SANTA CRUZ BIOTECHNOLOGY, INC.

Mxi1 (G-16): sc-1042

BACKGROUND

It is now well established that Myc regulation of cell proliferation and differentiation involves a family of related transcription factors. One such factor, Max, is an obligate heterodimeric partner for Myc and can also form heterodimers with at least four related proteins designated Mad 1, Mxi1 (Mad 2), Mad 3 and Mad 4. Like Mad 1 and Mxi1, association of Mad 3 and Mad 4 with Max results in transcriptional repression. Both Myc and the Mad proteins have short half-lives and their synthesis is tightly regulated, while Max expression is constitutive and relatively stable. Two related mammalian cDNAs have been identified and shown to encode Mad-binding proteins. Both possess sequence homology with the yeast transcription repressor Sin3, including four conserved paired amphipathic helix (PAH) domains. mSin3A and mSin3B specifically interact with the Mad proteins via their second paired amphipathic helix domain (PAH2). It has been suggested that Mad-Max heterodimers repress transcription by tethering mSin3 to DNA as corepressors.

CHROMOSOMAL LOCATION

Genetic locus: MXI1 (human) mapping to 10q25.2; Mxi1 (mouse) mapping to 19 D2.

SOURCE

Mxi1 (G-16) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of Mxi1 of human origin.

PRODUCT

Each vial contains 100 µg IgG 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-1042 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-1042 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Mxi1 (G-16) is recommended for detection of Max interacting protein 1 (also designated Mad 2) of human, rat and, to a lesser extent, mouse 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). Mxi1 (G-16) is also recommended for detection of Max interacting protein 1 (also designated Mad 2) in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for Mxi1 siRNA (h): sc-35835, Mxi1 siRNA (m): sc-35836, Mxi1 shRNA Plasmid (h): sc-35835-SH, Mxi1 shRNA Plasmid (m): sc-35836-SH, Mxi1 shRNA (h) Lentiviral Particles: sc-35835-V and Mxi1 shRNA (m) Lentiviral Particles: sc-35836-V.

Mxi1 (G-16) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

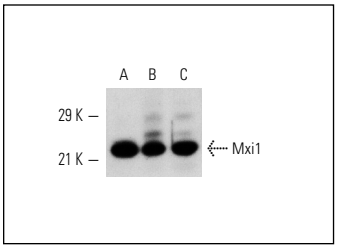
Molecular Weight of Mxi1 isoforms: 26/22/33/21 kDa.

Positive Controls: U-937 cell lysate: sc-2239, K-562 whole cell lysate: sc-2203 or IMR-32 cell lysate: sc-2409.

STORAGE

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

DATA



Mxi1 (G-16): sc-1042. Western blot analysis of Mxi1 expression in U-937 (**A**), K-562 (**B**) and IMR-32 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Siegel, P.M., et al. 2003. Mad upregulation and Id2 repression accompany transforming growth factor (TGF)-β-mediated epithelial cell growth suppression. J. Biol. Chem. 278: 35444-35450.
2. Dugast-Darzacq, C., et al. 2004. Mxi1-SRα: a novel Mxi1 isoform with enhanced transcriptional repression potential. Oncogene 23: 8887-8899.
3. Kim, M.K. and Carroll, W.L. 2004. Autoregulation of the N-myc gene is operative in neuroblastoma and involves histone deacetylase 2. Cancer 101: 2106-2115.
4. Delpurch, O. and Griffiths, B. 2007. Induction of Mxi1-SRα by FOXO3a contributes to repression of Myc-dependent gene expression. Mol. Cell. Biol. 27: 4917-4930.
5. Löfstedt, T., et al. 2009. HIF-1α induces MXI1 by alternate promoter usage in human neuroblastoma cells. Exp. Cell Res. 315: 1924-1936.
6. Terragni, J., et al. 2011. The E-box binding factors Max/Mnt, MITF, and USF1 act coordinately with FoxO to regulate expression of proapoptotic and cell cycle control genes by phosphatidylinositol 3-kinase/Akt/glycogen synthase kinase 3 signaling. J. Biol. Chem. 286: 36215-36227.

RESEARCH USE

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

PROTOCOLS

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