SANTA CRUZ BIOTECHNOLOGY, INC.

YY1 (1-414): sc-4125

BACKGROUND

The YY1 transcription factor, also known as NF-E1 (human) and Delta or UCRBP (mouse) is of interest due to its diverse effects on a wide variety of target genes. YY1 is broadly expressed in a wide range of cell types and contains four C-terminal zinc finger motifs of the Cys-Cys-His-His type and an unusual set of structural motifs at its N-terminal. It binds to downstream elements in several vertebrate ribosomal protein genes, where it apparently acts positively to stimulate transcription and can act either negatively or positively in the context of the immunoglobulin κ 3' enhancer and immunoglobulin heavy-chain μE1 site as well as the P5 promoter of the adeno-associated virus. It thus appears that YY1 is a bifunctional protein, capable of functioning as an activator in some transcriptional control elements and a repressor in others.

REFERENCES

1. Shi, Y., Seto, E., Chang, L.S. and Shenk, T. 1991. Transcriptional repression by YY1, a human GLI-Krüppel-related protein, and relief of repression by adenovirus E1A protein. Cell 67: 377-388.
2. Riggs, K.J., Merrell, K.T., Wilson, G. and Calame, K. 1991. Common factor 1 is a transcriptional activator which binds in the c-Myc promoter, the skeletal α-Actin promoter, and the immunoglobulin heavy-chain enhancer. Mol. Cell. Biol. 11: 1765-1769.
3. Hariharan, N., Kelley, D.E. and Perry, R.P. 1991. Delta, a transcription factor that binds to downstream elements in several polymerase II promoters, is a functionally versatile zinc finger protein. Proc. Natl. Acad. Sci. USA 88: 9799-9803.
4. Park, K. and Atchison, M.L. 1991. Isolation of a candidate repressor/activator, NF-E1 (YY1, Delta), that binds to the immunoglobulin κ 3' enhancer and the immunoglobulin heavy-chain μE1 site. Proc. Natl. Acad. Sci. USA 88: 9804-9808.
5. Flanagan, J.R., Becker, K.G., Ennist, D.L., Gleason, S.L., Driggers, P.H., Levi, B.Z., Appella, E. and Ozato, K. 1992. Cloning of a negative transcription factor that binds to the upstream conserved region of Moloney murine leukemia virus. Mol. Cell. Biol. 12: 38-44.
6. Sáfrány, G. and Perry, R.P. 1993. Characterization of the mouse gene that encodes the Delta/YY1/NF-E1/UCRBP transcription factor. Proc. Natl. Acad. Sci. USA 90: 5559-5563.
7. Seto, E., Lewis, B. and Shenk, T. 1993. Interaction between transcription factors Sp1 and YY1. Nature 365: 462-464.

CHROMOSOMAL LOCATION

Genetic locus: YY1 (human) mapping to 14q32.2; Yy1 (mouse) mapping to 12 F1.

SOURCE

YY1 (1-414) is produced in *E. coli* as a 68 kDa tagged fusion protein corresponding to amino acids 1-414 of YY1 of human origin.

PRODUCT

YY1 (1-414) is purified from bacterial lysates (>98%); supplied as 50 µg purified protein.

Also available as 10 µg protein in 0.1 ml SDS-PAGE loading buffer, sc-4125 WB for use as a Western Blotting control; supplied as 10 µg protein in 0.1 ml SDS-PAGE loading buffer.

APPLICATIONS

YY1 (1-414): sc-4125 is provided as a purified protein for use in protein binding studies.

YY1 (1-414): sc-4125 WB is suitable as a Western blotting control for sc-1703, sc-7341 and sc-281.

SELECT PRODUCT CITATIONS

1. Eliassen, K., et al. 1998. Role for a YY1-binding element in replication-dependent mouse histone gene expression. Mol. Cell. Biol. 18: 7106-7118.
2. Karantzoulis-Fegaras, F., et al. 1999. Characterization of the human endothelial nitric-oxide synthase promoter. J. Biol. Chem. 274: 3076-3093.
3. de Nigris, F., et al. 2006. Expression of transcription factor Yin Yang 1 in human osteosarcomas. Eur. J. Cancer 42: 2420-2424.
4. Moriuchi, M., et al. 1999. USF/c-Myc enhances, while Yin-Yang 1 suppresses, the promoter activity of CXCR4, a coreceptor for HIV-1 entry. J. Immunol. 162: 5986-5992.

STORAGE

Store at -20° C. 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.