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Datasheet for 600-401-A38

THRA Antibody

Overview

Description:	Anti-Thyroid Hormone Receptor alpha (THRA) (RABBIT) Antibody - 600-401-A38
Item No.:	600-401-A38
Size:	100 µg
Applications:	ELISA, WB, ChIP, IHC, Multiplex
Reactivity:	Human
Host Species:	Rabbit

Product Details

Background:	This 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. Thyroid hormone receptor alpha is a nuclear hormone receptor with high affinity for the hormone triiodo-thyronine. THRA 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 a certain extent of redundancy, may mediate different functions of thyroid hormone. THRA interacts with NCOA3 and NCOA6 co-activators, leading to a strong increase in transcription of target genes. THRA is localized within the nucleus and has been found to exist as 4 isoforms originating from alternative splicing variants. This antibody recognizes THRA isoform 1. Isoform 1 has a distinct C-terminus compared to isoform 2.
Synonyms:	rabbit anti-THRA antibody, rabbit anti-Thyroid hormone receptor alpha antibody, Nuclear receptor subfamily 1 group A member 1, c-erbA-alpha, c-erbA-1, V-erbA-related protein 7, EAR7, ERBA1, NR1A1, THRA1, THRA2
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	THRA
Reactivity:	Human

Immunogen Type:	Conjugated Peptide
Immunogen:	This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to a region near the amino terminus of human THRA isoform 1 protein.
Purity/Specificity:	This product was affinity purified from monospecific antiserum by immunoaffinity chromatography. This antibody reacts with human THRA protein. A BLAST analysis was used to suggest cross-reactivity with THRA from mouse, human and rat based on a 100% homology with the immunizing sequence. Cross-reactivity with THRA from other sources has not been determined.
Relevant Links:	• NCBI - 40806160 • UniProtKB - P10827-2 • GeneID - 7067

Application Details

Tested Applications:	ELISA, WB
Suggested Applications:	ChIP, IHC, Multiplex (Based on references)
Application Note:	This affinity purified antibody has been tested for use in ELISA and western blotting.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:300,000
IF:	1:200
IHC:	1:200
IP:	1:100
WB:	1:500 - 1:2,000

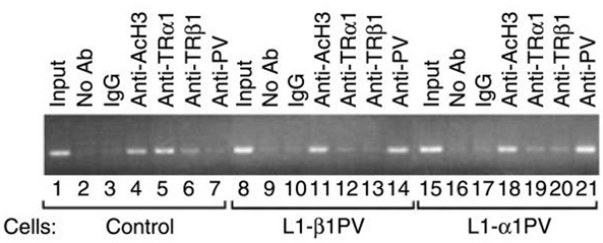
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1.0mg/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

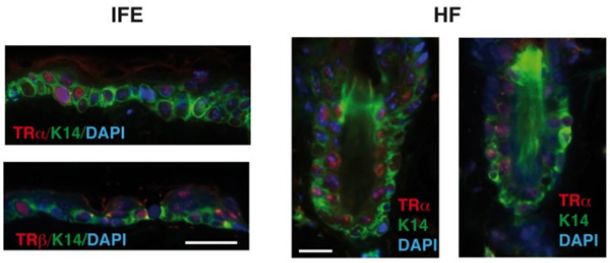
Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store vial 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.

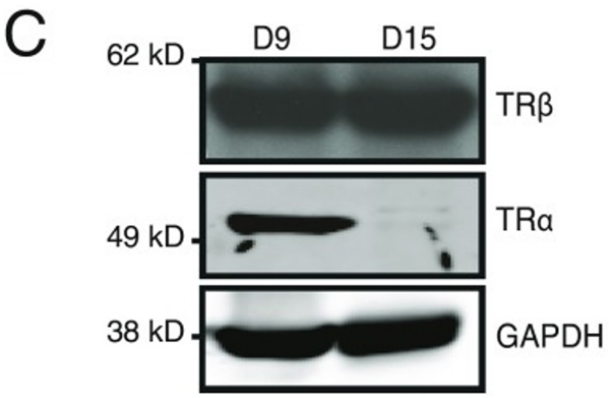
Images



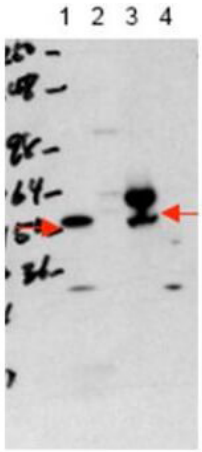
ChIP
Differential recruitment of TRβ1PV and TRα1PV to the promoter of the C/ebpα gene as determined by ChIP analysis. ChIP assays were performed using control 3T3-L1 (lanes 1–7), L1-β1PV (lanes 8–14), and L1-α1PV (lanes 15–21) cells after T3-induced adipogenesis on day 9. Antibodies used in the chromatin 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



Immunofluorescence Microscopy
Double immunofluorescence images of expression of keratin 14 (K14, green) with TRα or TRβ (red). Images were obtained from the interfollicular epidermis (IFE) and the hair follicles (HF) of wild-type mice. The slides were counterstained with DAPI (blue) and the merged images are shown. Bars: 50 µM. Fig 3. PMID: 25254665



Western Blot
(C) Western blotting demonstrating protein levels of TRα and TRβ in human erythroid cells at days 9 and 15 of culture. Fig 1. PMID: 28864529



Western Blot
Western blot using Rockland's affinity purified anti-THRA antibody shows detection of purified recombinant THRA (lane 1) and THRA present in a 293 cell lysate after transient transfection with THRA (lane 3). No staining is evident in lysates from mock-transfected 293 cells (lane 2). Endogenous THRA is not detected in mouse brain whole cell lysate (lane 4). Nuclear extracts may be required to detect endogenous THRA as the protein localizes within the nucleus. The band at ~55 kDa, indicated by the arrowhead, corresponds to THRA. Personal communication, S. Cheng and H. Ying, NCI, Bethesda, MD.

References

- Gao X et al. Thyroid hormone receptor beta and NCOA4 regulate terminal erythrocyte differentiation. *Proc Natl Acad Sci USA.* (2017)
- Contreras-Jurado C et al. Impaired hair growth and wound healing in mice lacking thyroid hormone receptors. *PloS One* (2014)
- Mishra A et al. Adipogenesis is differentially impaired by thyroid hormone receptor mutant isoforms. *J Mol Endocrinol.* (2010)

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