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Datasheet for 600-401-A96

Thyroid Hormone Receptor beta 1 Antibody

Overview

Description:	Anti-Thyroid Hormone Receptor ß1 (THRB1) (RABBIT) Antibody - 600-401-A96
Item No.:	600-401-A96
Size:	100 µg
Applications:	ELISA, IF, WB, ChIP, IP
Reactivity:	Human, Mouse
Host Species:	Rabbit

Product Details

Background:	Anti-Thyroid Hormone Receptor ß1 (TRB1) antibody is designed, produced, and validated as part of a collaboration between Rockland and the National Cancer Institute (NCI) and is suitable for Cancer, Immunology and Nuclear Signaling research. The protein encoded by this gene is a nuclear hormone receptor for triiodothyronine. It is one of the several receptors for thyroid hormone, and has been shown to mediate the biological activities of thyroid hormone. Knockout studies in mice suggest that the different receptors, while having certain extent of redundancy, may mediate different functions of thyroid hormone. Defects in this gene are known to be a cause of generalized thyroid hormone resistance (GTHR), a syndrome characterized by goiter and high levels of circulating thyroid hormone (T3-T4), with normal or slightly elevated thyroid stimulating hormone (TSH). This TRB1 antibody is ideal for Immunology, Thyroid and Signal Transduction research.
Synonyms:	Rabbit anti-THRB antibody, rabbit anti-Thyroid hormone receptor beta 1 antibody, Anti-THRB1 antibody, c-erbA-beta, THR1 antibody, c-erbA-2, Nuclear receptor subfamily 1 group A member 2, ERBA2, NR1A2
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	THRB
Reactivity:	Human, Mouse

Immunogen Type:	Conjugated Peptide
Immunogen:	Anti-TR ß1 antibody is affinity purified from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to a region near the N-terminal of human THRB isoform 1 protein.
Purity/Specificity:	This product was affinity purified from monospecific antiserum by immunoaffinity chromatography. This antibody reacts with human THRB protein. A BLAST analysis was used to suggest cross-reactivity with THRB from mouse, human and rat based on a 100% homology with the immunizing sequence. Cross-reactivity with THRB from other sources has not been determined.
Relevant Links:	• UniProtKB - P10828 • NCBI - 40806162 • GeneID - 7068

Application Details

Tested Applications:	ELISA, IF, WB
Suggested Applications:	ChIP, IP (Based on references)
Application Note:	This affinity purified antibody has been tested for use in ELISA, IF, and western blotting.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:20,000 – 1:200,000
IF:	1:1000
IP:	1:100
WB:	1:500 - 1:2,000

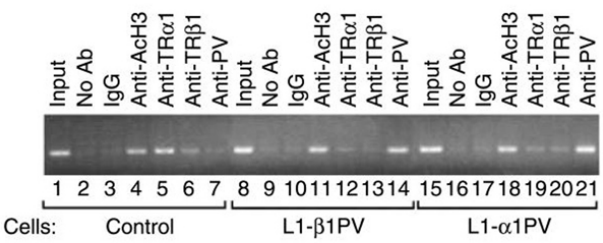
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1.15 mg/mL by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

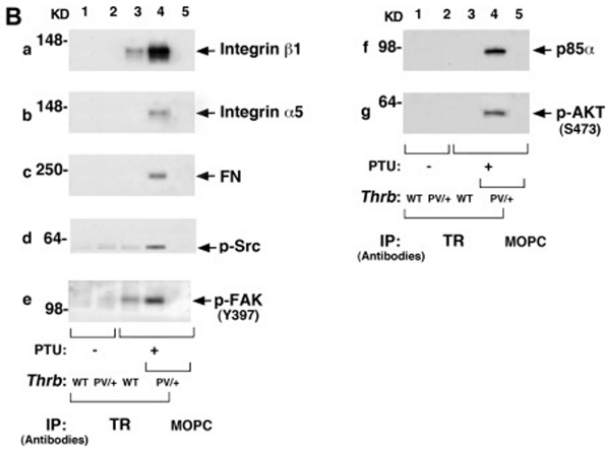
Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store Anti-TR beta1 antibody at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

