SANTA CRUZ BIOTECHNOLOGY, INC.

Asf1 (D-6): sc-166482

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The Power to Question

BACKGROUND

CIA, an interactor of the CCG1 histone acetyltransferase subunit of TFIID, is a human histone chaperone. The *Saccharomyces cerevisiae* orthologue Asf1 (anti-silencing function 1) is involved in DNA repair response. Asf1, when overexpressed, causes δ-repression of silent loci. Asf1 (also known as Asf1p) interacts with Bdf1p (bromodomain factor 1), which serves as the missing bromodomain in yTAFII 145. Cell death in *S. cerevisiae* occurs with a phenotype that largely resembles apoptosis in multicellular organisms, but also has some features of passive cell death (necrosis). Deletion of Asf1 inhibits the normal assembly/disassembly of nucleosomes in yeast and thereby initiates the active cell death system. Yeast CAF-I and Asf1 cooperate to form nucleosomes *in vitro. In vivo,* Asf1 and Hir proteins physically interact and together promote heterochromatic gene silencing in a manner requiring PCNA. Chromatin assembly factor I mutants defective for PCNA binding require Asf1/Hir proteins for silencing.

REFERENCES

1. Yamaki, M., et al. 2001. Cell death with predominant apoptotic features in *Saccharomyces cerevisiae* mediated by deletion of the histone chaperone Asf1/CIA1. Genes Cell 6: 1043-1054.
2. Sharp, J.A., et al. 2001. Yeast histone deposition protein Asf1p requires Hir proteins and PCNA for heterochromatic silencing. Curr. Biol. 11: 463-473.
3. Umehara, T., et al. 2002. Polyanionic stretch-deleted histone chaperone CIA1/Asf1p is functional both *in vivo* and *in vitro.* Genes Cell 7: 59-73.
4. Mello, J.A., et al. 2002. Human Asf1 and CAF-1 interact and synergize in a repair-coupled nucleosome assembly pathway. EMBO Rep. 3: 329-334.
5. Chimura, T., et al. 2002. Identification and characterization of CIA/Asf1 as an interactor of bromodomains associated with TFIID. Proc. Natl. Acad. Sci. USA 99: 9334-9339.
6. Krawitz, D.C., et al. 2002. Chromatin assembly factor I mutants defective for PCNA binding require Asf1/Hir proteins for silencing. Mol. Cell. Biol. 22: 614-625.

SOURCE

Asf1 (D-6) is a mouse monoclonal antibody raised against amino acids 1-279 representing full length Asf1 of *Saccharomyces cerevisiae* origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Asf1 (D-6) is available conjugated to agarose (sc-166482 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166482 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166482 PE), fluorescein (sc-166482 FITC), Alexa Fluor® 488 (sc-166482 AF488), Alexa Fluor® 546 (sc-166482 AF546), Alexa Fluor® 594 (sc-166482 AF594) or Alexa Fluor® 647 (sc-166482 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166482 AF680) or Alexa Fluor® 790 (sc-166482 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

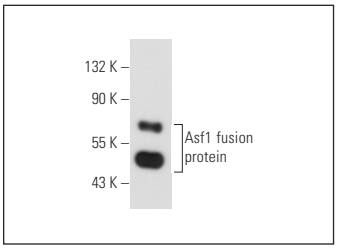
Asf1 (D-6) is recommended for detection of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Asf1: 31 kDa.

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Asf1 (D-6): sc-166482. Western blot analysis of yeast recombinant Asf1 fusion protein.

SELECT PRODUCT CITATIONS

1. Miknis, G.F., et al. 2015. Development of novel Asf1-H3/H4 inhibitors. Bioorg. Med. Chem. Lett. 25: 963-968.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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