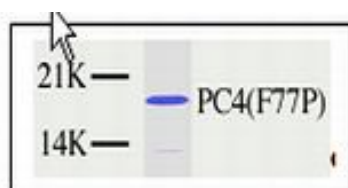


PC4-mt (F77P)

Positive Cofactor 4, F77P mutant, Transcriptional Coactivator
human, recombinant, *E. coli*

Cat. No.	Amount
PR-726	10 µg



For *in vitro* use only
 Quality guaranteed for 12 months
 Store at -80°C

Avoid freeze / thaw cycles

Form

Liquid. Supplied in 20 mM Tris-HCl, pH 7.9, 100 mM KCl, 0.2 mM EDTA, 1 mM DTT, 20% glycerol.

Activity

1 ng is sufficient for a gel mobility shift assay in a 20 µl reaction, 20 ng are sufficient for reconstituted transcription assay and 100 ng are sufficient for a protein-protein interaction assay.

Purity

> 95% by SDS-PAGE.

Description

The human PC4 is a non-TAF transcription coactivator that mediates activator-dependent transcription by RNA Polymerase II *in vitro* through most tested activators. The function of PC4 is through interactions with transcriptional activators and the basal transcription machinery. It is negatively regulated by Casein Kinase II phosphorylation both *in vivo* and *in vitro*. PC4 strongly binds single stranded DNA and the region essential for the single stranded DNA binding activity was mapped around residue 77. A single amino acid change at position 77 (F to P) abolishes both ds- and ssDNA binding activity. Recombinant PC4 protein (mutant F77P, 127 amino acids) is isolated from an *E. coli* strain that carries the coding sequence of human PC4 under the control of T7 promoter and purified by conventional chromatography. Recombinant PC4 has been utilized for *in vitro* function studies, including transcription, DNA replication, *in vitro* phosphorylation, gel mobility shift assay, protein-protein interactions, and as a substrate for *in vitro* acetylation. Protein is greater than 95% homogeneous and contains no detectable protease, DNase, and RNase activity.

Selected References:

- Ge H. and Roeder R.G. (1994) Purification, cloning, and characterization of a human coactivator, PC4, that mediates transcriptional activation of class II genes. *Cell* **78**:513.
- Ge *et al.* (1994) Phosphorylation negatively regulates the function of coactivator PC4. *Proc. Natl. Acad. Sci. USA* **91**:12691.
- Kretzschmar *et al.* (1994) A novel mediator of class II gene transcription with homology to viral immediate-early transcriptional regulators. *Cell* **78**:525.
- Wu *et al.* (1998) Properties of PC4 and an RNA polymerase II complex in directing activated and basal transcription *in vitro*. *J. Biol. Chem.* **273**:12492.
- Brandsen *et al.* (1997) C-terminal domain of transcription cofactor PC4 reveals dimeric ssDNA binding site. *Nat. Struct. Biol.* **4**:900.
- Werten *et al.* (1998) Interaction of PC4 with melted DNA inhibits transcription. *EMBO J.* **17**:5103.