

ESF1 (N-14): sc-87717

BACKGROUND

In eukaryotic systems, initiation of transcription from protein-coding genes is a complex process requiring RNA polymerase II and broad families of auxiliary transcription factors. Such factors can be divided into two major functional classes: the basal factors that are required for transcription of all Pol II genes, including TFIIA, TFIIB, TFIID, TFII E, TFII F and TFII H and sequence-specific factors that regulate gene expression. The basal transcription factors and Pol II form a specific multi-protein complex near the transcription start site by interacting with core promoter elements such as the TATA box, generally located 25-30 base pairs upstream of the transcription start site. ABT1 (activator of basal transcription 1) is a nuclear protein that associates with the TATA-binding protein (TBP) and enhances basal transcription activity of class II promoters. ABT1 forms a complex with ESF1, also designated ABT1-associated protein (ABTAP), which disrupts ABT1 interaction with TBP and suppresses ABT1-induced activation of Pol II-directed transcription. The ABT1/ESF1 complex colocalizes in the nucleolus and nucleoplasm.

REFERENCES

1. Maldonado, E., et al. 1990. Factors involved in specific transcription by mammalian RNA polymerase II: role of transcription factors IIA, IID, and IIB during formation of a transcription-competent complex. *Mol. Cell. Biol.* 10: 6335-6347.
2. Peterson, M.G., et al. 1991. Structure and functional properties of human general transcription factor IIE. *Nature* 354: 369-373.
3. Lee, D.K., et al. 1992. TFIIA induces conformational changes in TFIID via interactions with the basic repeat. *Mol. Cell. Biol.* 12: 5189-5196.
4. Takada, R., et al. 1992. Identification of human TFIID components and direct interaction between a 250-kDa polypeptide and the TATA box-binding protein (TFIIDt). *Proc. Natl. Acad. Sci. USA* 89: 11809-11813.
5. Oda, T., et al. 2000. A novel TATA-binding protein-binding protein, ABT1, activates basal transcription and has a yeast homolog that is essential for growth. *Mol. Cell. Biol.* 20: 1407-1418.

CHROMOSOMAL LOCATION

Genetic locus: ESF1 (human) mapping to 20p12.1; Esf1 (mouse) mapping to 2 F3.

SOURCE

ESF1 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of ESF1 of human origin.

STORAGE

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

PROTOCOLS

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-87717 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ESF1 (N-14) is recommended for detection of ESF1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ESF1 (N-14) is also recommended for detection of ESF1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ESF1 siRNA (h): sc-77288, ESF1 siRNA (m): sc-144944, ESF1 shRNA Plasmid (h): sc-77288-SH, ESF1 shRNA Plasmid (m): sc-144944-SH, ESF1 shRNA (h) Lentiviral Particles: sc-77288-V and ESF1 shRNA (m) Lentiviral Particles: sc-144944-V.

Molecular Weight (predicted) of ESF1: 99 kDa.

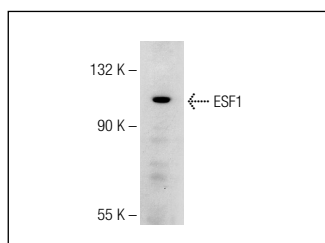
Molecular Weight (observed) of ESF1: 105 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



ESF1 (N-14): sc-87717. Western blot analysis of ESF1 expression in IMR-32 nuclear extract.

RESEARCH USE

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