SANTA CRUZ BIOTECHNOLOGY, INC.

MafA (H-38): sc-66958

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The Power to Question

BACKGROUND

Members of the bZIP containing Maf transcription factor family play important roles in cellular differentiation and regulation. MafA, originally identified in mammals as the pancreatic β-cell specific RIPE3b1 factor, is a transcriptional activator expressed specifically in Insulin-producing cells, where it functions by binding to the critical Insulin enhancer element RIPE3b. MafA is critical for generating and regulating glucose-reponsive Insulin expression in β cells. The size of MafA in mammalian cell lines varies, due to posttranslational modification of the protein.

REFERENCES

1. Kerppola, T.K., et al. 1994. A conserved region adjacent to the basic domain is required for recognition of an extended DNA binding site by Maf/Nrl family proteins. Oncogene 11: 3149-3158.
2. Kataoka, K., et al. 2002. MafA is a glucose-regulated and pancreatic β cell-specific transcriptional activator for the Insulin gene. J. Biol. Chem. 277: 49903-49910.
3. Olbrot, M., et al. 2002. Identification of β cell-specific Insulin gene transcription factor RIPE3b1 as mammalian MafA. Proc. Natl. Acad. Sci. USA 10: 6737-6742.
4. Samaras, S.E., et al. 2003. The islet β cell-enriched RIPE3b1/Maf transcription factor regulates PDX-1 expression. J. Biol. Chem. 278: 12263-12270.
5. Nishizawa, M., et al. 2003. MafA has strong cell transforming ability but is a weak transactivator. Oncogene 22: 7882-7890.
6. Matsuoka, T.A., et al. 2004. The MafA transcription factor appears to be responsible for tissue-specific expression of Insulin. Proc. Natl. Acad. Sci. USA 101: 2930-2933.

CHROMOSOMAL LOCATION

Genetic locus: MAFA (human) mapping to 8q24.3; Mafa (mouse) mapping to 15 D3.

SOURCE

MafA (H-38) is a rabbit polyclonal antibody raised against amino acids 313-350 mapping at the C-terminus of MafA 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.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-66958 X, 200 µg/0.1 ml.

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.

APPLICATIONS

MafA (H-38) is recommended for detection of MafA 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).

Suitable for use as control antibody for MafA siRNA (h): sc-43905, MafA siRNA (m): sc-149215, MafA shRNA Plasmid (h): sc-43905-SH, MafA shRNA Plasmid (m): sc-149215-SH, MafA shRNA (h) Lentiviral Particles: sc-43905-V and MafA shRNA (m) Lentiviral Particles: sc-149215-V.

MafA (H-38) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of MafA monomer: 18 kDa.

Molecular Weight of MafA glycoprotein: 28-40 kDa.

Positive Controls: mouse eye extract: sc-364241 or mouse pancreas extract: sc-364244.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Thatava, T., et al. 2010. Indolactam V/GLP-1-mediated differentiation of human iPS cells into glucose-responsive Insulin-secreting progeny. Gene Ther. 18: 283-293.
2. Zhu, Y., et al. 2013. PPARγ activation attenuates glycated-serum induced pancreatic β-cell dysfunction through enhancing Pdx1 and Mafa protein stability. PLoS One 8: e56386.
3. Xu, G., et al. 2013. Thioredoxin-interacting protein regulates Insulin transcription through microRNA-204. Nat. Med. 19: 1141-1146.

RESEARCH USE

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