SANTA CRUZ BIOTECHNOLOGY, INC.

TRβ1 (A-7): sc-398007

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.

CHROMOSOMAL LOCATION

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

SOURCE

TRβ1 (A-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-27 at the N-terminus of TRβ1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-398007 X, 200 µg/0.1 ml.

TRβ1 (A-7) is available conjugated to agarose (sc-398007 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398007 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398007 PE), fluorescein (sc-398007 FITC), Alexa Fluor® 488 (sc-398007 AF488), Alexa Fluor® 546 (sc-398007 AF546), Alexa Fluor® 594 (sc-398007 AF594) or Alexa Fluor® 647 (sc-398007 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398007 AF680) or Alexa Fluor® 790 (sc-398007 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398007 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

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

APPLICATIONS

TRβ1 (A-7) is recommended for detection of TRβ1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

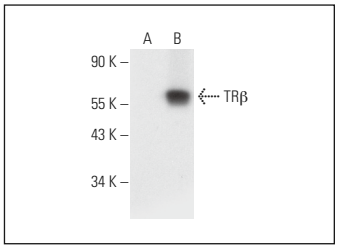
Suitable for use as control antibody for TRβ1 siRNA (h): sc-38890, TRβ1 siRNA (m): sc-38891, TRβ1 shRNA Plasmid (h): sc-38890-SH, TRβ1 shRNA Plasmid (m): sc-38891-SH, TRβ1 shRNA (h) Lentiviral Particles: sc-38890-V and TRβ1 shRNA (m) Lentiviral Particles: sc-38891-V.

TRβ1 (A-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

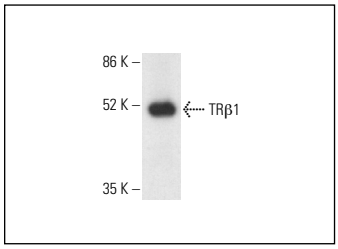
Molecular Weight of TRβ1: 55 kDa.

Positive Controls: TRβ (h): 293T Lysate: sc-369818 or HeLa whole cell lysate: sc-2200.

DATA



TRβ1 (A-7): sc-398007. Western blot analysis of TRβ expression in non-transfected: sc-117752 (**A**) and human TRβ transfected: sc-369818 (**B**) 293T whole cell lysates.



TRβ1 (A-7): sc-398007. Western blot analysis of TRβ1 expression in HeLa whole cell lysate. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

SELECT PRODUCT CITATIONS

1. Srivastava, J., et al. 2015. Astrocyte elevated gene-1 (AEG-1) contributes to non-thyroidal Illness syndrome (NTIS) associated with hepatocellular carcinoma (HCC). J. Biol. Chem. 290: 15549-15558.
2. Sayem, A.S.M., et al. 2017. Effects of thyroxine on expression of proteins related to thyroid hormone functions (TR-α, TR-β, RXR and ERK1/2) in uterus during peri-implantation period. Biomed. Pharmacother. 96: 1016-1021.
3. Sayem, A.S.M., et al. 2018. Differential expression of the receptors for thyroid hormone, thyroid stimulating hormone, vitamin D and retinoic acid and extracellular signal-regulated kinase in uterus of rats under influence of sex-steroids. Biomed. Pharmacother. 100: 132-141.
4. Salleh, N., et al. 2019. Expression of proteins related to thyroid hormone function in the uterus is down-regulated at the day of implantation in hypothyroid pregnant rats. Cell Biol. Int. 43: 486-494.

RESEARCH USE

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