



LD Biopharma, Inc.
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<http://www.ldbiopharma.com>

- PRODUCT DATA SHEET -

Name of Product: Recombinant Human THRβ Protein
Catalog Number: hNR-0467
Manufacturer: LD Biopharma, Inc.

Introduction

The protein encoded by human thyroid hormone receptor beta (THRβ) gene is a nuclear hormone receptor for triiodothyronine. It 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 certain extent of redundancy, may mediate different functions of thyroid hormone. Mutations in this gene are known to be a cause of generalized thyroid hormone resistance (GTHR), a syndrome characterized by goiter and high levels of circulating thyroid hormone (T3-T4), with normal or slightly elevated thyroid stimulating hormone (TSH).

Full length recombinant human THRβ cDNA (461aa, derived from BC106930) was codon optimized at N-terminal for E.coli expression, constructed with N-terminal tag of 31 aa T7/His/TEV cleavage site as fusion protein. This protein was expressed in E. coli as inclusion bodies, refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified. This protein can be used for in vitro functional assay development or protein 3D study applications.

Gene Symbol: THRβ (NR1A2; ERBA2; GRTH; THR1)
Accession Number: NP_000452
Species: Human
Size: 20 µg / Vial
Composition: 0.1 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, arginine, DTT and Glycerol.
Storage: In Liquid. Keep at -20°C for long term storage. Product is stable at 4 °C for at least 7 days.



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Key References

Lee,S., et al. *A mechanism for pituitary-resistance to thyroid hormone (PRTH) syndrome: a loss in cooperative coactivator contacts by thyroid hormone receptor (TR)beta2.* Mol. Endocrinol. 25 (7), 1111-1125 (2011)

Zhu,X.G., et al. *NCoR1 regulates thyroid hormone receptor isoform-dependent adipogenesis.* J. Mol. Endocrinol. 46 (3), 233-244 (2011)

Applications

1. As soluble active recombinant protein, may be used for in vitro THRβ protein functional study of thyroid hormone pathway regulation.
2. As active protein, may be used for EMSA based DNA / protein binding assay.
3. As protein substrate for kinase or ubiquitin enzymatic assay.
4. As immunogen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGFELTPNSMTENGLTAWDKPKHCPDREHDWKLVGMSE
ACLHRKSHSERRSTLKNEQSSPHLIQTTWTSSIFHLDDHDDVNDQSVSSAQTTFQTEKKCKGYIP
SYLDKDEL CVVCGDKATGYHYRCITCEGCKGFFRRTIQKNLHPSYSCKYEGKVIDKVTRNQCQ
ECRFKKCIYVGMATDLVLDDSKRLAKRKLIEENREKRRREELQKSI GHKPEPTDEEWELIKTVT
EAHVATNAQGS HWKQKRKFLPEDIGQAPIVNAPEGGKVDLEAF SHFTKIITPAITRVVDFAKKL
PMFCELP CEDQI ILLKGCCMEIMSLRAAVRYDPESETLTLNGEMAVTRGQLKNGGLGVVSDAIF
DLGMSLSSFNLD DTEVALLQAVLLMSSDRPGLACVERIEKYQDSFLLAFEHYINRKH HVTHFW
PKLLMKVTDLRMIGACHASRFLHMKVECPTELPPLFLEVFED