SANTA CRUZ BIOTECHNOLOGY, INC.

GAL4-TA (D-4): sc-48399

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. The transcriptional activation (TA) domain, which corresponds to C-terminal amino acids 768-881, facilitates the activation of GAL genes, such as GAL1, GAL2, GAL7, GAL10 and MEL1, in response to galactose. Fusions between GAL4 (an amino acid sequence) 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.

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.
3. Fields, S. and Song, O. 1989. A novel genetic system to detect protein-protein interactions. Nature 340: 245-246.
4. Ptashne, M. and Gann, A.A.F. 1990. Activators and targets. Nature 346: 329-331.
5. Chien, C., Bartel, P.L., Sternglanz, R. and Fields, S. 1991. The two-hybrid system; a method to identify and clone genes for proteins that interact with a protein of interest. Proc. Natl. Acad. Sci. USA 88: 9578-9582.
6. Song, O., Dolan, J.W., Yuan, Y.O. and Fields, S. 1991. Pheromone-dependent phosphorylation of the yeast Ste12 protein correlates with transcriptional activation. Genes Dev. 5: 741-750.
7. Sadowski, I., Bell, B., Broad, P. and Hollis, M. 1992. GAL4 fusion vectors for expression in yeast or mammalian cells. Gene 118: 137-141.

SOURCE

GAL4-TA (D-4) is a mouse monoclonal antibody raised against GAL4-TA corresponding to amino acids 768-881 of yeast origin.

PRODUCT

Each vial contains 200 µg IgG_3 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

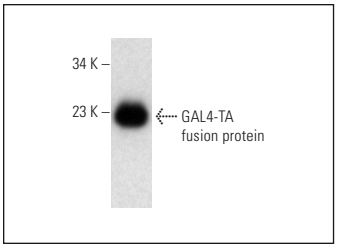
Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

GAL4-TA (D-4) is recommended for detection of GAL4-TA 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of GAL4-TA: 99 kDa.

DATA



GAL4-TA (D-4): sc-48399. Western blot analysis of human recombinant GAL4-TA fusion protein.

SELECT PRODUCT CITATIONS

1. Chen, S.L., Lin, S.T., Tsai, T.C., Hsiao, W.C. and Tsao, Y.P. 2007. ErbB4 (JM-b/CYT-1)-induced expression and phosphorylation of c-Jun is abrogated by human papillomavirus type 16 E5 protein. Oncogene 26: 42-53.

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.

CONJUGATES

See **GAL4-TA (A-2): sc-46680** for GAL4-TA antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.