

Active Recombinant Human THR β

Cat. No. THRB-1200H **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Species Human

Source E.coli

Description

Nuclear receptors form the largest known family of transcription factors and have a crucial role in nearly all aspects of vertebrate development and adult physiology by transducing the effects of hormones into transcriptional responses. The family is defined by two domains: (a) the central, highly conserved, DNA-binding domain (DBD) of approx. 66 amino acids, and (b) the C-terminal, structurally conserved, ligand-binding domain (LBD) of approx. 250 amino acids. The aminoterminal regions are least conserved among nuclear receptor sequences. This domain is highly divergent between TR α and TR β isoforms, which suggests differential roles in transcriptional regulation. In addition, alternative splicing of the TR β gene generates two isoforms, TR β 1 and TR β 2 with completely different aminoterminal domains. Unliganded TR inhibits the formation of a functional pre-initiation complex, through direct interaction with TBP and transcription factor IIB. In addition, in the absence of ligand TR has been shown to repress transcription through recruitment of a corepressor complex, which also includes Sin3A and histone deacetylase. Ligand binding releases the corepressor complex and recruits a coactivator complex that includes multiple histone acetyltransferases, including a steroid receptor family coactivator, p300/CREB-binding protein-associated factor (PCAF), and CREB binding protein (CBP). Recombinant TR is isolated from an *E. coli* strain that carries the coding sequence of the human

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	TRβ1 isoform under the control of a T7 promoter.
Form	Liquid. Supplied in 20 mM Tris-HCl, pH 8.0, 20% Glycerol, 100 mM KCl, 1 mM DTT, 0.2 mM EDTA.
Purity	> 95% by SDS-PAGE.
Activity	20 ng are sufficient for reconstituted transcription assay and 100 ng are sufficient for a protein-protein interaction assay.
Application	TR has been applied in reconstituted in vitro transcription assays, protein-protein interaction assays and chromatin remodeling assays.
Usage	For in vitro use only.
Storage	Quality guaranteed for 12 months store at -80°C. Avoid freeze / thaw cycles.

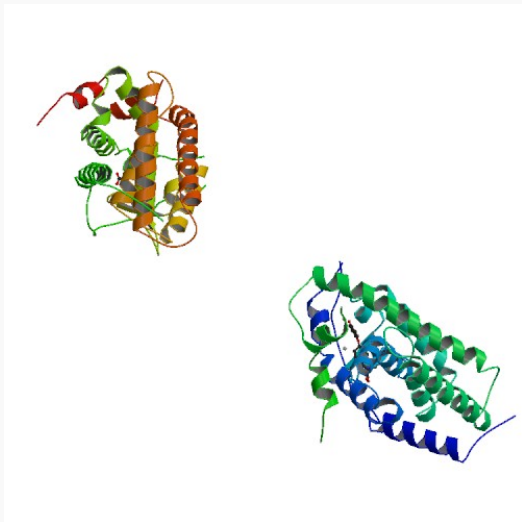
GENE INFORMATION

Gene Name	THRB thyroid hormone receptor, beta (erythroblastic leukemia viral (v-erb-a) oncogene homolog 2, avian) [Homo sapiens]
Synonyms	THRB; thyroid hormone receptor, beta (erythroblastic leukemia viral (v-erb-a) oncogene homolog 2, avian); GRTH; PRTH; THR1; ERBA2; NR1A2; THRB1; THRB2; ERBA-BETA; MGC126109; MGC126110; thyroid hormone receptor, beta; oncogene ERBA2; OTTHUMP00000208475; OTTHUMP00000208531; thyroid hormone receptor beta 1; thyroid hormone receptor beta isoform; avian erythroblastic leukemia viral (v-erb-a) oncogene homolog 2; Nuclear receptor subfamily 1 group A member 2; thyroid hormone receptor, beta (avian erythroblastic leukemia viral (v-erb-a) oncogene homolog 2)

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Gene ID	7068
mRNA Refseq	NM_000461
Protein Refseq	NP_000452
MIM	190160
UniProt ID	P10828
Chromosome Location	3p24.1-p22
Pathway	Neuroactive ligand-receptor interaction
Function	metal ion binding; protein binding; sequence-specific DNA binding; steroid hormone receptor activity; thyroid hormone receptor activity; transcription corepressor activity; transcription factor activity; zinc ion binding
PDB rendering based on 1bsx.	

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