

FCP1 (H-300): sc-32867

BACKGROUND

RNA polymerase II (RNAP II) comprises a 12 subunit protein complex that mediates transcription. RNAP II contains a unique carboxy terminal domain (CTD), which consists of 52 repeats of the consensus heptapeptide Tyr-Ser-Pro-Thr-Ser-Pro-Ser. The RNAP II isoform with an unphosphorylated CTD associates with transcription initiation complexes, whereas the isoform with a phosphorylated CTD is involved in transcription elongation. FCP1, also designated TFIIF-associated CTD phosphatase, is a protein phosphatase dedicated to the CTD of RNAP II that mediates the recycling of RNAP II during the transcription cycle. FCP1 specifically targets phosphorylated CTD Serine 2 and 5 with similar affinities. Phosphorylation of FCP1 itself is necessary for sufficient activity of the protein and its interaction with TFIIF. Upon activation, the α -helical carboxy terminus of FCP1 binds to RAP74 to form a complex. FCP1 also represses HIV-1 Tat-mediated transactivation and, therefore, may represent a specific target for modulation of Tat activity in infected cells.

REFERENCES

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3. Mandal, S.S., Cho, H., Kim, S., Cabane, K. and Reinberg, D. 2002. FCP1, a phosphatase specific for the heptapeptide repeat of the largest subunit of RNA polymerase II, stimulates transcription elongation. *Mol. Cell. Biol.* 22: 7543-7552.
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6. Friedl, E.M., Lane, W.S., Erdjument-Bromage, H., Tempst, P. and Reinberg, D. 2003. The C-terminal domain phosphatase and transcription elongation activities of FCP1 are regulated by phosphorylation. *Proc. Natl. Acad. Sci. USA* 100: 2328-2333.

CHROMOSOMAL LOCATION

Genetic locus: CTDPI (human) mapping to 18q23; Ctdp1 (mouse) mapping to 18 E3.

SOURCE

FCP1 (H-300) is a rabbit polyclonal antibody raised against amino acids 662-961 mapping at the C-terminus of FCP1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

FCP1 (H-300) is recommended for detection of FCP1, FCP1a and FCP1b of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for FCP1 siRNA (h): sc-44888, FCP1 siRNA (m): sc-44889, FCP1 shRNA Plasmid (h): sc-44888-SH, FCP1 shRNA Plasmid (m): sc-44889-SH, FCP1 shRNA (h) Lentiviral Particles: sc-44888-V and FCP1 shRNA (m) Lentiviral Particles: sc-44889-V.

Molecular Weight of FCP1: 104 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.


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Try **FCP1 (3G4): sc-293358**, our highly recommended monoclonal alternative to FCP1 (H-300).