

AP-4 (A-8): sc-377042

BACKGROUND

AP-2 transcription factor family members include AP-2 α , AP-2 β and AP-2 γ , 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-2 β , a splice variant of AP-2 α , inhibits AP-2 activity. Besides subscribing to the AP-2 complex, AP-2 α , AP-2 β and AP-2 γ 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-2 α maps to human chromosome 6p24.3. AP-2 α may play an important role in the development of ectodermal-derived tissues. Deleterious mutations involving the AP-2 α 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

- 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.
- Hu, Y.F., et al. 1990. Transcription factor AP-4 contains multiple dimerization domains that regulate dimer specificity. *Genes Dev.* 4: 1741-1752.

CHROMOSOMAL LOCATION

Genetic locus: TFAP4 (human) mapping to 16p13.3; Tfap4 (mouse) mapping to 16 A1.

SOURCE

AP-4 (A-8) is a mouse monoclonal antibody raised against amino acids 93-176 mapping within an internal region of AP-4 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AP-4 (A-8) is available conjugated to agarose (sc-377042 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377042 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377042 PE), fluorescein (sc-377042 FITC), Alexa Fluor® 488 (sc-377042 AF488), Alexa Fluor® 546 (sc-377042 AF546), Alexa Fluor® 594 (sc-377042 AF594) or Alexa Fluor® 647 (sc-377042 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377042 AF680) or Alexa Fluor® 790 (sc-377042 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

AP-4 (A-8) is recommended for detection of AP-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

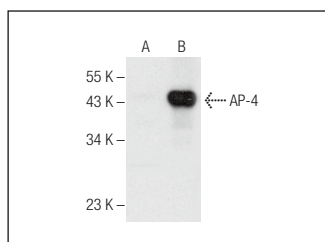
AP-4 (A-8) is also recommended for detection of AP-4 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for AP-4 siRNA (h): sc-37690, AP-4 siRNA (m): sc-37691, AP-4 shRNA Plasmid (h): sc-37690-SH, AP-4 shRNA Plasmid (m): sc-37691-SH, AP-4 shRNA (h) Lentiviral Particles: sc-37690-V and AP-4 shRNA (m) Lentiviral Particles: sc-37691-V.

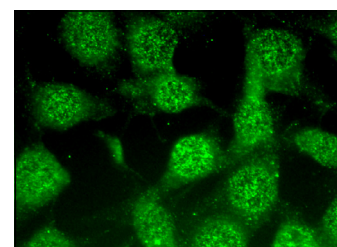
Molecular Weight of AP-4: 48 kDa.

Positive Controls: AP-4 (m): 293T Lysate: sc-118454 or mouse liver extract: sc-2256.

DATA



AP-4 (A-8): sc-377042. Western blot analysis of AP-4 expression in non-transfected: sc-117752 (A) and mouse AP-4 transfected: sc-118454 (B) 293T whole cell lysates.



AP-4 (A-8): sc-377042. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

- Chen, C., et al. 2018. Uhrf1 regulates germinal center B cell expansion and affinity maturation to control viral infection. *J. Exp. Med.* 215: 1437-1448.
- Li, Y., et al. 2020. HLH-11 modulates lipid metabolism in response to nutrient availability. *Nat. Commun.* 11: 5959.
- Papathanasiou, M., et al. 2021. Identification of a dynamic gene regulatory network required for pluripotency factor-induced reprogramming of mouse fibroblasts and hepatocytes. *EMBO J.* 40: e102236.
- Jiang, C., et al. 2023. BPTF in bone marrow provides a potential progression biomarker regulated by TFAP4 through the PI3K/AKT pathway in neuroblastoma. *Biol. Proced. Online* 25: 11.
- Lyu, P. and Jiang, H. 2024. Chromatin profiling reveals TFAP4 as a critical transcriptional regulator of bovine satellite cell differentiation. *BMC Genomics* 25: 272.

RESEARCH USE

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