

# Anti-POLR3G Antibody

Rabbit polyclonal antibody to POLR3G

Catalog # AP60201

## Product Information

Application	WB
Primary Accession	<a href="#">Q15318</a>
Other Accession	<a href="#">Q6NXY9</a>
Reactivity	Human, Mouse, Rat, Monkey
Host	Rabbit
Clonality	Polyclonal
Calculated MW	25914

## Additional Information

Gene ID	10622
Other Names	DNA-directed RNA polymerase III subunit RPC7; RNA polymerase III subunit C7; DNA-directed RNA polymerase III subunit G; RNA polymerase III 32 kDa subunit; RPC32
Target/Specificity	Recognizes endogenous levels of POLR3G protein.
Dilution	WB~~WB (1/500 - 1/1000)
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.09% (W/V) sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

## Protein Information

Name	POLR3G ( <a href="#">HGNC:30075</a> )
Function	DNA-dependent RNA polymerase catalyzes the transcription of DNA into RNA using the four ribonucleoside triphosphates as substrates (PubMed: <a href="#">20413673</a> , PubMed: <a href="#">33558764</a> , PubMed: <a href="#">34675218</a> , PubMed: <a href="#">35637192</a> ). 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: <a href="#">20154270</a> , PubMed: <a href="#">20413673</a> , PubMed: <a href="#">35637192</a> ). 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}

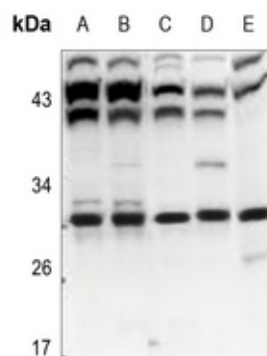
#### Tissue Location

Barely detectable in differentiated tissues. Expressed in embryonic stem cells and in other dividing cells, such as some tumor cell lines.

## Background

KLH-conjugated synthetic peptide encompassing a sequence within the center region of human POLR3G. The exact sequence is proprietary.

## Images



Western blot analysis of POLR3G expression in A375 (A), EC9706 (B), C6 (C), BV2 (D), mouse testis (E) whole cell lysates.

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