SANTA CRUZ BIOTECHNOLOGY, INC.

B42 (Q-19): sc-8606

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 (aa 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 has been developed using the DNA binding domain (DBD) of the E.Coli protein Lex A and the transcriptional activation domain (TAD) of the bacterially-derived B42 protein.

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.
3. Fields, S., et al. 1989. A novel genetic system to detect protein-protein interactions. Nature 340: 245-246.
4. Ptashne, M., et al. 1990. Activators and targets. Nature 346: 329-331.
5. Song, O., et al. 1991. Pheromone-dependent phosphorylation of the yeast STE12 protein correlates with transcriptional activation. Genes Dev. 5: 741-750.
6. Chien, C., et al. 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.
7. Sadowski, I., et al. 1992. GAL4 fusion vectors for expression in yeast or mammalian cells. Gene 118: 137-141.
8. Fields, S. 1993. The two-hybrid system to detect protein-protein interactions. Methods 5: 116-124.

SOURCE

B42 (Q-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of the transcriptional activation domain of B42.

PRODUCT

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

Blocking peptide available for competition studies, sc-8606 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

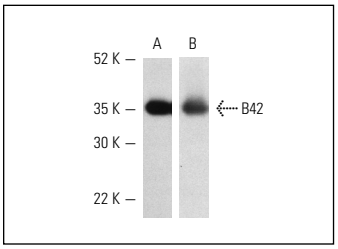
APPLICATIONS

B42 (Q-19) is recommended for detection of B42 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)], 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).

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Western blot analysis of full-length B42 fusion protein, sc-4269 WB (**A**,**B**). Antibodies tested include B42 (Q-19): sc-8606 (**A**) and B42 (C-20): sc-8607 (**B**).

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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