Images

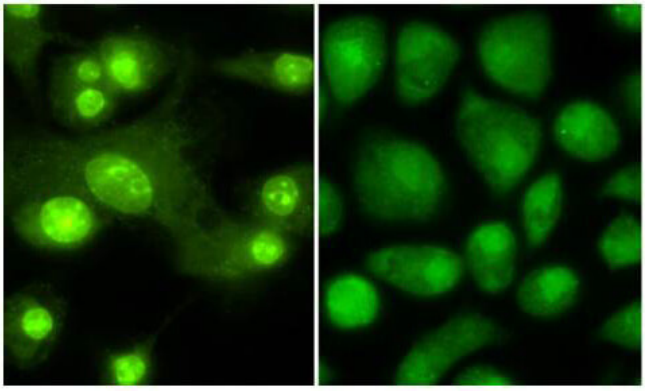


ChIP
Differential recruitment of TRβ1PV and TRα1PV to the promoter of the C/ebpα gene as determined by ChIP analysis. ChIP assays were performed using control 3T3-L1 (lanes 1–7), L1-β1PV (lanes 8–14), and L1-α1PV (lanes 15–21) cells after T3-induced adipogenesis on day 9. Antibodies used in the chromatin immunoprecipitation were anti-Ac-H3 antibody as a positive control (lanes 4, 11, and 18), anti-TRα1 (p/n 600-401-A38) antibody (lanes 5, 12, and 19), anti-TRβ1 (p/n 600-401-A96) antibody (lanes 6, 13, and 20), and anti-PV antibody (lanes 7, 14, and 21). The negative controls were no antibody (lanes 2, 9, and 16) as well as an irrelevant IgG (lanes 3, 10, and 17). The chromatin immunoprecipitated and recovered DNA was used as a template for PCR amplification of the receptor-binding region in the promoter of the C/ebpα gene. Two percent of the chromatin solution (20 µl) was used for input DNA as a control. Three separate experiments were performed, and the representative results are shown. Fig 6. PMID: 20080985



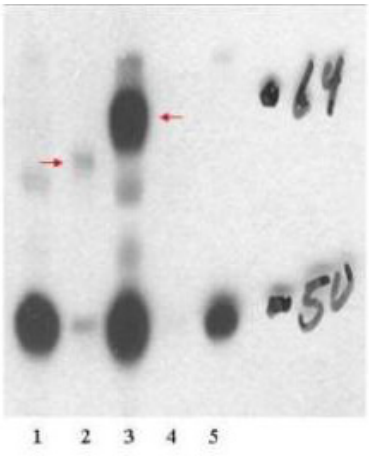
Immunoprecipitation

B, Coimmunoprecipitation assays were carried out as described in Materials and Methods. PV physically interacted with integrin-β1 (panel a), integrin-α5 (panel b), FN (panel c), p-Src (panel d), p-FAK (panel e), p85α (panel f), and p-AKT (panel g). An increased association of PV with the indicated regulators was observed in the thyroid of the ThrbPV/+-PTU mice (lane 4) as compared with the WT-PTU mice (lane 3). No apparent association of PV with the indicated key regulators was apparent in the thyroid of the untreated ThrbPV/+(lane 2) mice. Lane 5 shows the negative control when an irrelevant antibody, mouse monoclonal IgG MOPC-141, was used in the immunoprecipitation. Fig 7. PMID: 22919057



Immunofluorescence Microscopy

Immunofluorescence microscopy anti -THRB1 (Thyroid hormone receptor Beta 1) antibody 600-401-A96. Tissue: Mouse Dendritic cells. Primary antibody: Anti THRB1 1:100 1 hr PBS 3% BSA (left) Normal rabbit IgG isotype control (right). Secondary Ab: 488 dye conjugate 1:1000 1 hr. Mounting: Fluoromount-G (Southern Biotechnology Associates, Birmingham, AL) for examination. This image appeared originally in Mascanfroni, Ivan D ; del Mar Montesinos M; Alamino Vanina A. ; Susperreguy S, Nicola JP, Ilarregui JM, Masini-Repiso AM, Rabinovich GA, Pellizas CG (2010) Nuclear Factor (NF)-kappa B-dependent Thyroid Hormone Receptor beta(1) Expression Controls Dendritic Cell Function via Akt Signaling. Journal of Biological Chemistry 285 (13), 9569-9582. DOI: 10.1074/jbc.M109.071241 Published: MAR 26 2010. Copyright © 2010, by the American Society for Biochemistry and Molecular Biology.



Western Blot
Western blot using Rockland's affinity purified anti-THRB1 antibody shows detection of in vitro translated THRB1 (lane 2) and human thyroid stable cell line expressing THTRb1 (lane 3). No staining is evident in non transfected human thyroid cells (lane 1), over expressed THRA (lane 4) or HeLa stable cell line expressing THRA1 (lane 5). The band at ~62 kDa, indicated by the arrowheads, corresponds to THRB. Personal communication, H. Ying, NCI, Bethesda, MD

References

- Park JW et al. Loss of tyrosine phosphorylation at Y406 abrogates the tumor suppressor functions of the thyroid hormone receptor β. *Mol Carcinog.* (2017)
- Fozzatti L et al. Oncogenic actions of the nuclear receptor corepressor (NCOR1) in a mouse model of thyroid cancer. *PloS One* (2013)
- Zhao L et al. Role of TSH in the spontaneous development of asymmetrical thyroid carcinoma in mice with a targeted mutation in a single allele of the thyroid hormone-β receptor. *Endocrinology.* (2012)
- Mishra A et al. Adipogenesis is differentially impaired by thyroid hormone receptor mutant isoforms. *J Mol Endocrinol.* (2010)

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