Recombinant Phospho-RNA Polymerase II CTD Repeat YSPTSPS (Ser5) Monoclonal Antibody

catalog number: AN302098L

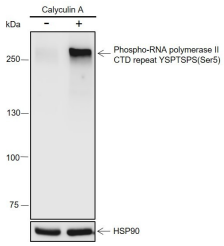
Note: *Centrifuge before opening to ensure complete recovery of vial contents.*

Description

Reactivity	Human;Rat;
Immunogen	Peptide. This information is proprietary to PTMab.
Host	Rabbit
Isotype	IgG, κ
Clone	A822
Purification	Protein A purified
Buffer	PBS, 50% glycerol, 0.05% Proclin 300, 0.05% protein protectant.

Applications	Recommended Dilution
WB	1:1000-3000

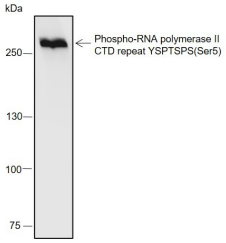
Data



Western Blot with Phospho-RNA Polymerase II CTD Repeat YSPTSPS (Ser5) Monoclonal Antibody at dilution of 1:2000. (-): 293T, (+): 293T + Calyculin A (100 nM, 60 min)

Observed-MW:270 kDa

Calculated-MW:192 kDa



Western Blot with Phospho-RNA Polymerase II CTD Repeat YSPTSPS (Ser5) Monoclonal Antibody at dilution of 1:2000. Lane 1: PC-12

Observed-MW:270 kDa

Calculated-MW:192 kDa

Preparation & Storage

Storage	Store at -20°C Valid for 12 months. Avoid freeze / thaw cycles.
Shipping	Ice bag

Background

RNA polymerase II (RNAPII) is a large multi-protein complex that functions as a DNA-dependent RNA polymerase, catalyzing the transcription of DNA into RNA using the four ribonucleoside triphosphates as substrates. The largest subunit, RNAPII subunit B1 (Rpb1), also known as RNAPII subunit A (POLR2A), contains a unique heptapeptide sequence (Tyr1,Ser2,Pro3,Thr4,Ser5,Pro6,Ser7), which is repeated up to 52 times in the carboxy-terminal domain (CTD) of the protein. This CTD heptapeptide repeat is subject to multiple post translational modifications, which dictate the functional state of the polymerase complex. Phosphorylation of the CTD during the active transcription cycle integrates transcription with chromatin remodeling and nascent RNA processing by regulating the recruitment of chromatin modifying enzymes and RNA processing proteins to the transcribed gene. During transcription initiation, RNAPII contains a hypophosphorylated CTD and is recruited to gene promoters through interactions with DNA-bound transcription factors and the Mediator complex. The escape of RNAPII from gene promoters requires phosphorylation at Ser5 by CDK7, the catalytic subunit of transcription factor IIH (TFIIH).

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