SANTA CRUZ BIOTECHNOLOGY, INC.

AP-2α (3B5): sc-12726

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. 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.

REFERENCES

1. Williams, T., et al. 1988. Cloning and expression of AP-2, a cell-type-specific transcription factor that activates inducible enhancer elements. Genes Dev. 2: 1557-1569.
2. Buettner, R., et al. 1993. An alternatively spliced mRNA from the AP-2 gene encodes a negative regulator of transcriptional activation by AP-2. Mol. Cell. Biol. 13: 4174-4185.

CHROMOSOMAL LOCATION

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

SOURCE

AP-2α (3B5) is a mouse monoclonal antibody immunogen corresponding to the N-terminus of AP-2α of human origin.

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-12726 X, 200 µg/0.1 ml.

AP-2α (3B5) is available conjugated to agarose (sc-12726 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-12726 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-12726 PE), fluorescein (sc-12726 FITC), Alexa Fluor® 488 (sc-12726 AF488), Alexa Fluor® 546 (sc-12726 AF546), Alexa Fluor® 594 (sc-12726 AF594) or Alexa Fluor® 647 (sc-12726 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-12726 AF680) or Alexa Fluor® 790 (sc-12726 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

AP-2α (3B5) is recommended for detection of AP-2α 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).

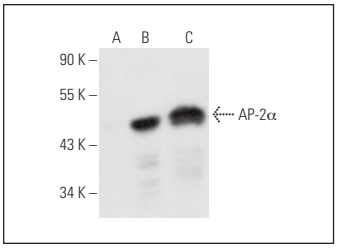
Suitable for use as control antibody for AP-2α siRNA (h): sc-105074, AP-2α siRNA (m): sc-29697, AP-2α shRNA Plasmid (h): sc-105074-SH, AP-2α shRNA Plasmid (m): sc-29697-SH, AP-2α shRNA (h) Lentiviral Particles: sc-105074-V and AP-2α shRNA (m) Lentiviral Particles: sc-29697-V.

AP-2α (3B5) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

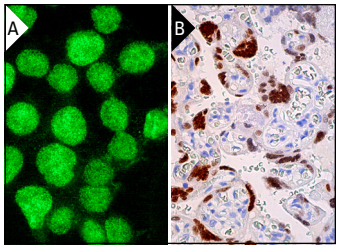
Molecular Weight of AP-2α: 48 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, HeLa whole cell lysate: sc-2200 or AP-2α (h): 293T Lysate: sc-113722.

DATA



AP-2α (3B5): sc-12726. Western blot analysis of AP-2α expression in non-transfected 293T: sc-117752 (**A**), human AP-2α transfected 293T: sc-113722 (**B**) and HeLa (**C**) whole cell lysates.



AP-2α (3B5): sc-12726. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing nuclear staining of trophoblastic cells (**B**).

SELECT PRODUCT CITATIONS

1. Piechocki, M.P., et al. 2003. Human ErbB-2 (Her-2) transgenic mice: a model system for testing Her-2 based vaccines. J. Immunol. 171: 5787-5794.
2. Li, X., et al. 2014. KCTD1 suppresses canonical Wnt signaling pathway by enhancing β-catenin degradation. PLoS ONE 9: e94343.
3. Carey, T.S., et al. 2015. BRG1 governs nanog transcription in early mouse embryos and embryonic stem cells via antagonism of Histone H3 lysine 9/14 acetylation. Mol. Cell. Biol. 35: 4158-4169.
4. Guye, P., et al. 2016. Genetically engineering self-organization of human pluripotent stem cells into a liver bud-like tissue using Gata6. Nat. Commun. 7: 10243.

RESEARCH USE

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