

TR α / β (FL-408): sc-772

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, TR α and TR β , 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 (RXR α , RXR β and RXR γ). To a certain extent, this activity is regulated by differential phosphorylation of TRs. Thus, not only are the biological activities of TRs regulated by heterodimerization with RXRs, but in addition, the gene regulatory activities of TRs are linked to other hormonal pathways. TR α 1 can display both a nuclear and undefined cytoplasmic location, and is the only TR that is imported into the mitochondrial matrix.

CHROMOSOMAL LOCATION

Genetic locus: THRA (human) mapping to 17q21.1, THRB (human) mapping to 3p24.2; Thra (mouse) mapping to 11 D, ThrB (mouse) mapping to 14 A2.

SOURCE

TR α / β (FL-408) is a rabbit polyclonal antibody raised against amino acids 1-408 representing full length TR α 1 of chicken origin.

PRODUCT

Each vial contains 200 μ g IgG 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-772 X, 200 μ g/0.1 ml.

APPLICATIONS

TR α / β (FL-408) is recommended for detection of TR α 1, TR α 2, TR α 3, TR β 1 and TR β 2 of mouse, rat, human and chicken origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

TR α / β (FL-408) is also recommended for detection of TR α 1, TR α 2, TR α 3, TR β 1 and TR β 2 in additional species, including equine, canine, bovine, porcine and avian.

TR α / β (FL-408) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of TR α : 47 kDa.

Molecular Weight of TR β : 55 kDa.

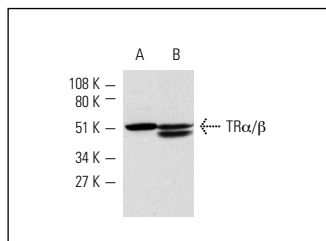
RESEARCH USE

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

STORAGE

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

DATA



TR α / β (FL-408): sc-772. Western blot analysis of TR α / β expression in C32 nuclear extract (A) and C32 whole cell lysate (B).

SELECT PRODUCT CITATIONS

- Honkakoski, P., et al. 1998. The nuclear orphan receptor CAR-retinoid X receptor heterodimer activates the phenobarbital-responsive enhancer module of the CYP2B gene. *Mol. Cell. Biol.* 18: 5652-5658.
- Thurmond, D.C., et al. 1998. Characterization of thyroid hormone response elements in the gene for chicken malic enzyme. Factors that influence triiodothyronine responsiveness. *J. Biol. Chem.* 273: 1613-1622.
- Takabe, S., et al. 2008. De-phosphorylation of GR at Ser203 in nuclei associates with GR nuclear translocation and GLUT5 gene expression in Caco-2 cells. *Arch. Biochem. Biophys.* 475: 1-6.
- Lassová, L., et al. 2009. Thyroid hormone treatment of cultured chondrocytes mimics *in vivo* stimulation of collagen X mRNA by increasing BMP 4 expression. *J. Cell. Physiol.* 219: 595-605.
- Kawa, M.P., et al. 2010. Clinical relevance of thyroid dysfunction in human haematopoiesis: biochemical and molecular studies. *Eur. J. Endocrinol.* 162: 295-305.
- Hyvönen, M.E., et al. 2010. Lipid phosphatase SHIP2 downregulates Insulin signalling in podocytes. *Mol. Cell. Endocrinol.* 328: 70-79.
- Belakavadi, M., et al. 2011. Thyroid hormone suppression of β -amyloid precursor protein gene expression in the brain involves multiple epigenetic regulatory events. *Mol. Cell. Endocrinol.* 339: 72-80.
- Rajasekaran, N.S., et al. 2011. Sustained activation of nuclear erythroid 2-related factor 2/antioxidant response element signaling promotes reductive stress in the human mutant protein aggregation cardiomyopathy in mice. *Antioxid. Redox Signal.* 14: 957-971.

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Try **TR α 1/ β 1 (C4): sc-740**, our highly recommended monoclonal alternative to TR α / β (FL-408).