SANTA CRUZ BIOTECHNOLOGY, INC.

Nurr1 (66-262): sc-4418 WB

BACKGROUND

Nurr1 (Nur-related factor 1) and Nur77 (also designated NGFI-B) encode orphan nuclear receptors which may comprise an additional subfamily within the nuclear receptor superfamily. The rat and human homologs of mouse Nurr1 are designated RNR1 and NOT, respectively. Both Nurr1 and Nur77 are growth factor inducible, immediate early response genes. Induction of both Nurr1 and Nur77 is seen after membrane depolarization while only Nur77 induction is seen with NGF stimulation. JunD acts as a mediator for Nur77. An increase in Nurr77 expression is seen in activated T cells during G_0 to G_1 transition and throughout the G_1 phase. In addition to its function as an immediate early gene, Nur77 may play a role in TCR-mediated apoptosis. Cyclosporin A, a potent immuno-suppressant, has been shown to inhibit the ability of Nur77 to bind DNA. A dominant negative form of Nur77 can protect T cell hybridomas from activation-induced apoptosis. However, the absolute requirement of Nur77 for TCR-mediated apoptosis is still under debate.

REFERENCES

1. Law, S.W., Conneely, O.L., DeMayo, F., and O'Malley, B. 1992. Identification of a new brain-specific transcription factor, Nurr1. Mol. Endocrinol. 6: 2129-2135.
2. Mages, H.W., Rilke, O., Bravo, R., Senger, G., and Kroczek, R. 1994. NOT, a human immediate-early response gene closely related to the steroid/thyroid hormone receptor NAK1/TR3. Mol. Endocrinol. 8: 1583-1591.
3. Davis, I.J., Lau, L.F. 1994. Endocrine and neurogenic regulation of the orphan nuclear receptors Nur77 and Nurr1 in the adrenal glands. Mol. Cell. Biol. 14: 3469-3483.
4. Yoon, J.K. and Lau, L.F. 1994. Involvement of JunD in transcriptional activation of the orphan receptor gene Nur77 by nerve growth factor and membrane depolarization in PC12 cells. Mol. Cell. Biol. 14: 7731-7743.
5. Garcia, I., Pipaon, C., Alemany, S., and Perez-Castillo, A. 1994. Induction of NGFI-B gene expression during T cell activation. Role of protein phosphatases. J. Immunol. 153: 3417-3425.
6. Winoto, A. 1994. Molecular characterization of the Nur77 orphan steroid receptor in apoptosis. Intl. Arch. All. Immunol. 105: 344-346.
7. Lee, S.L., Wesselschmidt, R.L., Linette, G.P., Kanagawa, O., Russel, J.H., and Milbrandt, J. 1995. Unimpaired thymic and T cell death in mice lacking the nuclear receptor NGFI-B (Nur77). Science 269: 532-535.
8. Bassett, M.H., White, P.C., Rainey, W.E. 2004. A role for the NGFI-B family in adrenal zonation and adrenocortical disease. Endocr. Res. 30:567-574
9. Maheux, J., Ethier, I., Rouillard, C., Levesque, D. 2005. Induction patterns of transcription factors of the Nur family (Nurr1, Nur77, and NOR-1) by typical and atypical antipsychotics in the mouse brain: implication for their mechanism of action. J. Pharmacol. Exp. Ther. 313: 460-473.

SOURCE

Nurr1 (66-262) is expressed in *E. coli* as a 49 kDa tagged fusion protein corresponding to amino acids 66-262 mapping within the carboxy terminal domain of Nurr1 of human origin.

PRODUCT

Nurr1 (66-262) is purified from bacterial lysates (>98%) by glutathione agarose chromatography; supplied as 10 µg in 0.1 ml SDS-PAGE loading buffer.

APPLICATIONS

Nurr1 (66-262) is recommended for use as a Western blotting control for sc-5568.

STORAGE

Store at -20° C; stable for one year from the date of shipment.

RESEARCH USE

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