotes and the 2-cell stage embryos, mainly in the cytoplasm. Starts to localize to the nucleus in the 8-16 cell stage embryo and early blastocysts (By similarity) {ECO:0000250|UniProtKB:Q6NXY9, ECO:0000269|PubMed:21898682}
Tissue Location	Barely detectable in differentiated tissues. Expressed in embryonic stem cells and in other dividing cells, such as some tumor cell lines.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.