SANTA CRUZ BIOTECHNOLOGY, INC.

JMY (M-300): sc-13020

BACKGROUND

p300 and CBP (CREB-binding proteins) function as coactivators for various transcription factors, including p53. As cofactors, p300 and CBP possesses intrinsic acetyltransferase activity which may allow p300/CBP proteins to regulate transcription through direct acetylation and thereafter, enhance DNA binding activity. JMY is a nuclear cofactor for p300 that cooperatively enhances p53 activation in response to cellular stress. The p53 protein requires p300/CBP coactivator proteins in order to transcriptionally activate target genes. When p53 is activated, p300 component of the coactivator protein complexes associate with JMY and potentiate p53-dependent transcription and apoptosis. p53 acts as a sequence-specific transcription factor and upon stimulation, induces transcription of genes involved in growth arrest, including the waf1/cip1, bax, MDM2, and gadd45 genes. Disruption of p300 and JMY complexes inhibits p53-induced transcription of bax and blocks apoptosis. Due to alternative splicing, several isoforms of JMY are produced, and these various isoforms have different influencing affects on p53 activation, with some isoforms markedly enhancing p53 responses compared to the other splicing variants.

REFERENCES

1. Lill, N.L., et al. 1997. Binding and modulation of p53 by p300/CBP coactivators. Nature 387: 823-827.
2. Snowden, A.W. et al. 1998. Cell cycle regulation of the transcriptional coactivators p300 and CREB binding protein. Biochem. Pharmacol. 55: 1947-1954.
3. Thomas, A. et al. 1998. Suppression of the p300-dependent mdm2 negative-feedback loop induces the p53 apoptotic function. Genes Dev. 12: 1975-1985.
4. Liu, L., et al. 1999. p53 sites acetylated *in vitro* by PCAF and p300 are acetylated *in vivo* in response to DNA damage. Mol. Cell. Biol. 19: 1202-1209.
5. Shikama, N., et al. 1999. A novel cofactor for p300 that regulates the p53 response. Mol. Cell 4: 365-376.
6. Yuan, Z.M., et al. 1999. Role for p300 in stabilization of p53 in the response to DNA damage. J. Biol. Chem. 274: 1883-1886.
7. Li, J., et al. 2000. p300 requires its histone acetyltransferase activity and SRC-1 interaction domain to facilitate thyroid hormone receptor activation in chromatin. Mol. Cell. Biol. 20: 2031-2042.

CHROMOSOMAL LOCATION

Genetic locus: Jmy (mouse) mapping to 13 C3.

SOURCE

JMY (M-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping near the N-terminus of JMY 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.

APPLICATIONS

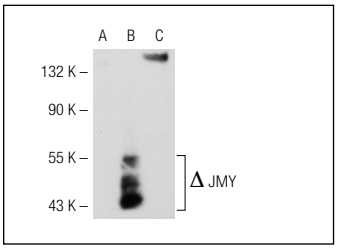
JMY (M-300) is recommended for detection of JMY of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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).

Suitable for use as control antibody for JMY siRNA (m): sc-35725, JMY shRNA Plasmid (m): sc-35725-SH and JMY shRNA (m) Lentiviral Particles: sc-35725-V.

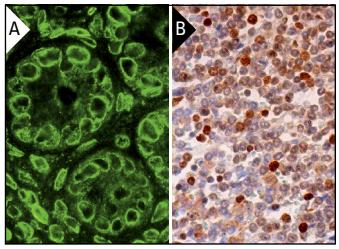
Molecular Weight of JMY: 133 kDa.

Positive Controls: JMY (m): 293T Lysate: sc-121158 or NIH/3T3 whole cell lysate: sc-2210.

DATA



JMY (M-300): sc-13020. Western blot analysis of JMY expression in non-transfected 293T: sc-117752 (**A**), truncated mouse JMY transfected 293T: sc-121158 (**B**) and NIH/3T3 (**C**) whole cell lysates.



JMY (M-300): sc-13020. Immunofluorescence staining of normal mouse intestine frozen section showing perinuclear staining. Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing nuclear staining of cells in white pulp and cells in red pulp.

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.

PROTOCOLS

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