SANTA CRUZ BIOTECHNOLOGY, INC.

B42 (E-2): sc-377101

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. 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.

SOURCE

B42 (E-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 57-93 within an internal region of the transcriptional activation domain of B42.

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.

B42 (E-2) is available conjugated to agarose (sc-377101 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377101 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377101 PE), fluorescein (sc-377101 FITC), Alexa Fluor® 488 (sc-377101 AF488), Alexa Fluor® 546 (sc-377101 AF546), Alexa Fluor® 594 (sc-377101 AF594) or Alexa Fluor® 647 (sc-377101 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377101 AF680) or Alexa Fluor® 790 (sc-377101 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377101 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

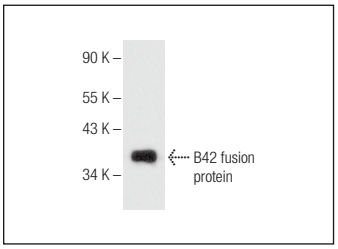
APPLICATIONS

B42 (E-2) is recommended for detection of B42 fusion proteins by Western Blotting (starting dilution 1:100, 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 SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



B42 (E-2): sc-377101. Western blot analysis of full-length B42 fusion protein (sc-4269).

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 for detailed protocols and support products.