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POLR3F Antibody

Catalog # ASC10735

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q9H1D9
Other Accession	CAC11110, 10636565
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	35684
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	POLR3F antibody can be used for detection of POLR3F by Western blot at 0.5 - 1 □g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 □g/mL. For immunofluorescence start at 20 □g/mL.

Additional Information

Gene ID	10621
Other Names	DNA-directed RNA polymerase III subunit RPC6, RNA polymerase III subunit C6, DNA-directed RNA polymerase III subunit F, RNA polymerase III 39 kDa subunit, RPC39, POLR3F
Target/Specificity	POLR3F;
Reconstitution & Storage	POLR3F antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	POLR3F Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	POLR3F (HGNC:15763)
Function	DNA-dependent RNA polymerase catalyzes the transcription of DNA into RNA using the four ribonucleoside triphosphates as substrates (PubMed:20413673, PubMed:21358628, PubMed:33558764, PubMed:34675218). 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. Part of POLR3C/RPC3- POLR3F/RPC6-POLR3G/RPC7 heterotrimer that coordinates the dynamics of Pol III stalk and clamp modules during the transition from apo to

elongation state (PubMed:20413673, PubMed:33558764, PubMed:33558766). Pol III plays a key role in sensing and limiting infection by intracellular bacteria and DNA viruses, including varicella zoster virus. Acts as a nuclear and cytosolic DNA sensor detecting AT-rich DNA, 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, PubMed:30211253). Preferentially binds double-stranded DNA (dsDNA) (PubMed:21358628).

Cellular Location Nucleus.

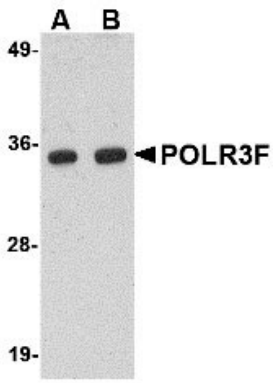
Background

POLR3F Antibody: The human POLR3F is a component of RNA III polymerase. RNA polymerase III transcribes many essential, small, noncoding RNAs, including the 5S rRNAs and tRNAs. While most pol III-transcribed genes are found scattered throughout the linear chromosome maps or in multiple linear clusters, there is increasing evidence that many of these genes prefer to be spatially clustered, often at or near the nucleolus. This association could create an environment that fosters the coregulation of transcription by pol III with transcription of the large ribosomal RNA repeats by RNA polymerase I (pol I) within the nucleolus. Given the high number of pol III-transcribed genes in all eukaryotic genomes, the spatial organization of these genes is likely to affect a large portion of the other genes in a genome. POLR3F has also been recently identified as an HIV dependency factor (HDF), suggesting that POLR3F may be an important drug target in HIV treatment. At least two isoforms of POLR3F are known to exist.

References

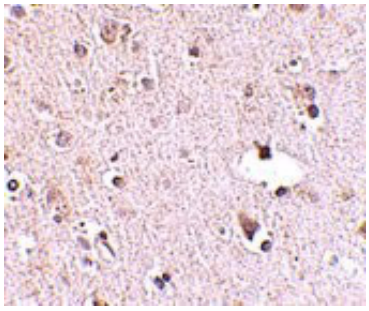
Hu P, Wu S, Sun Y, et al. Characterization of human RNA polymerase III identifies orthologues for Saccharomyces cerevisiae RNA polymerase III subunits. Mol. Cell Biol.2002; 22:8044-55.
Haeusler RA and Engelke DR. Spatial organization of transcription by RNA polymerase III. Nucleic Acids Res.2006; 34:4826-36. Epub 2006 Sep 13.
Brass AL, Dykxhoorn DM, Benita Y, et al. Identification of host proteins required for HIV infection through a functional genomic screen. Science2008; 319:921-6.

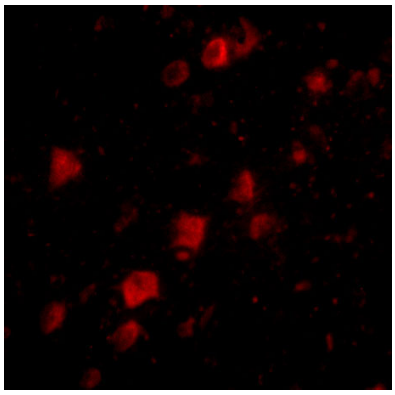
Images



Western blot analysis of POLR3F in human brain tissue lysate with POLR3F antibody at (A) 0.5 and (B) 1 µg/mL.

Immunohistochemistry of POLR3F in human brain tissue with POLR3F antibody at 2.5 µg/mL.





Immunofluorescence of POLR3F in human brain tissue with POLR3F antibody at 20 µg/mL.

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