SANTA CRUZ BIOTECHNOLOGY, INC.

TRβ1 (J53): sc-56872

BACKGROUND

Thyroid hormone nuclear receptors (TRs) are ligand-dependent transcription factors which regulate and control many metabolic and developmental processes. There are two genes encoding TRs identified to date, TRα and TRβ. 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

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3. Meier, C.A., et al. 1993. Interaction of human β 1 thyroid hormone receptor and its mutants with DNA and retinoid X receptor β. 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.
5. Bhat, M.K., et al. 1994. Phosphorylation enhances the target gene sequence-dependent dimerization of thyroid hormone receptor with retinoid X receptor. Proc. Natl. Acad. Sci. USA 91: 7927-7931.
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7. Mangelsdorf, D.J., et al. 1994. The retinoid receptors. In Sporn, M.B., et al, eds. The Retinoids: Biology, Chemistry, and Medicine. New York: Raven Press, Ltd., 319-349.

CHROMOSOMAL LOCATION

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

SOURCE

TRβ1 (J53) is a mouse monoclonal antibody raised against TRβ1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

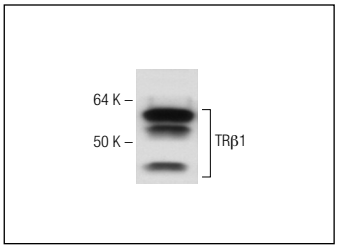
TRβ1 (J53) is recommended for detection of TRβ1 of human, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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.

Molecular Weight of TRβ1: 55 kDa.

Positive Controls: C32 nuclear extract: sc-2136, C32 whole cell lysate: sc-2205 or SK-BR-3 nuclear extract: sc-2134.

DATA



TRβ1 (J53): sc-56872. Western blot analysis of TRβ1 expression in HTori cells transfected with TRβ1-pcDNA3.1 expression vector.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CONJUGATES

See **TRβ1 (J51): sc-737** for TRβ1 antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.