SANTA CRUZ BIOTECHNOLOGY, INC.

mSin3A (AK-11): sc-767

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 (i.e., 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: SIN3A (human) mapping to 15q24.2, SIN3B (human) mapping to 19p13.11; Sin3a (mouse) mapping to 9 B, Sin3b (mouse) mapping to 8 B3.3.

SOURCE

mSin3A (AK-11) is a rabbit polyclonal antibody raised against amino acids 322-381 mapping within the PA_{H2} region of mSin3A of mouse 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-767 X, 200 µg/0.1 ml.

APPLICATIONS

mSin3A (AK-11) is recommended for detection of mSin3A and, to a lesser extent, mSin3B 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), 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).

mSin3A (AK-11) is also recommended for detection of mSin3A and, to a lesser extent, mSin3B in additional species, including equine, canine, bovine, porcine and avian.

mSin3A (AK-11) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of mSin3A: 150 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

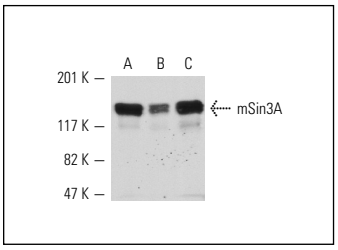
RESEARCH USE

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

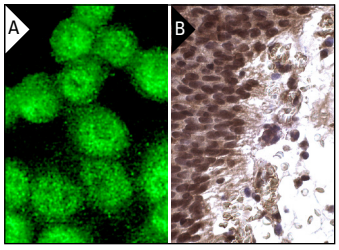
STORAGE

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

DATA



mSin3A (AK-11): sc-767. Western blot analysis of mSin3A expression in HeLa (**A**), Jurkat (**B**) and K-562 (**C**) whole cell lysates.



mSin3A (AK-11): sc-767. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear staining (**A**). Immunoperoxidase staining of formalin fixed, par-affin-embedded human urinary bladder tissue showing nuclear staining of urothelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Korhonen, P., et al. 1998. Expression of transcriptional repressor protein mSin3A but not mSin3B is induced during neuronal apoptosis. Biochem. Biophys. Res. Commun. 252: 274-277.
2. Nan, X., et al. 1998. Transcriptional repression by the methyl-CpG-binding protein MeCP2 involves a histone deacetylase complex. Nature 393: 386-389.
3. Luo, R.X., et al. 1998. Rb interacts with histone deacetylase to repress transcription. Cell 92: 463-473.
4. Zhao, L.Y., et al. 2007. Repression of p53-mediated transcription by adenovirus E1B 55-kDa does not require corepressor mSin3A and histone deacetylases. J. Biol. Chem. 282: 7001-7010.
5. Wu, S.Y. and Chiang, C.M. 2009. Crosstalk between sumoylation and acetylation regulates p53-dependent chromatin transcription and DNA binding. EMBO J. 28: 1246-1259.
6. Wang, S., et al. 2010. Distinct and temporal roles of nucleosomal remodeling and histone deacetylation in the repression of the hTERT gene. Mol. Biol. Cell 21: 821-832.
7. van Oevelen, C., et al. 2010. The mammalian Sin3 proteins are required for muscle development and sarcomere specification. Mol. Cell. Biol. 30: 5686-5697.
8. Jelinic, P., et al. 2011. A novel mammalian complex containing Sin3B mitigates histone acetylation and RNA polymerase II progression within transcribed loci. Mol. Cell. Biol. 31: 54-62.