

p300 (NM11): sc-32244



The Power to Question

BACKGROUND

Cyclic AMP-regulated gene expression frequently involves a DNA element designated the cAMP-regulated enhancer (CRE). Many transcription factors, including the protein CREB, which is activated as a result of phosphorylation by protein kinase A, bind to this element. It has been shown that protein kinase A-mediated CREB phosphorylation results in its binding to a nuclear protein designated CBP (for CREB-binding protein). These findings suggest that CBP has many of the properties expected of a CREB co-activator. Another high molecular weight transcriptional adapter protein, designated p300, is characterized by three cysteine- and histidine-rich regions, of which the most carboxy terminal region specifically binds the adenovirus E1A protein. p300 molecules lacking an intact E1A binding site bypass E1A repression even in the presence of high concentrations of E1A. Sequence analysis of CBP and p300 has revealed substantial homology, arguing that these proteins are members of a conserved family of co-activators.

CHROMOSOMAL LOCATION

Genetic locus: EP300 (human) mapping to 22q13.2, CREBBP (human) mapping to 16p13.3; Ep300 (mouse) mapping to 15 E1, Crebbp (mouse) mapping to 16 A1.

SOURCE

p300 (NM11) is a mouse monoclonal antibody raised against affinity purified p300 of human origin with the epitope mapping between amino acids 2071 and 2091 of CBP.

PRODUCT

Each vial contains 200 µg IgG_{2b} 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-32244 X, 200 µg/0.1 ml.

p300 (NM11) is available conjugated to agarose (sc-32244 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-32244 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-32244 PE), fluorescein (sc-32244 FITC), Alexa Fluor® 488 (sc-32244 AF488), Alexa Fluor® 546 (sc-32244 AF546), Alexa Fluor® 594 (sc-32244 AF594) or Alexa Fluor® 647 (sc-32244 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-32244 AF680) or Alexa Fluor® 790 (sc-32244 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

p300 (NM11) is recommended for detection of p300 and CBP (CREB-binding protein) 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

p300 (NM11) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

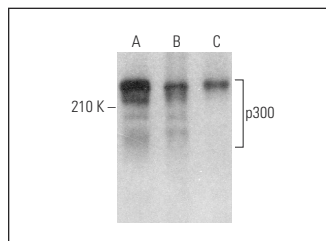
Molecular Weight of p300: 300 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

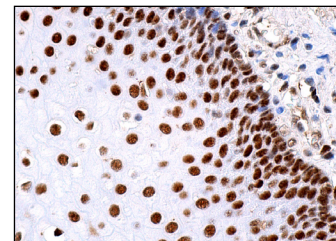
STORAGE

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

DATA



p300 (NM11): sc-32244. Western blot analysis of p300 expression in HeLa whole cell lysate (A) and HeLa (B) and MCF7 (C) nuclear extracts.



p300 (NM11): sc-32244. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing nuclear staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

- Di Pietro, R., et al. 2007. Cyclic nucleotide response element binding (CREB) protein activation is involved in K562 erythroleukemia cells differentiation. *J. Cell. Biochem.* 100: 1070-1079.
- Zhao, Y., et al. 2016. CBP/catenin antagonist safely eliminates drug-resistant leukemia-initiating cells. *Oncogene* 35: 3705-3717.
- Luff, S.A., et al. 2018. Role of p53 and transcription-independent p53-induced apoptosis in shear-stimulated megakaryocytic maturation, particle generation, and platelet biogenesis. *PLoS ONE* 13: e0203991.
- Kumar, D., et al. 2019. YAP promotes neural crest emigration through interactions with BMP and Wnt activities. *Cell Commun. Signal.* 17: 69.
- Shuck, S.C., et al. 2020. Metal assisted protein quantitation (MAPq): multiplex analysis of protein expression using lanthanide-modified antibodies with detection by inductively coupled plasma mass spectrometry. *Anal. Chem.* 92: 7556-7564.
- Kumar, M., et al. 2021. Inhibition of histone acetyltransferase function radiosensitizes CREBBP/EP300 mutants via repression of homologous recombination, potentially targeting a gain of function. *Nat. Commun.* 12: 6340.
- Zhang, T., et al. 2022. Acetylation dependent translocation of EWSR1 regulates CHK2 alternative splicing in response to DNA damage. *Oncogene* 41: 3694-3704.
- Vera, R.E., et al. 2023. GLI1 interaction with p300 modulates SDF1 expression in cancer-associated fibroblasts to promote pancreatic cancer cells migration. *Biochem. J.* 480: 225-241.

RESEARCH USE

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

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