

## Lex A (E-7): sc-365999

### 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 utilizes the DNA binding domain of the *E. coli* protein Lex A and the transactivity domain of the HSV protein VP16.

### REFERENCES

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

### SOURCE

Lex A (E-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-29 at the N-terminus of Lex A of *E. coli* origin.

### PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-365999 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

### APPLICATIONS

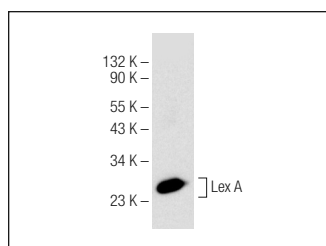
Lex A (E-7) is recommended for detection of Lex A and Lex A fusion proteins by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Lex A: 23 kDa.

### 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



Lex A (E-7): sc-365999. Western blot analysis of *E. coli* recombinant Lex A.

### SELECT PRODUCT CITATIONS

1. Kubiak, J.M., et al. 2017. A small-molecule inducible synthetic circuit for control of the SOS gene network without DNA damage. *ACS Synth. Biol.* 6: 2067-2076.
2. Wu, H., et al. 2020. Protein-protein interaction of the putative magnetoreceptor cryptochrome 4 expressed in the avian retina. *Sci. Rep.* 10: 7364.

### 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](http://www.scbt.com) for detailed protocols and support products.

### CONJUGATES

See **Lex A (C-11): sc-390386** for Lex A antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.