

Active Recombinant Human Sp1 Transcription Factor

Cat. No. SP1-1157H **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Species Human

Source HeLa

Description

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. Natural Sp1 fraction was purified from HeLa cell nuclear extract by using wheat germ agglutinin affinity chromatography. Affinity purified Sp1 has been used for in vitro transcriptional activation, DNase I protection, and gel mobility shift assays. The Sp1 fraction is 80 - 90% pure and is devoid of other transcription factors.

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

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	20% glycerol.
Purity	> 95% by SDS-PAGE.
Activity	50-100 ng are sufficient for a reconstituted transcription assay and 5-25 ng are sufficient for a gel mobility shift assay in a 20 µl reaction.
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.	