SANTA CRUZ BIOTECHNOLOGY, INC.

USF-1 (H-86): sc-8983

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.

CHROMOSOMAL LOCATION

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

SOURCE

USF-1 (H-86) is a rabbit polyclonal antibody raised against amino acids 75-160 of USF-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG 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-8983 X, 200 µg/0.1 ml.

APPLICATIONS

USF-1 (H-86) 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), indirect flow cytometry (1 µg per 1 x 10^6 cells) using PE (sc-3739) and FITC (sc-2012)-conjugated goat anti-rabbit IgG and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

USF-1 (H-86) is also recommended for detection of USF-1 in additional species, including equine, 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 shRNA Plasmid (h): sc-36783-SH, USF-1 shRNA Plasmid (m): sc-36784-SH, USF-1 shRNA (h) Lentiviral Particles: sc-36783-V and USF-1 shRNA (m) Lentiviral Particles: sc-36784-V.

USF-1 (H-86) 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, NIH/3T3 nuclear extract: sc-2138 or Jurkat nuclear extract: sc-2132.

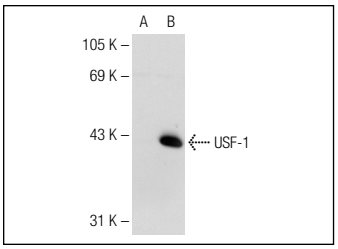
RESEARCH USE

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

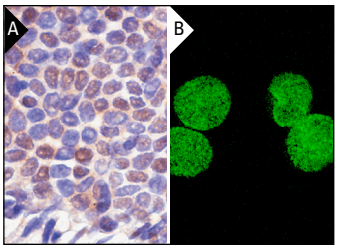
STORAGE

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

DATA



USF-1 (H-86): sc-8983. 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.



USF-1 (H-86): sc-8983. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast tumor showing nuclear staining (**A**). Immunofluorescence staining of methanol-fixed Jurkat cells showing nuclear staining (**B**).

SELECT PRODUCT CITATIONS

1. Medvedev, A.V., et al. 2001. Transcriptional regulation of the mouse uncoupling protein-2 gene. J. Biol. Chem. 276: 10817-10823.
2. Rada-Iglesias, A., et al. 2008. Whole-genome maps of USF1 and USF2 binding and histone H3 acetylation reveal new aspects of promoter structure and candidate genes for common human disorders. Genome Res. 18: 380-392.
3. Lin, I.J., et al. 2009. Calpeptin increases the activity of upstream stimulatory factor and induces high level globin gene expression in erythroid cells. J. Biol. Chem. 284: 20130-20135.
4. Sun, Q., et al. 2009. Upstream stimulatory factor 2, a novel FoxA1-interacting protein, is involved in prostate-specific gene expression. Mol. Endocrinol. 23: 2038-2047.
5. Hrdlicková, R., et al. 2009. Regulation of telomerase activity by interferon regulatory factors 4 and 8 in immune cells. Mol. Cell. Biol. 29: 929-941.
6. Pedersen, K.B., et al. 2010. Glucose induces expression of rat pyruvate carboxylase through a carbohydrate response element in the distal gene promoter. Biochem. J. 426: 159-170.
7. Ratajewski, M., et al. 2012. Upstream stimulating factors regulate the expression of RORγT in human lymphocytes. J. Immunol. 189: 3034-3042.

PROTOCOLS

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