SANTA CRUZ BIOTECHNOLOGY, INC.

TRβ1 (N-19): sc-10822

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Thyroid hormone nuclear receptors (TRs) are ligand-dependent transcription factors which regulate growth, differentiation and development, and represent members of the steroid/retinoic acid superfamily. The two genes encoding TRs identified to date, TRα and TRβ, have been mapped to human chromosomes 17 and 3, respectively. TRs bind to thyroid hormone response elements (TREs) with half-site binding motifs in the orientation of palindromes, direct repeats or inverted palindromes. The affinities of binding are both variable and influenced differentially by 3,5,3'-triiodo-L-thyronine (T3). Transcriptional regulation by TRs is also modulated by heterodimerization with TR nuclear accessory proteins, the most extensively characterized of which are the retinoid X receptors (RXRα, RXRβ and RXRγ). The TRβ isoform TRβ1 forms a complex with the PI 3-kinase p85α subunit and plays an important role in the T3-induced activation of Akt in pancreatic β cells.

REFERENCES

1. Näär, A., et al. 1991. The orientation and spacing of core DNA-binding motifs dictate selective transcriptional responses to three nuclear receptors. Cell 65: 1267-1271.
2. Lazar, M.A. 1993. Thyroid hormone receptors: multiple forms, multiple possibilities. Endocrinol. Rev. 14: 184-193.
3. Meier, C.A., et al. 1993. Interaction of human TRβ1 and its mutants with DNA and RXRβ. T3 response element-dependent dominant negative potency. J. Clin. Invest. 92: 1986-1993.
4. Zhang, X.K., et al. 1993. Hetero- and homodimeric receptors in thyroid hormone and vitamin A action. Receptor 3: 183-191.

CHROMOSOMAL LOCATION

Genetic locus: THRB (human) mapping to 3p24.2; Thrb (mouse) mapping to 14 A2.

SOURCE

TRβ1 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of TRβ1 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-10822 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-10822 X, 200 µg/0.1 ml.

STORAGE

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

RESEARCH USE

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

APPLICATIONS

TRβ1 (N-19) is recommended for detection of TRβ1 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).

TRβ1 (N-19) is also recommended for detection of TRβ1 in additional species, including equine and porcine.

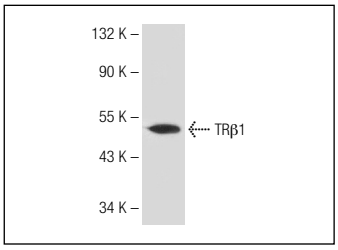
Suitable for use as control antibody for TRβ1 siRNA (h): sc-38890, TRβ1 siRNA (m): sc-38891, TRβ1 shRNA Plasmid (h): sc-38890-SH, TRβ1 shRNA Plasmid (m): sc-38891-SH, TRβ1 shRNA (h) Lentiviral Particles: sc-38890-V and TRβ1 shRNA (m) Lentiviral Particles: sc-38891-V.

TRβ1 (N-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of TRβ1: 55 kDa.

Positive Controls: C32 whole cell lysate: sc-2205 or SK-BR-3 nuclear extract: sc-2134.

DATA



TRβ1 (N-19): sc-10822. Western blot analysis of TRβ1 expression in SK-BR-3 nuclear extract.

SELECT PRODUCT CITATIONS

1. Silvestri, E., et al. 2008. Age-related changes in renal and hepatic cellular mechanisms associated with variations in rat serum thyroid hormone levels. Am. J. Physiol. Endocrinol. Metab. 294: E1160-E1168.
2. Hong, W., et al. 2011. Epigenetic involvement of Alien/ESET complex in thyroid hormone-mediated repression of E2F1 gene expression and cell proliferation. Biochem. Biophys. Res. Commun. 415: 650-655.