

Dr1^{GST}

Down-regulator of transcription 1, NC2 β , 19 kDa

human, recombinant, *E. coli*

Cat. No.	Amount
PR-800	10 μ g

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, 100 mM KCl, 0.2 mM EDTA, 1 mM DTT and 20% glycerol.

Activity

100 ng are sufficient for a protein-protein interaction assay.

Application

GST-Dr1 has been applied in protein-protein interaction assays.

Purity

> 95% by SDS-PAGE

Description

Dr1 is a general negative regulator of class II and class III gene expression. It binds to the basic repeat domain of TBP on promoter DNA and can prevent the RNA Polymerase II holoenzyme, or its TFIIB and/or TFIIA subunits, from assembling into an initiation complex. Dr1 is phosphorylated *in vivo* and this modification affects its interaction with TBP. In addition, Dr1 interacts with the hyperphosphorylated form of Pol II and with the repression domain of the AREB6 repressor. Dr1 forms a heterodimer complex with DRAP1 through its histone fold domain. More recently it was discovered that Dr1-DRAP1 is a bi-functional basal transcription factor that differentially regulates gene transcription through DPE (downstream promoter elements) or TATA box motifs. It can stimulate transcription *in vitro* from *Drosophila* promoters containing DPEs, whereas it represses transcription from TATA-containing promoters.

Recombinant GST-Dr1 is isolated from an *E. coli* strain that carries the coding sequence of the human Dr1 under the control of a T7 promoter.

Selected References:

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