SANTA CRUZ BIOTECHNOLOGY, INC.

JMY (G-11): sc-166030

BACKGROUND

p300 and CBP (CREB-binding proteins) function as co-activators for various transcription factors, including p53. As cofactors, p300 and CBP possess 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 co-activator proteins in order to transcriptionally activate target genes. When p53 is activated, p300 component of the co-activator 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 co-activators. Nature 387: 823-827.
2. Snowden, A.W., et al. 1998. Cell cycle regulation of the transcriptional co-activators 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.

CHROMOSOMAL LOCATION

Genetic locus: JMY (human) mapping to 5q14.1; Jmy (mouse) mapping to 13 C3.

SOURCE

JMY (G-11) is a mouse monoclonal antibody raised against amino acids 1-300 mapping near the N-terminus of JMY of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

JMY (G-11) is available conjugated to agarose (sc-166030 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-166030 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166030 PE), fluorescein (sc-166030 FITC), Alexa Fluor® 488 (sc-166030 AF488), Alexa Fluor® 546 (sc-166030 AF546), Alexa Fluor® 594 (sc-166030 AF594) or Alexa Fluor® 647 (sc-166030 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166030 AF680) or Alexa Fluor® 790 (sc-166030 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

JMY (G-11) is recommended for detection of JMY of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 JMY siRNA (h): sc-35724, JMY siRNA (m): sc-35725, JMY shRNA Plasmid (h): sc-35724-SH, JMY shRNA Plasmid (m): sc-35725-SH, JMY shRNA (h) Lentiviral Particles: sc-35724-V and JMY shRNA (m) Lentiviral Particles: sc-35725-V.

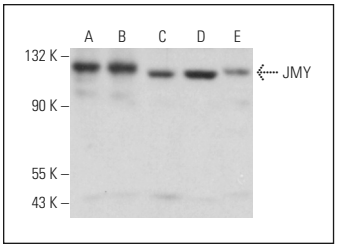
Molecular Weight of JMY: 133 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, PC-12 cell lysate: sc-2250 or NIH/3T3 whole cell lysate: sc-2210.

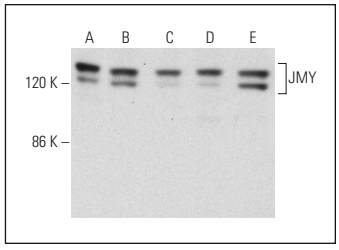
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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 A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



JMY (G-11): sc-166030. Western blot analysis of JMY expression in PC-12 (**A**), C6 (**B**), TK-1 (**C**) and NAMALWA (**D**) whole cell lysates and WEHI-231 nuclear extract (**E**).



JMY (G-11): sc-166030. Western blot analysis of JMY expression in KNRK (**A**), NIH/3T3 (**B**), RAW 264.7 (**C**), PC-12 (**D**) and RBL-1 (**E**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Gauthier, L.R., et al. 2020. The HIF1α/JMY pathway promotes glioblastoma stem-like cell invasiveness after irradiation. Sci. Rep. 10: 18742.

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.