Data Sheet (Cat.No.TMAC-03253)

Anti-Phospho-POLR2A (Ser5) Antibody (1R812)

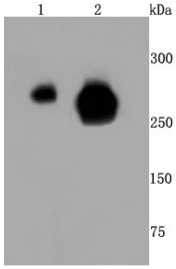
Product Details

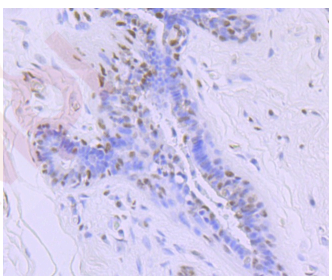
Ig Type:	IgG
Reactivity:	Human,Mouse,Rat
Conjugation:	Unconjugated
Molecular Weight:	Theoretical: 250 kDa.
Clone:	1R812
Purification:	ProA affinity purified

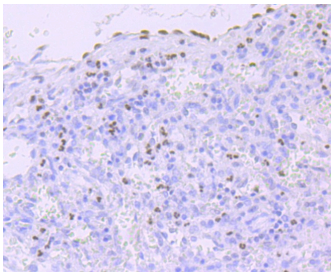
Applications

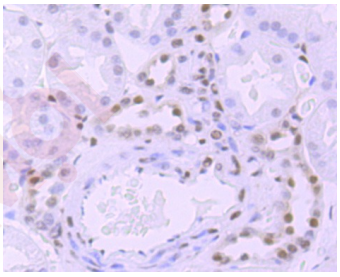
Verified Activity:

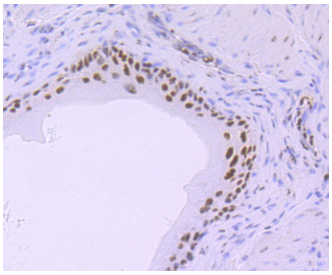
1. Western blot analysis of Phospho-POLR2A (S5) on different cells lysates using anti- Phospho-POLR2A (S5) antibody at 1/500 dilution. Positive control: Line 1: Hela, Line 2: MCF-7.
2. Immunohistochemical analysis of paraffin-embedded human breast cancer tissue using anti- Phospho-POLR2A (S5) antibody. Counter stained with hematoxylin.
3. Immunohistochemical analysis of paraffin-embedded human spleen tissue using anti-Phospho-POLR2A (S5) antibody. Counter stained with hematoxylin.
4. Immunohistochemical analysis of paraffin-embedded human kidney tissue using anti-Phospho-POLR2A (S5) antibody. Counter stained with hematoxylin.
5. Immunohistochemical analysis of paraffin-embedded mouse bladder tissue using anti-Phospho-POLR2A (S5) antibody. Counter stained with hematoxylin.
6. ICC staining Phospho-POLR2A (S5) in Hela cells (red). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.
7. ICC staining Phospho-POLR2A (S5) in MCF-7 cells (red). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.
8. ICC staining Phospho-POLR2A (S5) in PC-12 cells (red). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.
9. Flow cytometric analysis of Hela cells with Phospho-POLR2A (S5) antibody at 1/50 dilution (red) compared with an unlabelled control (cells without incubation with primary antibody; black). Alexa Fluor 488-conjugated goat anti rabbit IgG was used as the secondary antibody.

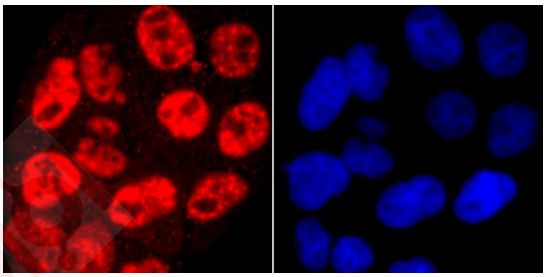


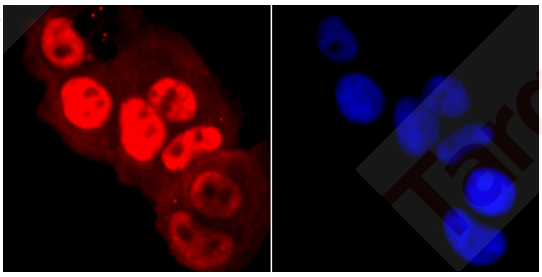


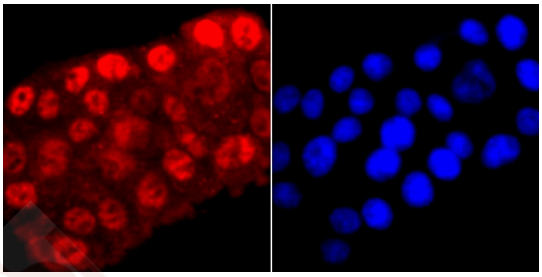


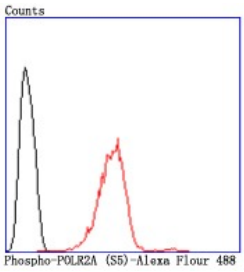












Application: FCM,ICC/IF,IHC,IP,WB

Recommended: WB: 1:500-2000; IHC: 1:50-200; ICC/IF: 1:100-500; FCM: 1:50-100

Properties

Stability & Storage: Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles.

Shipping: Shipping with blue ice.

Antigen Details

Immunogen: A synthesized phosphopeptide: human POLR2A around the phosphorylation site of Ser5

Antigen Species: human

Uniprot ID: P24928

Synonyms: p-POLR2A (Ser5);RPO2;RNA-directed RNA polymerase II subunit RPB1;RNA polymerase II subunit B1;DNA-directed RNA polymerase III largest subunit;DNA directed RNA polymerase II A; p-POLR2A (S5);RPBh1;POLR2A (p-Ser5);POLR2A (p-S5);POLRA;Phospho-POLR2A (S5);hsRPB1; RPB1;DNA-directed RNA polymerase II subunit RPB1;POLR2;Polr2a;Polymerase (RNA) II (DNA directed) polypeptide A 220kDa;RpIILS;hRPB220;RPOL2;DNA-directed RNA polymerase II largest subunit RNA polymerase II 220 kd subunit

Research Background

DNA-dependent RNA polymerase catalyzes the transcription of DNA into RNA using the four ribonucleoside triphosphates as substrates. Largest and catalytic component of RNA polymerase II which synthesizes mRNA precursors and many functional non-coding RNAs. Forms the polymerase active center together with the second largest subunit. Pol II is the central component of the basal RNA polymerase II transcription machinery. It is composed of mobile elements that move relative to each other. RPB1 is part of the core element with the central large cleft, the clamp element that moves to open and close the cleft and the jaws that are thought to grab the incoming DNA template. At the start of transcription, a single-stranded DNA template strand of the promoter is positioned within the central active site cleft of Pol II. A bridging helix emanates from RPB1 and crosses the cleft near the catalytic site and is thought to promote translocation of Pol II by acting as a ratchet that moves the RNA-DNA hybrid through the active site by switching from straight to bent conformations at each step of nucleotide addition. During transcription elongation, Pol II moves on the template as the transcript elongates. Elongation is influenced by the phosphorylation status of the C-terminal domain (CTD) of Pol II largest subunit (RPB1), which serves as a platform for assembly of factors that regulate transcription initiation, elongation, termination and mRNA processing. Acts as an RNA-dependent RNA polymerase when associated with small delta antigen of Hepatitis delta virus, acting both as a replicate and transcriptase for the viral RNA circular genome.

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