

DOMINANT NEGATIVE NUR77 GENE INHIBITOR OF APOPTOSIS

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ABSTRACT

Apoptosis is a phenomenon observed during development of many cell types in many organisms. It is an internal, programmed cell death characterized by DNA fragmentation into nucleosome-size pieces. Anti-CD3-induced apoptosis in T-cell hybridomas and immature thymocytes requires new gene transcription and may be related to negative selection during T-cell development. Using subtractive hybridization, we isolated a complementary DNA clone encoding the orphan steroid receptor Nur77 (refs 7-9). It shows different patterns of messenger RNA induction between apoptotic and stimulated T cells. We report here the use of gel shift analysis to demonstrate that the Nur77 protein is present at high levels in apoptotic T-cell hybridomas and apoptotic thymocytes, but not in growing T cells or stimulated splenocytes. A Nur77 dominant negative protected T-cell hybridomas from activation-induced apoptosis. Hence Nur77 is necessary for induced apoptosis in T-cell hybridomas.

Reference:

Woronicz, J, et al., 1994 Nature 367:277-81

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OTHER INFORMATION

KEYWORDS

receptor, gene, vector

CATEGORIZED AS

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