Nrl (h2): 293T Lysate: sc-113074



The Power to Question

BACKGROUND

Nrl (neural retina leucine zipper) is a member of the Maf family of transcription factors, which characteristically contain a highly conserved basic leucine zipper (bZlP)-DNA binding motif. Both Nrl and c-Maf preferentially bind to T-MARE sites and are implicated in a wide variety of developmental and physiologic roles. The Maf-Nrl subfamily regulates the expression of cell type-specific genes in tissues of the hematopoietic system, cerebellum and developing hindbrain. Maf and Nrl proteins bind an extended AP-1-like sequence and can form heterodimers with Fos and Jun transcription factors. In retinal cells and photoreceptor cells, Nrl promotes the expression of rhodopsin through binding to the Nrl response element present in the rhodopsin promoter. Nrl is expressed throughout the developing central and peripheral nervous system during neuronal differentiation, and its expression is restricted to neocortex, brainstem and retinal neurons during adulthood.

REFERENCES

- Swaroop, A., Xu, J.Z., Pawar, H., Jackson, A., Skolnick, C. and Agarwal, N. 1992. A conserved retina-specific gene encodes a basic motif/leucine zipper domain. Proc. Natl. Acad. Sci. USA 89: 266-270.
- 2. Andrews, N.C., Kotkow, K.J., Ney, P.A., Erdjument-Bromage, H., Tempst, P. and Orkin, S.H. 1993. The ubiquitous subunit of erythroid transcription factor NF-E2 is a small basic-leucine zipper protein related to the v-Maf oncogene. Proc. Natl. Acad. Sci. USA 90: 11488-11492.
- 3. Kerppola, T.K. and Curran, T. 1994. Maf and Nrl can bind to AP-1 sites and form heterodimers with Fos and Jun. Oncogene 9: 675-684.
- 4. Kerppola, T.K. and Curran, T. 1994. A conserved region adjacent to the basic domain is required for recognition of an extended DNA binding site by Maf/NrI family proteins. Oncogene 9: 3149-3158.
- Kurschner, C. and Morgan, J.I. 1995. The Maf proto-oncogene stimulates transcription from multiple sites in a promoter that directs Purkinje neuronspecific gene expression. Mol. Cell. Biol. 15: 246-254.
- Kumar, R., Chen, S., Scheurer, D., Wang, Q.L., Duh, E., Sung, C.H., Rehemtulla, A., Swaroop, A., Adler, R. and Zack, D.J. 1996. The bZIP transcription factor NrI stimulates rhodopsin promoter activity in primary retinal cell cultures. J. Biol. Chem. 271: 29612-29618.
- Liu, Q., Ji, X., Breitman, M.L., Hitchcock, P.F. and Swaroop, A. 1996.
 Expression of the bZIP transcription factor gene Nrl in the developing nervous system. Oncogene 12: 207-211.
- 8. Kanda, A., Friedman, J.S., Nishiguchi, K.M. and Swaroop, A. 2007. Retinopathy mutations in the bZIP protein NrI alter phosphorylation and transcriptional activity. Hum. Mutat. 28: 589-598.
- 9. McIlvain, V.A. and Knox, B.E. 2007. NR2E3 and Nrl can reprogram retinal precursors to the rod fate in *Xenopus* retina. Dev. Dyn. 236: 1970-1979.

CHROMOSOMAL LOCATION

Genetic locus: NRL (human) mapping to 14q11.2.

RESEARCH USE

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

PRODUCT

Nrl (h2): 293T Lysate represents a lysate of human Nrl transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

Nrl (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive Nrl antibodies. Recommended use: 10-20 µl per lane.

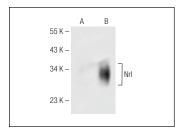
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-tranfected 293T cells.

NrI (F-2): sc-374277 is recommended as a positive control antibody for Western Blot analysis of enhanced human NrI expression in NrI transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-lgG κ BP-HRP: sc-516102 or m-lgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



NrI (F-2): sc-374277. Western blot analysis of NrI expression in non-transfected: sc-117752 (**A**) and human NrI transfected: sc-113074 (**B**) 293T whole cell bestor.

STORAGE

Store at -20 $^{\circ}$ C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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