SANTA CRUZ BIOTECHNOLOGY, INC.

AP-2α (D-12): sc-25343

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

AP-2 transcription factor family members include AP-2α, AP-2β and AP-2γ, which specifically bind to the DNA consensus sequence CCCCAGGC and initiate transcription of selected genes. AP-2, also known as ERF-1, plays a role in regulating estrogen receptor expression. AP-2β, a splice variant of AP-2α, inhibits AP-2 activity. Besides subscribing to the AP-2 complex, AP-2α, AP-2β and AP-2γ proteins compose the OB2-1 transcription factor complex. OB2-1 specifically upregulates expression of the proto-oncogene c-ErbB-2, which is overexpressed in 25-30% of breast cancers. The gene encoding AP-2α maps to human chromosome 6p24.3. AP-2α may play an important role in the development of ectodermal-derived tissues. Deleterious mutations involving the AP-2α gene are linked to microphthalmia, corneal clouding and other anterior eye chamber defects. The ubiquitously expressed AP-4 transcription factor specifically binds to the DNA consensus sequence 5'-CAGCTG-3'. AP-4 interacts with promoters for immunoglobulin-κ gene families and simian virus 40. AP-4 may enhance the transcription of the human Huntington's disease gene. AP-4 is a helix-loop-helix protein that contains two distinctive leucine repeat elements.

CHROMOSOMAL LOCATION

Genetic locus: TFAP2A (human) mapping to 6p24.3; Tcfap2a (mouse) mapping to 13 A3.3.

SOURCE

AP-2α (D-12) is a mouse monoclonal antibody raised against amino acids 130-209 of AP-2α of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 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-25343 X, 200 µg/0.1 ml.

AP-2α (D-12) is available conjugated to agarose (sc-25343 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-25343 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-25343 PE), fluorescein (sc-25343 FITC), Alexa Fluor® 488 (sc-25343 AF488), Alexa Fluor® 546 (sc-25343 AF546), Alexa Fluor® 594 (sc-25343 AF594) or Alexa Fluor® 647 (sc-25343 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-25343 AF680) or Alexa Fluor® 790 (sc-25343 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

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

PROTOCOLS

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

APPLICATIONS

AP-2α (D-12) is recommended for detection of Ap-2α of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:500), 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).

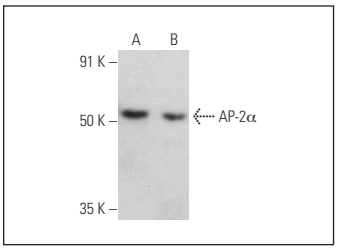
Suitable for use as control antibody for AP-2α siRNA (h): sc-105074, AP-2α siRNA (m): sc-29697, AP-2α shRNA Plasmid (h): sc-105074-SH, AP-2α shRNA Plasmid (m): sc-29697-SH, AP-2α shRNA (h) Lentiviral Particles: sc-105074-V and AP-2α shRNA (m) Lentiviral Particles: sc-29697-V.

AP-2α (D-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

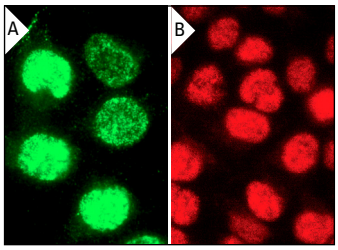
Molecular Weight of AP-2α: 48 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, JAR cell lysate: sc-2276 or ZR-75-1 cell lysate: sc-2241.

DATA



AP-2α (D-12): sc-25343. Western blot analysis of AP-2α expression in ZR-75-1 (**A**) and JAR (**B**) whole cell lysates.



AP-2α (D-12): sc-25343. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (**A**,**B**).

SELECT PRODUCT CITATIONS

1. Butta, N., et al. 2006. Role of transcription factor Sp1 and CpG methylation on the regulation of the human podocalyxin gene promoter. BMC Mol. Biol. 7: 17.
2. Iwamoto, N., et al. 2008. Involvement of protein kinase D in phosphorylation and increase of DNA binding of activator protein 2 α to down-regulate ATP-binding cassette transporter A1. Arterioscler. Thromb. Vasc. Biol. 28: 2282-2287.
3. Basile, A., et al. 2009. Evidence for modulation of BAG3 by polyomavirus JC early protein. J. Gen. Virol. 90: 1629-1640.
4. Sundvall, M., et al. 2010. Cell death or survival promoted by alternative isoforms of ErbB4. Mol. Biol. Cell 21: 4275-4286.
5. Iwamoto, N. and Yokoyama, S. 2011. Protein kinase D regulates the adiponectin gene expression through phosphorylation of AP-2: a common pathway to the ABCA1 gene regulation. Atherosclerosis 216: 90-96.

RESEARCH USE

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