

Sp1 (Sf9)

GC-box Binding Protein

human, recombinant, Sf9 insect cells

Cat. No.	Amount
PR-733	5 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, 100 mM KCl, 0.2 mM EDTA, 1 mM DTT and 20% glycerol.

Activity

30-100 ng are required for a reconstituted transcription assay and 5-25 ng are required for a gel mobility shift assay in a 20 µl reaction.

Application

Sp1 can be used for *in vitro* transcription activation, DNase I activation and gel mobility shift assays.

Molecular Weight

100 kDa

Purity

> 90% by SDS-PAGE

Description

The his-tagged wild type Sp1 protein (785 amino acids) was expressed in a baculovirus system and purified by affinity column and FPLC.

Sp1 was first detected in HeLa cells on the basis of its ability to activate the SV40 early promoter transcription. Subsequently it was shown to recognize and bind selectively to a GC-rich consensus sequence (GC-box: GGGCGG or CACCC) that presents in the promoter of several important cellular genes, including SV40 early, HIV-1, PDGF-B etc. Sp1 was the first transcription factor to be cloned and characterized. Analysis of structure and function has revealed that Sp1 can be separated into discrete functional domains. The DNAbinding domain consists of three zinc fingers that specifically bind to the GC-box element. Sp1 contains at least four separate transcriptional activation domains. Two of these domains are glutamine-rich, a wellcharacterized motif found in several other transcription factors. In addition to transcription, Sp1 function has been linked to cell growth, cancer, Huntington disease, and other disorders through transcriptional regulation or specific protein- protein interactions. The function of Sp1 can be regulated by phosphorylation and glycosylation.

Selected References:

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Jackson *et al.* (1989) Purification and analysis of RNA polymerase II transcription factors by using wheat germ agglutinin affinity chromatography. *Proc. Natl. Acad. Sci. USA* **86**:1781.
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