SANTA CRUZ BIOTECHNOLOGY, INC.

B-ATF siRNA (h): sc-45978

BACKGROUND

B-ATF is a nuclear basic leucine zipper protein that belongs to the AP-1/ATF superfamily of transcription factors. The leucine zipper of B-ATF mediates dimerization with members of the Jun family of proteins. The B-ATF protein does not homodimerize efficiently, but rather forms a heterodimer preferentially with c-Jun. The B-ATF/c-Jun protein complex can interact with DNA containing a consensus binding site for AP-1, suggesting that B-ATF functions as a tissue-specific modulator of the AP-1 transcription complex in human cells. B-ATF also associates with IFP35, a leucine zipper protein that translocates to the nucleus following IFN treatment. The gene encoding B-ATF, also designated SFA-2, is strongly expressed in mature T and B lymphocytes, and is upregulated after transformation by human T cell leukemia virus type I.

REFERENCES

1. Dorsey, M.J., Tae, H.J., Sollenberger, K.G., Mascarenhas, N.T., Johansen, L.M. and Taparowsky, E.J. 1995. B-ATF: a novel human bZIP protein that associates with members of the AP-1 transcription factor family. Oncogene 11: 2255-2265.
2. Hasegawa, H., Utsunomiya, Y., Kishimoto, K., Tange, Y., Yasukawa, M. and Fujita, S. 1996. SFA-2, a novel bZIP transcription factor induced by human T cell leukemia virus type I, is highly expressed in mature lymphocytes. Biochem. Biophys. Res. Commun. 222: 164-170.
3. Wang, X., Johansen, L.M., Tae, H.J. and Taparowsky, E.J. 1996. IFP35 forms complexes with B-ATF, a member of the AP-1 family of transcription factors. Biochem. Biophys. Res. Commun. 229: 316-322.
4. Meyer, N.P., Johansen, L.M., Tae, H.J., Budde, P.P., Williams, K.L. and Taparowsky, E.J. 1998. Genomic organization of human B-ATF, a target for regulation by EBV and HTLV-1. Mamm. Genome 9: 849-852.
5. Echlin, D.R., Tae, H.J., Mitin, N. and Taparowsky, E.J. 2000. B-ATF functions as a negative regulator of AP-1 mediated transcription and blocks cellular transformation by Ras and Fos. Oncogene 19: 1752-1763.

CHROMOSOMAL LOCATION

Genetic locus: BATF (human) mapping to 14q24.3.

PRODUCT

B-ATF siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see B-ATF shRNA Plasmid (h): sc-45978-SH and B-ATF shRNA (h) Lentiviral Particles: sc-45978-V as alternate gene silencing products.

For independent verification of B-ATF (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-45978A, sc-45978B and sc-45978C.

PROTOCOLS

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

B-ATF siRNA (h) is recommended for the inhibition of B-ATF expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

B-ATF (WW8): sc-100974 is recommended as a control antibody for monitoring of B-ATF gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor B-ATF gene expression knockdown using RT-PCR Primer: B-ATF (h)-PR: sc-45978-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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