

p-Nur77 (Ser 351): sc-16992

BACKGROUND

Nur77 (also designated nuclear receptor subfamily 4, group A, member 1, HMR, N10, TR3, NP10, GFRP1, NAK-1, NGFIB) encodes a member of the steroid-thyroid hormone-retinoid receptor superfamily. Expression is induced by phytohemagglutinin in human lymphocytes and by serum stimulation of arrested fibroblasts. The encoded protein acts as a nuclear transcription factor. Translocation of Nur77 from the nucleus to mitochondria induces apoptosis. An increase in Nur77 expression occurs in activated T cells during the G₀ to G₁ transition and throughout the G₁ phase. In addition to its function as an immediate early gene, Nur77 may play a role in TCR-mediated apoptosis. Akt-dependent phosphorylation of Nur77 on Ser 341 and Ser 351 can occur in a phosphatidylinositol 3-kinase-dependent manner, and causes a decrease in Nur77 DNA-binding activity.

REFERENCES

- Hazel, T.G., et al. 1991. Nur77 is differentially modified in PC12 cells upon membrane depolarization and growth factor treatment. *Mol. Cell. Biol.* 11: 3239-3246.
- Hirata, Y., et al. 1993. The phosphorylation and DNA binding of the DNA-binding domain of the orphan nuclear receptor NGFI-B. *J. Biol. Chem.* 268: 24808-24812.
- Winoto, A. 1994. Molecular characterization of the Nur77 orphan steroid receptor in apoptosis. *Int. Arch. Allergy Immunol.* 105: 344-346.
- Davis, I.J., et al. 1994. Endocrine and neurogenic regulation of the orphan nuclear receptors Nur77 and Nurr1 in the adrenal glands. *Mol. Cell. Biol.* 14: 3469-3483.
- Lee, S.L., et al. 1995. Unimpaired thymic and T cell death in mice lacking the nuclear receptor NGFI-B (Nur77). *Science* 269: 532-535.
- Fisher, T.L., et al. 1996. Evidence for two catalytically active kinase domains in pp90Rsk. *Mol. Cell. Biol.* 16: 1212-1219.

CHROMOSOMAL LOCATION

Genetic locus: NR4A1 (human) mapping to 12q13.13; Nr4a1 (mouse) mapping to 15 F2.

SOURCE

p-Nur77 (Ser 351) is available as either goat (sc-16992) or rabbit (sc-16992-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Ser 351 phosphorylated Nur77 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-16992 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

p-Nur77 (Ser 351)-R is recommended for detection of Ser 351 phosphorylated Nur77 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-Nur77 (Ser 351) is also recommended for detection of correspondingly phosphorylated Nur77 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Nur77 siRNA (h): sc-36109, Nur77 siRNA (m): sc-36110, Nur77 siRNA (r): sc-108068, Nur77 shRNA Plasmid (h): sc-36109-SH, Nur77 shRNA Plasmid (m): sc-36110-SH, Nur77 shRNA Plasmid (r): sc-108068-SH, Nur77 shRNA (h) Lentiviral Particles: sc-36109-V, Nur77 shRNA (m) Lentiviral Particles: sc-36110-V, and Nur77 shRNA (r) Lentiviral Particles: sc-108068-V.

Molecular Weight of Nur77: 64 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: for goat primary antibody (sc-16992): use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), for rabbit primary antibody (sc-16992-R): use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: for goat primary antibody (sc-16992): use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941, for rabbit primary antibody (sc-16992-R): use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

- Liu, D., et al. 2003. Vascular endothelial growth factor-regulated gene expression in endothelial cells: KDR-mediated induction of Egr-3 and the related nuclear receptors Nur77, Nurr1, and Nor1. *Arterioscler. Thromb. Vasc. Biol.* 23: 2002-2007.

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.