

# AP-4 (h2): 293T Lysate: sc-176228

## BACKGROUND

AP-2 transcription factor family members include AP-2 $\alpha$ , AP-2 $\beta$  and AP-2 $\gamma$ , which specifically bind to the DNA consensus sequence CCCAGGC and initiate transcription of selected genes. AP-2, also known as ERF-1, plays a role in regulating estrogen receptor expression. AP-2 $\beta$ , a splice variant of AP-2 $\alpha$ , inhibits AP-2 activity. Besides subscribing to the AP-2 complex, AP-2 $\alpha$ , AP-2 $\beta$  and AP-2 $\gamma$  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 $\alpha$  maps to human chromosome 6p24.3. AP-2 $\alpha$  may play an important role in the development of ectodermal-derived tissues. Deleterious mutations involving the AP-2 $\alpha$  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- $\kappa$  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. Hu, Y.F., et al. 1990. Transcription factor AP-4 contains multiple dimerization domains that regulate dimer specificity. *Genes Dev.* 4: 1741-1752.
3. Moser, M., et al. 1995. Cloning and characterization of a second AP-2 transcription factor: AP-2 $\beta$ . *Development* 121: 2779-2788.
4. Boshier, J.M., et al. 1996. A family of AP-2 proteins regulates c-ErbB-2 expression in mammary carcinoma. *Oncogene* 13: 1701-1707.
5. 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.
6. McPherson, L.A., et al. 1997. Identification of eRF1 as a member of the AP-2 transcription factor family. *Proc. Natl. Acad. Sci. USA* 94: 4342-4347.
7. Moser, M., et al. 1997. Comparative analysis of AP-2 $\alpha$  and AP-2 $\beta$  gene expression during murine embryogenesis. *Dev. Dyn.* 208: 115-124.
8. Davies, A.F., et al. 1999. An interstitial deletion of 6p24-p25 proximal to the FKHL7 locus and including AP-2 $\alpha$  that affects anterior eye chamber development. *J. Med. Genet.* 36: 708-710.
9. Motley, A.M., et al. 2006. Functional analysis of AP-2 $\alpha$  and  $\mu$ 2 subunits. *Mol. Biol. Cell* 17: 5298-5308.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## CHROMOSOMAL LOCATION

Genetic locus: TFAP4 (human) mapping to 16p13.3.

## PRODUCT

AP-4 (h2): 293T Lysate represents a lysate of human AP-4 transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

## APPLICATIONS

AP-4 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive AP-4 antibodies. Recommended use: 10-20  $\mu$ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

## RESEARCH USE

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