SANTA CRUZ BIOTECHNOLOGY, INC.

GAL4-TA (C-10): sc-1663

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. These findings have stimulated the development of a unique "two-hybrid" system 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., et al. 1987. Deletion analysis of GAL4 defines two transcriptional activating segments. Cell 48: 847-853.

SOURCE

GAL4-TA (C-10) is a mouse monoclonal antibody raised against amino acids 768-881 mapping within the acidic activator domain of GAL4 (GAL4-TA).

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-1663 X, 200 µg/0.1 ml.

GAL4-TA (C-10) is available conjugated to agarose (sc-1663 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-1663 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-1663 PE), fluorescein (sc-1663 FITC), Alexa Fluor® 488 (sc-1663 AF488), Alexa Fluor® 546 (sc-1663 AF546), Alexa Fluor® 594 (sc-1663 AF594) or Alexa Fluor® 647 (sc-1663 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-1663 AF680) or Alexa Fluor® 790 (sc-1663 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, GAL4-TA (C-10) is available conjugated to biotin (sc-1663 B), 200 µg/ml, for WB, IHC(P) and ELISA.

APPLICATIONS

GAL4-TA (C-10) is recommended for detection of GAL4-TA by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

GAL4-TA (C-10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of GAL4-TA: 99 kDa.

STORAGE

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

SELECT PRODUCT CITATIONS

1. Kumar, S., et al. 1997. Physical interaction between specific E2 and Hect E3 enzymes determines functional cooperativity. J. Biol. Chem. 272: 13548-13554.
2. Auf der Maur, A., et al. 2001. Antigen-independent selection of stable intracellular single-chain antibodies. FEBS Lett. 508: 407-412.
3. Martinez-Argudo, I., et al. 2002. Domain interactions on the Ntr signal transduction pathway: two-hybrid analysis of mutant and truncated derivatives of histidine kinase NtrB. J. Bacteriol. 184: 200-206.
4. Houser-Scott, F., et al. 2002. Interactions among the protein and RNA subunits of *Saccharomyces cerevisiae* nuclear RNase P. Proc. Natl. Acad. Sci. USA 99: 2684-2689.
5. van der Flier, A., et al. 2002. Different splice variants of filamin-B affect myogenesis, subcellular distribution, and determine binding to integrin β subunits. J. Biol. Chem. 156: 361-376.
6. Yu, J., et al. 2003. A SANT motif in the SMRT corepressor interprets the histone code and promotes histone deacetylation. EMBO J. 22: 3403-3410.
7. Caponigro, G., et al. 2003. Functional analysis of expressed peptides that bind yeast STE proteins. J. Biotechnol. 103: 213-225.
8. Koster, J., et al. 2003. Analysis of the interactions between BP180, BP230, plectin and the integrin α6β4 important for hemidesmosome assembly. J. Cell Sci. 116: 387-399.
9. Liu, H.Y., et al. 2005. Human tumorous imaginal disc 1 (TID1) associates with Trk receptor tyrosine kinases and regulates neurite outgrowth in nnr5-TrkA cells. J. Biol. Chem. 280: 19461-19471.
10. Vignali, M., et al. 2008. Interaction of an atypical *Plasmodium falciparum* ETRAMP with human apolipoproteins. Malar. J. 7: 211.
11. Collins, G.A., et al. 2009. Gal4 turnover and transcription activation. Nature 461: E7.
12. Doidge, R., et al. 2012. The anti-proliferative activity of BTG/TOB proteins is mediated via the Caf1a (CNOT7) and Caf1b (CNOT8) deadenylase subunits of the Ccr4-not complex. PLoS ONE 7: e51331.
13. Ghazy, M.A., et al. 2012. The interaction of Pcf11 and Clp1 is needed for mRNA 3'-end formation and is modulated by amino acids in the ATP-binding site. Nucleic Acids Res. 40: 1214-1225.
14. Gomar-Alba, M., et al. 2013. Dissection of the elements of osmotic stress response transcription factor Hot1 involved in the interaction with MAPK Hog1 and in the activation of transcription. Biochim. Biophys. Acta 1829: 1111-1125.

RESEARCH USE

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