

# Anti-POLR2A Antibody [A5F3]

## HA600062



<b>Product Type:</b>	Mouse monoclonal IgG2b, primary antibodies
<b>Species reactivity:</b>	Human, Mouse, Rat
<b>Applications:</b>	WB, IF-Cell, IHC-P
<b>Molecular Wt:</b>	Predicted band size: 217 kDa
<b>Clone number:</b>	A5F3

**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 / 1970.

**Positive control:** HeLa cell lysate, MCF7 cell lysate, 293T cell lysate, NIH/3T3 cell lysate, PC-12 cell lysate, HeLa, rat bladder tissue, human placenta tissue, mouse testis tissue.

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

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

**Recommended Dilutions:**

<b>WB</b>	1:2,000
<b>IF-Cell</b>	1:50-1:100
<b>IHC-P</b>	1:100-1:500

**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

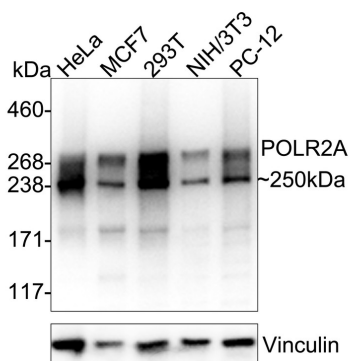
Technical:0086-571-89986345

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## Images

**Fig1:** Western blot analysis of POLR2A on different lysates with Mouse anti-POLR2A antibody (HA600062) at 1/2,000 dilution.



Lane 1: HeLa cell lysate  
 Lane 2: MCF7 cell lysate  
 Lane 3: 293T cell lysate  
 Lane 4: NIH/3T3 cell lysate  
 Lane 5: PC-12 cell lysate

Lysates/proteins at 20 µg/Lane.

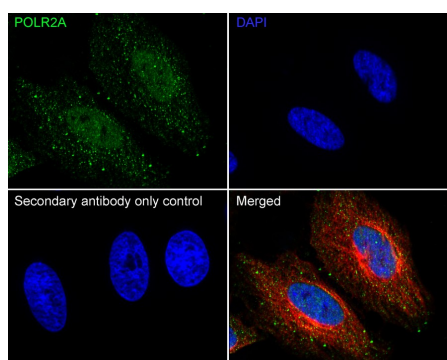
Predicted band size: 217 kDa  
 Observed band size: 250 kDa

Exposure time: 4 seconds; ECL: K1801;

3-8% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDN/TBST for 1 hour at room temperature. The primary antibody (HA600062) at 1/2,000 dilution was used in 5% NFDN/TBST at 4°C overnight. Goat Anti-Mouse IgG - HRP Secondary Antibody (HA1006) at 1/50,000 dilution was used for 1 hour at room temperature.

**Fig2:** Immunocytochemistry analysis of HeLa cells labeling POLR2A with Mouse anti-POLR2A antibody (HA600062) at 1/50 dilution.



Cells were fixed in 4% paraformaldehyde for 15 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Mouse anti-POLR2A antibody (HA600062) at 1/50 dilution in 1% BSA in PBST overnight at 4 °C. Goat Anti-Mouse IgG H&L (iFluor™ 488, HA1125) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

beta Tubulin (ET1602-4, red) was stained at 1/100 dilution overnight at +4°C. Goat Anti-Rabbit IgG H&L (iFluor™ 594, HA1122) were used as the secondary antibody at 1/1,000 dilution.

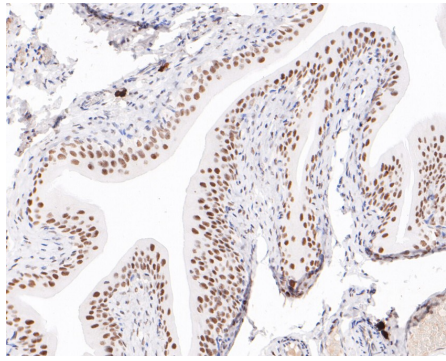
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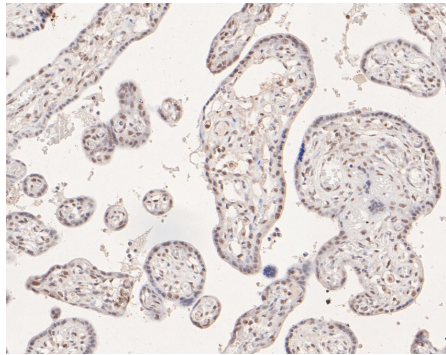
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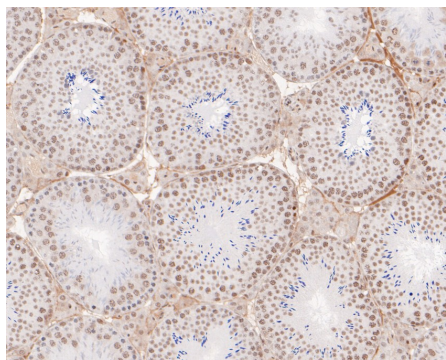
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**Fig3:** Immunohistochemical analysis of paraffin-embedded rat bladder tissue using anti-POLR2A antibody. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues 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 (HA600062, 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:** Immunohistochemical analysis of paraffin-embedded human placenta 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 (HA600062, 1/100) 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.



**Fig5:** Immunohistochemical analysis of paraffin-embedded mouse testis 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 (HA600062, 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.

**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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