



# Anti-THRA monoclonal antibody, clone O504/74 (CABT-B1489)

This product is for research use only and is not intended for diagnostic use.

## PRODUCT INFORMATION

<b>Specificity</b>	Expected to react with all four spliced isoforms of human thyroid hormone receptor alpha reported by UniProt (P10827). It also cross-reacts with both spliced isoforms of human thyroid hormone receptor beta (UniProt P10828), but not potassium channel Kv2.1.
<b>Immunogen</b>	Recombinant full-length human thyroid hormone receptor Alpha-1 isoform.
<b>Isotype</b>	IgG2b, κ
<b>Source/Host</b>	Mouse
<b>Species Reactivity</b>	Human, Rat, Mouse
<b>Clone</b>	O504/74
<b>Purification</b>	Protein G Purified
<b>Conjugate</b>	Unconjugated
<b>Applications</b>	IHC-P, WB
<b>Format</b>	Liquid
<b>Concentration</b>	Please refer to lot specific datasheet.
<b>Size</b>	100 µg
<b>Buffer</b>	0.1 M Tris-Glycine (pH 7.4), 150 mM NaCl with 0.05% sodium azide.
<b>Preservative</b>	0.05% Sodium Azide
<b>Storage</b>	Stable for 1 year at 2-8°C from date of receipt.

# BACKGROUND

## Introduction

Thyroid hormone receptor alpha (UniProt P10827; also known as Nuclear receptor subfamily 1 group A member 1, V-erbA-related protein 7, EAR-7, c-erbA-1, c-erbA-alpha) is encoded by the THRA (also known as CHNG6, EAR7, ERBA, ERBA1, NR1A1, THRA1, THRA2) gene (Gene ID 7067) in human. Thyroid hormone receptors (THRs) bind to short, repeated sequences of DNA known as T3 response elements (TREs) and mediate thyroid hormone (TH) regulated gene transcriptions. THRs belong to the super family of single chain nuclear receptors with similar folded domain structures, including an N-terminal domain (A–B domain), a central DNA-binding domain (DBD), and a C-terminal ligand-binding domain (LBD). The LBD dictates ligand specificity and modulates homodimerization or heterodimerization with other family members. The DBDs of all THRs are highly homologous and each of these proteins can form heterodimers and homodimers. All THRs contain activation 1 (AF-1) region in the A–B domain; THR $\alpha$ 1 and THR $\beta$ 1-3 also contain a C-terminal AF-2 domain. THR $\alpha$ 1 and THR $\alpha$ 2 are truncated splice variants that do not contain AF-2 and do not bind the active TH form T3. In the absence of T3, THR recruits a co-repressor, such as N-CoR or N-CoR2.46, to the TRE sites, resulting in target transcription suppression as a result of co-repressor-mediated chromatin epigenetic modification. Upon T3 binding, the co-repressors are released, leading to the exposure of the AF-2 domain and recruitment of co-activators, such as SRC-1, that induce gene transcriptions by inducing chromatin remodeling and alter the DNA conformation.

# GENE INFORMATION

Entrez Gene ID	<a href="#">7067</a>
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UniProt ID	<a href="#">P10827</a>
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