SANTA CRUZ BIOTECHNOLOGY, INC.

USF-1 (G-2): sc-390027

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. Inter-action 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.

CHROMOSOMAL LOCATION

Genetic locus: USF1 (human) mapping to 1q23.3; Usf1 (mouse) mapping to 1 H3.

SOURCE

USF-1 (G-2) is a mouse monoclonal antibody raised against amino acids 75-160 of USF-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-390027 X, 200 µg/0.1 ml.

USF-1 (G-2) is available conjugated to agarose (sc-390027 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390027 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390027 PE), fluorescein (sc-390027 FITC), Alexa Fluor® 488 (sc-390027 AF488), Alexa Fluor® 546 (sc-390027 AF546), Alexa Fluor® 594 (sc-390027 AF594) or Alexa Fluor® 647 (sc-390027 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390027 AF680) or Alexa Fluor® 790 (sc-390027 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

USF-1 (G-2) is recommended for detection of USF-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). USF-1 (G-2) is also recommended for detection of USF-1 in additional species, including canine, bovine and porcine.

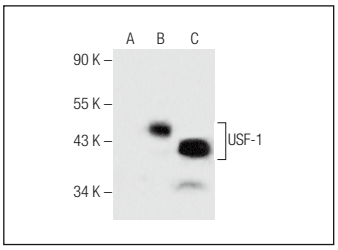
Suitable for use as control antibody for USF-1 siRNA (h): sc-36783, USF-1 siRNA (m): sc-36784, USF-1 siRNA (r): sc-270501, USF-1 shRNA Plasmid (h): sc-36783-SH, USF-1 shRNA Plasmid (m): sc-36784-SH, USF-1 shRNA Plasmid (r): sc-270501-SH, USF-1 shRNA (h) Lentiviral Particles: sc-36783-V, USF-1 shRNA (m) Lentiviral Particles: sc-36784-V and USF-1 shRNA (r) Lentiviral Particles: sc-270501-V.

USF-1 (G-2) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

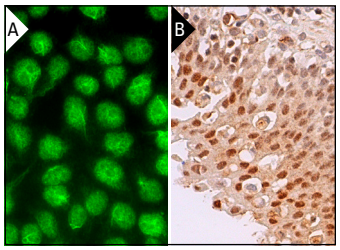
Molecular Weight of USF-1: 43 kDa.

Positive Controls: USF-1 (m): 293T Lysate: sc-124487, Jurkat nuclear extract: sc-2132 or K-562 whole cell lysate: sc-2203.

DATA



USF-1 (G-2): sc-390027. 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 and Jurkat nuclear extract (**C**).



USF-1 (G-2): sc-390027. Immunofluorescence staining of formalin-fixed HeLa cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing nuclear staining of urothelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Lupp, S., et al. 2014. The upstream stimulatory factor USF-1 is regulated by protein kinase CK2 phosphorylation. Cell. Signal. 26: 2809-2817.
2. Lu, K., et al. 2022. Defects in a liver-bone axis contribute to hepatic osteodystrophy disease progression. Cell Metab. 34: 441-457.e7.
3. Horvath, R.M., et al. 2023. Upstream stimulatory factors regulate HIV-1 latency and are required for robust T cell activation. Viruses 15: 1470.
4. Zhang, Z., et al. 2024. USF1 transcriptionally activates USP14 to drive atherosclerosis by promoting EndMT through NLRC5/Smad2/3 axis. Mol. Med. 30: 32.

RESEARCH USE

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