Technical Data Sheet

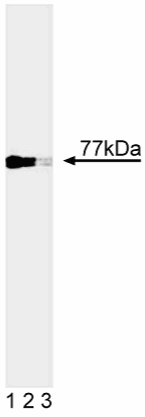
Purified Mouse Anti-Mouse Nur77

Product Information

Material Number:	**554088**
Alternate Name:	NGF1-B, N10, TISI
Size:	0.1 mg
Concentration:	0.5 mg/ml
Clone:	12.14
Immunogen:	Full-length mouse Nur77 fusion protein
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Mouse
Target MW:	67-88 kDa
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

Nur77 (also known as NGF1-B, N10, TISI) is a growth factor-inducible orphan member of the steroid/thyroid hormone receptor superfamily. This superfamily encodes ligand-dependent transcription factors with a centrally located, highly conserved DNA-binding domain containing two zinc-fingers. Although Nur77 binds no known ligand, it is constitutively active when synthesized. Nur77 was originally identified as an immediate-early gene rapidly activated by serum stimulation of quiescent fibroblasts. It has since been shown to be activated by diverse signals including membrane depolarization, nerve growth factor, chemically induced seizures, adrenocorticotrophic hormone (ACTH), pentylene tetrazole, forskolin and cAMP. Nur77, like other immediate-early genes such as c-myc, has also been shown to have a role in apoptosis. Apoptosis is an internal, programmed cell death which takes place during normal development. Nur77 has been demonstrated to be required for in vitro T-cell-receptor (TCR) mediated negative selection. Negative selection, or the clonal deletion of thymocytes, normally occurs by apoptosis following engagement of the TCR. Nur77 is present in high levels in T-cell hybrids and thymocytes undergoing apoptosis, but not in growing T cells or stimulated splenocytes. T-cell hybrids are protected from activation-induced apoptosis by a Nur77 dominant negative mutation. Induction of Nur77 mRNA and cell death by apoptosis following treatment of T-cell hybrids with antibody directed against the TCR has also been shown. Additionally, transfection of the T-cell hybrids with antisense Nur77 protects cells from apoptosis when signaled to die by TCR engagement. Nur77 is a phosphoprotein which migrates on SDS/PAGE gels as diffuse bands between 67 and 88 kDa depending on post-translational modifications. Clone 12.14 recognizes mouse Nur77. A full-length mouse Nur77 fusion protein was used as immunogen.



Western blot analysis of Nur77. *Mouse thymocytes were stimulated with PMA (20 ng/ml) and ionomycin (500 ng/ml at 37°C for 2 hr). Lysates were prepared and separated by SDS/PAGE. Blots were probed with anti-Nur77 (clone 12.14, Cat. No. 554088) at concentrations of 2.0 (lane 1), 1.0 (lane 2), and 0.5 µg/ml (lane 3). Nur77 is detected as a protein of ~77 kDa.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at 4°C.

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Application Notes

Application

Western blot	Routinely Tested

Recommended Assay Procedure:

Mouse thymocytes treated with PMA and ionomycin are suggested as a positive control.

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

Davis IJ, Hazel TG, Chen RH, Blenis J, Lau LF. Functional domains and phosphorylation of the orphan receptor Nur77. *Mol Endocrinol.* 1993; 7(8):953-964. (Biology)

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Liu ZG, Smith SW, McLaughlin KA, Schwartz LM, Osborne BA. Apoptotic signals delivered through the T-cell receptor of a T-cell hybrid require the immediate-early gene nur77. *Nature.* 1994; 367(6460):281-284.(Biology)

Woronicz JD, Calnan B, Ngo V, Winoto A. Requirement for the orphan steroid receptor Nur77 in apoptosis of T-cell hybridomas. *Nature.* 1994; 367(6460):277-281. (Biology)