

Active Recombinant Human THRA, GST-tagged

Cat. No. THRA-1199H **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 amino-terminal 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 GST-TR is isolated from an *E. coli* strain that carries the coding sequence of the human

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	TRα1 under the control of a T7 promoter.
Form	Liquid. Supplied in 20 mM Tris-HCl pH 8.0, 100 mM KCl, 0.2 mM EDTA, 1 mM DTT and 20% glycerol.
Purity	> 95% by SDS-PAGE.
Application	GST-TRα1 has been applied in DNA and protein-protein interaction assays.
Activity	100 ng are sufficient for a protein-protein interaction assay.
Usage	For in vitro use only.
Storage	Quality guaranteed for 12 months store at -80°C. Avoid freeze / thaw cycles.

GENE INFORMATION

Gene Name	THRA thyroid hormone receptor, alpha (erythroblastic leukemia viral (v-erb-a) oncogene homolog, avian) [Homo sapiens]
Synonyms	THRA; thyroid hormone receptor, alpha (erythroblastic leukemia viral (v-erb-a) oncogene homolog, avian); AR7; EAR7; ERBA; ERBA1; NR1A1; THRA1; THRA2; ERB-T-1; MGC43240; c-ERBA-1; MGC000261; thyroid hormone receptor, alpha; ERBA-related 7; triiodothyronine receptor; thyroid hormone receptor alpha; avian erythroblastic leukemia viral (v-erb-a) oncogene homolog; EAR-7.1/EAR-7.2; THRA3; C-erbA-alpha; EAR-7; OTTHUMP00000164470; c-erbA-1; Nuclear receptor subfamily 1 group A member 1
Gene ID	7067
mRNA Refseq	NM_003250

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Protein Refseq	NP_003241
MIM	190120
UniProt ID	P10827
Chromosome Location	17q21.1
Pathway	Neuroactive ligand-receptor interaction
Function	protein binding; protein heterodimerization activity; protein homodimerization activity; single-stranded RNA binding; steroid hormone receptor activity; thyroid hormone receptor activity; transcription activator activity; transcription factor activity; transcription repressor activity; zinc ion binding; metal ion binding; promoter binding
PDB rendering based on 1nav.	