SANTA CRUZ BIOTECHNOLOGY, INC.

VP16 (1-21): sc-7545

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The GAL4 protein of *Saccharomyces cerevisiae* is one of the most thoroughly characterized transcriptional activators. Since the N-terminal 147 amino acid residues of GAL4 are sufficient to mediate specific and strong binding to DNA, but are incapable of efficient transcriptional activation, this protein fragment has frequently been used to confer specific DNA binding in experiments examining transcriptional activation functions of heterologous proteins. This approach is facilitated by the finding that higher eukaryotes lack endogenous proteins that enhance transcription from the consensus GAL4-binding site. Fusions between GAL4 (amino acids 1-147) and activating domains from a variety of transcriptional regulatory proteins can activate transcription in yeast, plant, insects and mammalian cells. A unique "two-hybrid" system has been developed using GAL4 fusions in yeast to identify specific protein-protein interactions. Another "two-hybrid" system utilizes the DNA binding domain of the *E. coli* protein Lex A and the transactivity domain of the HSV protein VP16.

REFERENCES

1. Johnston, M. 1987. A model fungal gene regulatory mechanism: the GAL genes of *Saccharomyces cerevisiae.* Microbiol. Rev. 51: 458-476.
2. Ma, J. and Ptashne, M. 1987. Deletion analysis of GAL4 defines two transcriptional activating segments. Cell 48: 847-853.

SOURCE

VP16 (1-21) is a mouse monoclonal antibody epitope corresponding to amino acids 456-490 of VP16.

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.

VP16 (1-21) is available conjugated to agarose (sc-7545 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-7545 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-7545 PE), fluorescein (sc-7545 FITC), Alexa Fluor® 488 (sc-7545 AF488), Alexa Fluor® 546 (sc-7545 AF546), Alexa Fluor® 594 (sc-7545 AF594) or Alexa Fluor® 647 (sc-7545 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-7545 AF680) or Alexa Fluor® 790 (sc-7545 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, VP16 (1-21) is available conjugated to either TRITC (sc-7545 TRITC, 200 µg/ml) or Alexa Fluor® 405 (sc-7545 AF405), 100 µg/2 ml, for IF, IHC(P) and FCM.

APPLICATIONS

VP16 (1-21) is recommended for detection of VP16 and VP16 fusion proteins 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

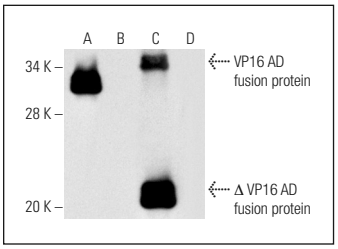
RESEARCH USE

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

STORAGE

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

DATA



VP16 (1-21): sc-7545. Western blot analysis of VP16. Full length transcriptional activation domain (AD) of VP16 (amino acids 412-490) fused to GAL4 (**A**), C-terminally deleted VP16 AD (amino acids 412-456) fused to GAL4 (**B**), N-terminally deleted VP16 AD (amino acids 452-490) fused to GAL4 (**C**) and GAL4 protein (**D**).

SELECT PRODUCT CITATIONS

1. Aubert, M., et al. 1999. Induction and prevention of apoptosis in human HEp-2 cells by herpes simplex virus type 1. J. Virol. 73: 10359-10370.
2. Hsieh, H.T., et al. 2009. PIASy inhibits LRH-1-dependent CYP11A1 expression by competing for SRC-1 binding. Biochem. J. 419: 201-209.
3. Adachi, K., et al. 2010. Role of SOX2 in maintaining pluripotency of human embryonic stem cells. Genes Cells 15: 455-470.
4. Baek, H., et al. 2011. Bispecific adapter-mediated retargeting of a receptor-restricted HSV-1 vector to CEA-bearing tumor cells. Mol. Ther. 19: 507-514.
5. Ellis, J.M. and Wolfgang, M.J. 2012. A genetically encoded metabolite sensor for malonyl-CoA. Chem. Biol. 19: 1333-1339.
6. Di Giorgio, E., et al. 2013. MEF2 is a converging hub for histone deacetylase 4 and phosphatidylinositol 3-kinase/Akt-induced transformation. Mol. Cell. Biol. 33: 4473-4491.
7. Lee, K.E., et al. 2014. Positive feedback loop between Sox2 and Sox6 inhibits neuronal differentiation in the developing central nervous system. Proc. Natl. Acad. Sci. USA 111: 2794-2799.
8. Clocchiatti, A., et al. 2015. The MEF2-HDAC axis controls proliferation of mammary epithelial cells and acini formation *in vitro.* J. Cell Sci. 128: 3961-3976.
9. Moretti, I., et al. 2016. MRF4 negatively regulates adult skeletal muscle growth by repressing MEF2 activity. Nat. Commun. 7: 12397.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.