SANTA CRUZ BIOTECHNOLOGY, INC.

SAF-B (4D6): sc-135618

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Heterogeneous nuclear ribonucleoproteins (hnRNPs) constitute a set of polypeptides that contribute to pre-mRNA processing and transport. hnRNPs also bind heterogeneous nuclear RNA (hnRNA), the transcripts produced by RNA polymerase II. SAF-B (scaffold attachment factor B) is a nuclear matrix-associated protein that binds to matrix- or scaffold-associating regions (MARs or SARs) on DNA and interacts with RNA polymerase II and serine-/arginine-rich RNA processing factors (SR proteins). SAF-B, also designated HAP (hnRNP A1 associated protein) and HET (HSP 27-ERE-TATA-binding protein) is a proven hnRNP protein that has a speckled distribution in the nucleus and, in response to stress agents such as heat shock, is recruited to a few, large nuclear granules, called perichromatin granules. SAF-B also binds to the estrogen receptor (ER) and is expressed in several breast cancer cell lines at varying levels. Subsequently, SAF-B may play a role in breast cancer by mediating cellular proliferation and division.

REFERENCES

1. Badolato, J., et al. 1995. Identification and characterization of a novel human RNA-binding protein. Gene 166: 323-327.
2. Oesterreich, S., et al. 1997. Novel nuclear matrix protein HET binds to and influences activity of the HSP 27 promoter in human breast cancer cells. J. Cell. Biochem. 67: 275-286.
3. Nayler, O., et al. 1998. SAF-B protein couples transcription and pre-mRNA splicing to SAR/MAR elements. Nucleic Acids Res. 26: 3542-3549.
4. Weighardt, F., et al. 1999. A novel hnRNP protein (HAP/SAF-B) enters a subset of hnRNP complexes and relocates in nuclear granules in response to heat shock. J. Cell Sci. 112: 1465-1476.
5. Chiodi, I., et al. 2000. Structure and dynamics of hnRNP-labelled nuclear bodies induced by stress treatments. J. Cell Sci. 113: 4043-4053.
6. Arao, Y., et al. 2000. A nuclear matrix-associated factor, SAF-B, interacts with specific isoforms of AUF1/hnRNP D. Arch. Biochem. Biophys. 380: 228-236.
7. Oesterreich, S., et al. 2000. Tamoxifen-bound estrogen receptor (ER) strongly interacts with the nuclear matrix protein HET/SAF-B, a novel inhibitor of ER-mediated transactivation. Mol. Endocrinol. 14: 369-381.
8. Townson, S.M., et al. 2000. HET/SAF-B overexpression causes growth arrest and multinuclearity and is associated with aneuploidy in human breast cancer. Clin. Cancer Res. 6: 3788-3796

CHROMOSOMAL LOCATION

Genetic locus: SAFB (human) mapping to 19p13.3.

SOURCE

SAF-B (4D6) is a mouse monoclonal antibody raised against recombinant SAF-B protein of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SAF-B (4D6) is recommended for detection of SAF-B of 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).

Suitable for use as control antibody for SAF-B siRNA (h): sc-38311, SAF-B shRNA Plasmid (h): sc-38311-SH and SAF-B shRNA (h) Lentiviral Particles: sc-38311-V.

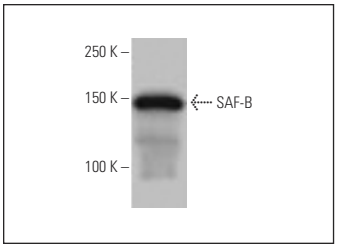
Molecular Weight of SAF-B: 150 kDa.

Positive Controls: HeLa nuclear extract: sc-2120 or MCF7 nuclear extract: sc-2149.

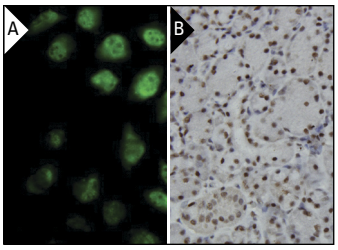
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



SAF-B (4D6): sc-135618. Western blot analysis of SAF-B expression in HeLa nuclear extract.



SAF-B (4D6): sc-135618. Immunofluorescence staining of methanol-fixed HeLa cells (**A**) and immunoperoxidase staining of formalin-fixed, paraffin-embedded human salivary gland tissue (**B**) showing nuclear localization.

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.