

USF-1 (m): 293T Lysate: sc-124487

BACKGROUND

The ubiquitously expressed cellular upstream stimulatory factor (USF) consists of (USF-1) and (USF-2) polypeptides which independently exhibit site-specific DNA binding and are members of the c-Myc-related family of regulatory factors containing helix-loop-helix domains. USF also contains a leucine repeat that is required for efficient DNA binding. USF was originally identified as an upstream stimulatory factor that binds the core sequence CACGTG in the adenovirus late promoter. These findings, together with the demonstration of cooperative interaction between USF and the initiator-binding protein, TFII-I, raises the possibility of a more general involvement of USF in transcriptional regulation. While expression of both USF-1 and USF-2 species is ubiquitous, different ratios of USF homo- and heterodimers are found in different cell types.

REFERENCES

1. Sawadogo, M., et al. 1985. Interaction of a gene-specific transcription factor with the adenovirus major late promoter upstream of the TATA box region. *Cell* 43: 165-175.
2. Carthew, R.W., et al. 1985. An RNA polymerase II transcription factor binds to an upstream element in the adenovirus major late promoter. *Cell* 43: 439-448.
3. Sawadogo, M., et al. 1988. Multiple forms of the human gene-specific transcription factor USF-1. Complete purification and identification of USF from HeLa cell nuclei. *J. Biol. Chem.* 263: 11985-11993.
4. Gregor, P.D., et al. 1990. The adenovirus major late transcription factor USF is a member of the helix-loop-helix group of regulatory proteins and binds to DNA as a dimer. *Genes Dev.* 4: 1730-1740.
5. Beckmann, H., et al. 1991. The leucine zipper of TFE3 dictates helix-loop-helix dimerization specificity. *Genes Dev.* 5: 1057-1066.
6. Roy, A.L., et al. 1991. Cooperative interaction of an initiator-binding transcription initiation factor and the helix-loop-helix activator USF. *Nature* 354: 245-248.
7. Kirschbaum, B.J., et al. 1992. Definition of the transcriptional activation domain of recombinant 43-kilodalton USF. *Mol. Cell. Biol.* 12: 5094-5101.
8. Sirtio, M., et al. 1994. Ubiquitous expression of the 43- and 44-kDa forms of transcription factor USF in mammalian cells. *Nucleic Acids Res.* 22: 427-433.
9. Zhang, L., et al. 2007. Regulation of IL-10 expression by upstream stimulating factor (USF-1) in glioma-associated microglia. *J. Neuroimmunol.* 184: 188-197.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CHROMOSOMAL LOCATION

Genetic locus: *Usf1* (human) mapping to 1 H3.

PRODUCT

USF-1 (m): 293T Lysate represents a lysate of mouse USF-1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

USF-1 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive USF-1 antibodies. Recommended use: 10-20 µl per lane.

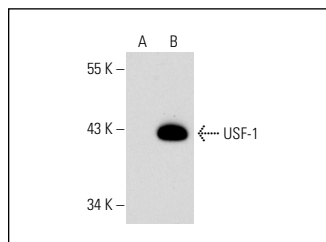
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

USF-1 (J-39): sc-101197 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse USF-1 expression in USF-1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



USF-1 (J-39): sc-101197. Western blot analysis of USF-1 expression in non-transfected: sc-117752 (A) and mouse USF-1 transfected: sc-124487 (B) 293T whole cell lysates.

RESEARCH USE

For research use only, not for use in diagnostic procedures.