



RayBiotech, Inc.

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Certificate of Analysis and Data Sheet

Recombinant Human Thyroid Peroxidase

Catalog No.
IP-15-285P

Source
Sf9 insect cells.

Synonyms

Thyroid peroxidase, EC 1.11.1.8, TPO, MSA, TPX.

Introduction

Thyroid Peroxidase (TPO) represents one of the main autoantigenic targets in autoimmune thyroid disease of humans. Its identity with the formerly so-called `microsomal antigen` has been shown several years ago. As an integral membrane glycoprotein it is restricted to the apical plasma membrane of the follicular epithelial cells and comprises two identical subunits of approx. 100 kDa molecular weight. The hemoprotein TPO plays a key role in the thyroid hormone biosynthesis by catalyzing both the iodination of tyrosyl residues and the coupling of iodotyrosyl residues in thyroglobulin (TG) to form precursors of the thyroid hormones T4 and T3.

Description

Thyroid Peroxidase Human Recombinant produced in SF9 is a glycosylated, polypeptide chain containing 834 amino acids and having a molecular mass of 92,872 Dalton (excluding glycosylation), 101 kDa total mass. The TPO is expressed with a -6xHis tag and purified by proprietary chromatographic techniques.

Formulation

TPO is supplied in 16mM HEPES pH-7.6, 160mM NaCl, 0.08mM KI and 20% glycerol.

Immunological Function

1. Binds IgG-type human auto-antibodies.
2. Auto-antibodies to TPO recognize conformation-dependent epitopes.
3. Standard ELISA test (checker-board analysis of positive/negative sera panels, including international reference serum NIBSC 66/387).

Purity

Greater than 95% as determined by SDS-PAGE.

**The products are furnished for LABORATORY RESEARCH USE ONLY.
Not for diagnostic or therapeutic use.**



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Applications

Western Blot: With monoclonal anti-TPO antibody and monoclonal anti-hexa-His-tag antibody.

ELISA: 0.15-0.375 $\mu\text{g/ml}$ (depending on the type of ELISA plate and coating buffer). Suitable for biotinylation and iodination.

Stability

Store at 4°C if entire vial will be used within 2-4 weeks.

Store, frozen at -20°C for longer periods of time.

Avoid multiple freeze-thaw cycles.

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