SANTA CRUZ BIOTECHNOLOGY, INC.

AP-2β (A-1): sc-166441

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.
3. Moser, M., et al. 1995. Cloning and characterization of a second AP-2 transcription factor: AP-2β. Development 121: 2779-2788.
4. Williamson, J.A., et al. 1996. Chromosomal mapping of the human and mouse homologues of two new members of the AP-2 family of transcription factors. Genomics 35: 262-264.
5. Bosher, J.M., et al. 1996. A family of AP-2 proteins regulates c-erbB-2 expression in mammary carcinoma. Oncogene 13: 1701-1707.

CHROMOSOMAL LOCATION

Genetic locus: TFAP2B (human) mapping to 6p12.3; Tcfap2b (mouse) mapping to 1 A3.

SOURCE

AP-2β (A-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 128-159 within an internal region of AP-2β 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-166441 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-166441 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

AP-2β (A-1) is recommended for detection of AP-2β 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).

AP-2β (A-1) is also recommended for detection of AP-2β in additional species, including equine, canine, bovine and porcine.

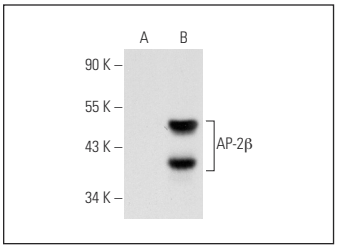
Suitable for use as control antibody for AP-2β siRNA (h): sc-37687, AP-2β siRNA (m): sc-37688, AP-2β shRNA Plasmid (h): sc-37687-SH, AP-2β shRNA Plasmid (m): sc-37688-SH, AP-2β shRNA (h) Lentiviral Particles: sc-37687-V and AP-2β shRNA (m) Lentiviral Particles: sc-37688-V.

AP-2β (A-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

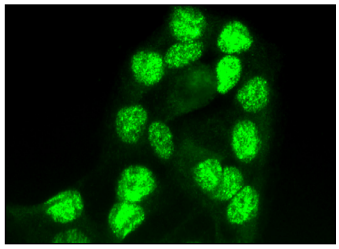
Molecular Weight of AP-2β: 50 kDa.

Positive Controls: KNRK nuclear extract: sc-2141, AP-2β (h): 293T Lysate: sc-113759 or A-431 whole cell lysate: sc-2201.

DATA



AP-2β (A-1): sc-166441. Western blot analysis of AP-2β expression in non-transfected: sc-117752 (**A**) and human AP-2β transfected: sc-113759 (**B**) 293T whole cell lysates.



AP-2β (A-1): sc-166441. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Fu, X., et al. 2019. TFAP2B overexpression contributes to tumor growth and progression of thyroid cancer through the Cox-2 signaling pathway. Cell Death Dis. 10: 397.

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 for detailed protocols and support products.