

# Anti-POLR2A Antibody [A5F4]

## HA600061



<b>Product Type:</b>	Mouse monoclonal IgG1, primary antibodies
<b>Species reactivity:</b>	Human, Mouse, Rat
<b>Applications:</b>	WB, IHC-P, FC, CHIP
<b>Molecular Wt:</b>	Predicted band size: 217 kDa
<b>Clone number:</b>	A5F4

**Description:** DNA-directed RNA polymerase II subunit RPB1, also known as RPB1, is an enzyme that is encoded by the POLR2A gene in humans. This gene encodes the largest subunit of RNA polymerase II, the polymerase responsible for synthesizing messenger RNA in eukaryotes. The product of this gene contains a carboxy terminal domain composed of heptapeptide repeats that are essential for polymerase activity. These repeats contain serine and threonine residues that are phosphorylated in actively transcribing RNA polymerase. In addition, this subunit, in combination with several other polymerase subunits, forms the DNA-binding domain of the polymerase, a groove in which the DNA template is transcribed into RNA.

**Immunogen:** Recombinant protein within human POLR2A aa 751-950 / 1,970.

**Positive control:** MCF-7 cell lysates, mouse lung tissue lysates, rat bladder tissue, SH-SY5Y.

**Subcellular location:** Cytoplasm, Nucleus, Chromosome.

**Database links:** SwissProt: P24928 Human | P08775 Mouse | D4A5A6 Rat

### Recommended Dilutions:

<b>WB</b>	1:500-1:2,000
<b>IHC-P</b>	1:100-1:500
<b>FC</b>	1:100-1:500
<b>CHIP</b>	Use 0.5~2 µg for 25 µg of chromatin.

**Storage Buffer:** 1\*TBS (pH7.4), 0.2% BSA, 50% Glycerol. Preservative: 0.05% Sodium Azide.

**Storage Instruction:** Shipped at 4°C. Store at +4°C short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20°C long term.

**Purity:** Protein G affinity purified.

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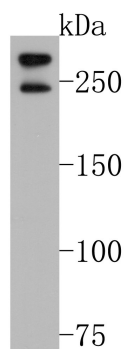
Orders:0086-571-88062880

Technical:0086-571-89986345

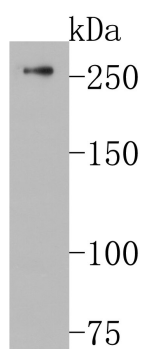
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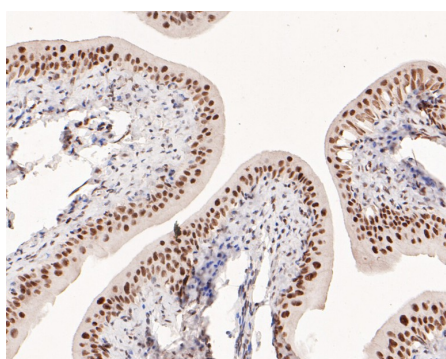
## Images



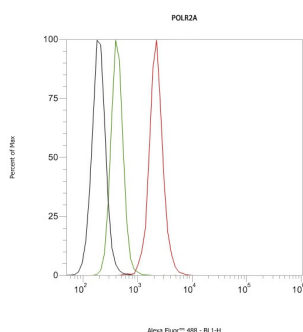
**Fig1:** Western blot analysis of POLR2A on MCF-7 cell lysates. Proteins were transferred to a PVDF membrane and blocked with 5% NFDN/TBST for 1 hour at room temperature. The primary antibody (HA600061, 1/500) was used in 5% NFDN/TBST at room temperature for 2 hours. Goat Anti-Mouse IgG - HRP Secondary Antibody (HA1006) at 1:20,000 dilution was used for 1 hour at room temperature.



**Fig2:** Western blot analysis of POLR2A on mouse lung tissue lysates. Proteins were transferred to a PVDF membrane and blocked with 5% NFDN/TBST for 1 hour at room temperature. The primary antibody (HA600061, 1/500) was used in 5% NFDN/TBST at room temperature for 2 hours. Goat Anti-Mouse IgG - HRP Secondary Antibody (HA1006) at 1:20,000 dilution was used for 1 hour at room temperature.



**Fig3:** Immunohistochemical analysis of paraffin-embedded rat bladder tissue using anti-POLR2A antibody. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 30 minutes at room temperature, washed with ddH<sub>2</sub>O and PBS, and then probed with the primary antibody (HA600061, 1/400) for 30 minutes at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.



**Fig4:** Flow cytometric analysis of POLR2A was done on SH-SY5Y cells. The cells were fixed, permeabilized and stained with the primary antibody (HA600061, 1 $\mu$ g/ml) (red) compared with Mouse IgG, monoclonal - Isotype Control (green). After incubation of the primary antibody at room temperature for an hour, the cells were stained with a Alexa Fluor@488 conjugate-Goat anti-Mouse IgG Secondary antibody at 1/1000 dilution for 30 minutes. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

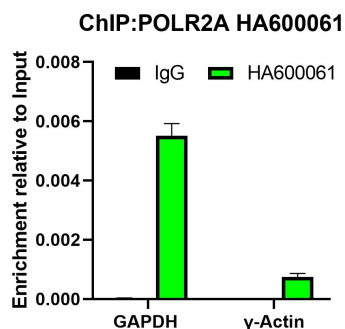
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**Fig5:** Chromatin immunoprecipitations were performed with cross-linked chromatin from HeLa cells with POLR2A (HA600061) or Normal Mouse IgG according to the ChIP protocol. The enriched DNA was quantified by real-time PCR using indicated primers. The amount of immunoprecipitated DNA in each sample is represented as signal relative to the total amount of input chromatin, which is equivalent to one.

**Note:** All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

### Background References

1. Zhang D et al. USP10 Inhibits Ferroptosis via Deubiquinating POLR2A in Head and Neck Squamous Cell Carcinoma. *Adv Sci (Weinh)*. 2025 Sep
2. Liu C et al. POLR2A blocks osteoclastic bone resorption and protects against osteoporosis by interacting with CREB1. *J Cell Physiol*. 2021 Jul

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