

Active Recombinant Human Sp1 Transcription Factor, His-tagged

Cat. No. SP1-1158H **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Species Human

Source Sf9 Cells

Description

The his-tagged wild type Sp1 protein (785 amino acids, 100 kDa) 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 DNA binding 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 well characterized 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.

Form

Liquid. Supplied in 20 mM Tris-HCl pH 8.0, 100 mM KCl, 0.2 mM EDTA, 1 mM DTT, 20% glycerol.

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Purity	> 90% by SDS-PAGE.
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.
Usage	For in vitro use only.
Storage	Quality guaranteed for 12 months store at -80°C. Avoid freeze / thaw cycles.

GENE INFORMATION

Gene Name	SP1 Sp1 transcription factor [Homo sapiens]
Synonyms	SP1; Sp1 transcription factor; Sp1 transcription factor; specificity protein 1; TSFP1; Transcription factor Sp1
Gene ID	6667
mRNA Refseq	NM_003109
Protein Refseq	NP_003100
MIM	189906
UniProt ID	P08047
Chromosome Location	12q13.1

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Pathway	Huntington's disease; TGF-beta signaling pathway
Function	RNA polymerase II transcription factor activity; double-stranded DNA binding; histone deacetylase binding; metal ion binding; promoter binding; protein C-terminus binding; protein homodimerization activity; transcription activator activity; transcription factor activity; zinc ion binding
PDB rendering based on 1sp1.	