SANTA CRUZ BIOTECHNOLOGY, INC.

AP-2α/β (A6/2/2): sc-53163

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.

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, TFAP2B (human) mapping to 6p12.3; Tfap2a (mouse) mapping to 13 A3.3, Tfap2b (mouse) mapping to 1 A3.

SOURCE

AP-2α/β (A6/2/2) is a mouse monoclonal antibody raised against C-terminal peptide 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.

AP-2α/β (A6/2/2) is available conjugated to agarose (sc-53163 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53163 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53163 PE), fluorescein (sc-53163 FITC), Alexa Fluor® 488 (sc-53163 AF488), Alexa Fluor® 546 (sc-53163 AF546), Alexa Fluor® 594 (sc-53163 AF594) or Alexa Fluor® 647 (sc-53163 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53163 AF680) or Alexa Fluor® 790 (sc-53163 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/β (A6/2/2) is recommended for detection of AP-2α/β 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Molecular Weight of AP-2α: 48 kDa.

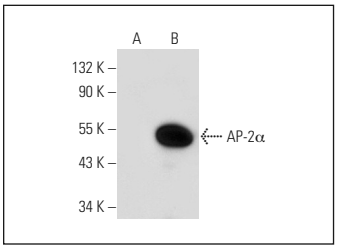
Molecular Weight of AP-2β: 47 kDa.

Positive Controls: AP-2α (m): 293T Lysate: sc-118446.

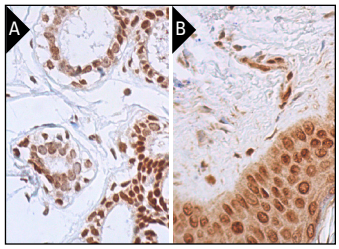
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



AP-2α/β (A6/2/2): sc-53163. Western blot analysis of AP-2α expression in non-transfected: sc-117752 (**A**) and mouse AP-2α transfected: sc-118446 (**B**) 293T whole cell lysates.



AP-2α/β (A6/2/2): sc-53163. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing nuclear staining of glandular cells and myoepithelial cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing nuclear and cytoplasmic staining of keratinocytes, Langerhans cells and melanocytes and nuclear staining of fibroblasts (**B**).

SELECT PRODUCT CITATIONS

1. Jiang, Y., et al. 2011. Trapping of BMP receptors in distinct membrane domains inhibits their function in pulmonary arterial hypertension. Am. J. Physiol. Lung Cell. Mol. Physiol. 301: L218-L227.

RESEARCH USE

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