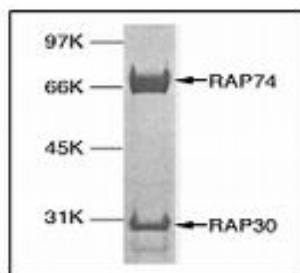


TFIIF

Transcription Factor IIF, Rap30 + Rap74 subunits
human, recombinant, *E. coli*

Cat. No.	Amount
PR-709	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 8.0, 500 mM KCl, 0.2 mM EDTA, 1 mM DTT, 20% glycerol.

Activity

1-10 ng is sufficient for a gel mobility shift assay in a 20 µl reaction to form a D/B/Pol/F complex, 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 transcription factor IIF (TFIIF) is composed of 58 kDa (RAP74) and 26 kDa (RAP30) subunits as a heterodimer, and was first identified through the ability to interact with immobilized RNA Polymerase II. The Rap74 subunit of TFIIF can be phosphorylated by TAF250 both *in vivo* and *in vitro*. The RAP30 subunit of TFIIF contains two distinct regions with sequence similarity to *E. coli* factors and can deliver RNA polymerase II to the promoter to support transcription initiation in the absence of RAP74.

Recombinant RAP74 protein is isolated from an *E. coli* strain that carries the coding sequence of human RAP74, the subunit of TFIIF under the control of T7 promoter; recombinant RAP30 protein is isolated from an *E. coli* strain that carries the coding sequence of human RAP30, the subunit of TFIIF under the control of T7 promoter; TFIIF is reconstituted by combining equimolar quantities of recombinant RAP30 and RAP74.

TFIIF has been used for *in vitro* transcription assays, phosphorylation assays, protein-DNA, protein-RNA, and protein-protein interaction assays.

Protein is greater than 95% homogeneous and contains no detectable protease, DNase, and RNase activity.

Selected References:

- Sopta *et al.* (1985) Isolation of three proteins that bind to mammalian RNA polymerase II. *J. Biol. Chem.* **260**:10353.
Sopta *et al.* (1989) Structure and associated DNA-helicase activity of a general transcription initiation factor that binds to RNA polymerase II. *Nature* **341**:410.
McCracken *et al.* (1991) *Science* **253**:900.
Wang *et al.* (1994) Importance of codon preference for production of human RAP74 and reconstitution of the RAP30/74 complex. *Protein Expr. Purif.* **5**:476.
Kitajima *et al.* (1994) Regulation of the human general transcription initiation factor TFIIF by phosphorylation. *J. Biol. Chem.* **269**:29970.
Ha *et al.* (1993) Multiple functional domains of human transcription factor IIB: distinct interactions with two general transcription factors and RNA polymerase II. *Genes & Dev.* **7**:1021.
Tan *et al.* (1995) Dissection of Transcription Factor TFIIF Functional Domains Required for Initiation and Elongation. *Proc. Natl. Acad. Sci. USA* **92**:6042.