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ProductInformation

c-Jun
Human, Recombinant
Expressed in *E. coli*

Product Number **C 9733**
Storage temperature −70 °C

Synonyms: p39

Product Description

c-Jun is a component of the transcription factor AP-1 that binds and activates transcription at TRE/AP-1 elements. The transcriptional activity of c-Jun is regulated by phosphorylation at Ser^{63} and Ser^{73} by c-Jun-N-terminal kinases (JNKs).[1,2] Extracellular signals including growth factors, transforming oncoproteins, hydrogen peroxide, and UV irradiation stimulate phosphorylation of c-Jun at $Ser^{63/73}$ and activate c-Jun-dependent transcription.[3,4] Mutation of $Ser^{63/73}$ renders c-Jun nonresponsive to mitogenic and stress induced signaling pathways. c-Jun is involved in many biological functions including cell cycle progression, transformation, differentiation, and apoptosis.[5]

Phosphorylated c-jun forms bioactive homodimers or forms a heterodimeric complex with c-Fos creating Activator Protein (AP)-1 transcription factor.[3] AP-1 binds to the TPA (12-O-tetradecanoylphorbol 13-acetate) response element (TRE) of several cellular and viral genes including human collagenase, metallothionein IIa, stromelysin, interleukin 2, and the SV40 and polyoma enhancers.[6,7,8] Fos and Jun contain the leucine-zipper motif that allows for dimerization and an adjacent basic domain required for biological activity.[9] The functionally active form of Fos is always a heterodimer with a member of the Jun family.

c-Jun is produced from DNA sequence encoding full-length human c-Jun expressed in *E. coli*. The molecular weight of c-Jun is approximately 39 kDa. c-Jun is suitable for use in gel shift and footprinting assays.

Reagent

c-Jun is supplied as 50 fpu (footprint units) in 20 mM Tris HCl, pH 7.5, containing 50 mM KCl, 1 mM EDTA, 10 mM $MgCl_2$, 1 mM DTT, 0.5 M guanidine HCl, and 30% glycerol.

Precautions and Disclaimer

For research use only. Please consult the Material Safety Data Sheet for handling recommendations before working with this product.

Storage/Stability

Store at −70 °C. Centrifuge the original vial after thawing and prior to removing the cap for maximum recovery of the product. Avoid repeated freeze-thaw cycles. Do not store in a frost-free freezer.

Product Profile

Purity is >95% by SDS-PAGE with Coomassie blue staining.

Activity is determined in a footprinting assay. One footprint unit (fpu) is the amount of protein required to yield a complete footprint (major and minor protected sites) within the 72 bp repeat of SV40 early promoter at pH 8.0 in one minute at room temperature. The reaction mixture contains 35 fmol end-labeled SV40 early promoter, 1 fpu c-Jun, and 0.04 U of DNAse I in 25 mM Tris HCl, pH 8.0, containing 0.05 M KCl, 6.25 mM $MgCl_2$, 0.5 mM EDTA, 0.5 mM DTT, and 10% glycerol.

References

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