Active Recombinant Human THRB

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

SPECIFICATION

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 TRα and TRβ isoforms, which suggests differential roles in transcriptional regulation. In addition, alternative splicing of the TRβ gene generates two isoforms, TRβ1 and TRβ2 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 TRβ1 isoform under the control of a T7 promoter.

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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)
Gene ID	7068

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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

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