

# MafA (F-6): sc-390491

## 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  $\beta$ -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-responsive Insulin expression in  $\beta$  cells. The size of MafA in mammalian cell lines varies, due to posttranslational modification of the protein.

## CHROMOSOMAL LOCATION

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

## SOURCE

MafA (F-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 330-341 near the C-terminus of MafA of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-390491 X, 200  $\mu$ g/0.1 ml.

Blocking peptide available for competition studies, sc-390491 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## 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.

## APPLICATIONS

MafA (F-6) is recommended for detection of MafA of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 (F-6) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of MafA monomer: 18 kDa.

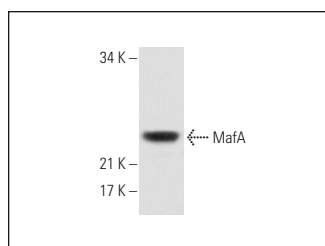
Molecular Weight of MafA glycoprotein: 28-40 kDa.

Positive Controls: mouse eye extract: sc-364241.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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



MafA (F-6): sc-390491. Western blot analysis of MafA expression in mouse eye tissue extract.

## SELECT PRODUCT CITATIONS

- Wei, J., et al. 2017. MiR-338 controls BPA-triggered pancreatic islet Insulin secretory dysfunction from compensation to decompensation by targeting Pdx-1. *FASEB J.* 31: 5184-5195.
- Belame Shivakumar, S., et al. 2019. Pancreatic endocrine-like cells differentiated from human umbilical cords Wharton's jelly mesenchymal stem cells using small molecules. *J. Cell. Physiol.* 234: 3933-3947.
- Zhang, Z., et al. 2019. A new way for  $\beta$  cell neogenesis: transdifferentiation from  $\alpha$  cells induced by Glucagon-like peptide 1. *J. Diabetes Res.* 2019: 2583047.
- Dayer, D., et al. 2019. MafA overexpression: a new efficient protocol for *in vitro* differentiation of adipose-derived mesenchymal stem cells into functional Insulin-producing cells. *Cell J.* 21: 169-178.
- Dordevic, M., et al. 2019. Centaurium erythraea extract improves survival and functionality of pancreatic  $\beta$ -cells in diabetes through multiple routes of action. *J. Ethnopharmacol.* 242: 112043.
- Kuo, T.L., et al. 2023. ARID1A loss in pancreas leads to islet developmental defect and metabolic disturbance. *iScience* 26: 105881.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.