# Thyroglobulin Antibody / Rabbit Monoclonal [clone TG157-3R] (V3734)

| Catalog No. | Formulation | Size |
|---|---|---|
| V3734-100UG | 0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide | 100 ug |
| V3734-20UG | 0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide | 20 ug |
| V3734SAF-100UG | 1 mg/ml in 1X PBS; BSA free, sodium azide free | 100 ug |
| V3734IHC-7ML | Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only* | 7 ml |

Recombinant RABBIT MONOCLONAL

**Bulk quote request**

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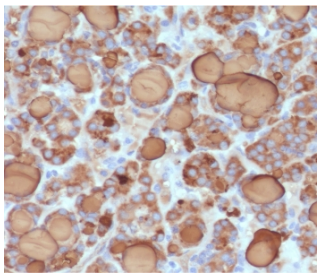
|---|---|
| **Availability** | 1-3 business days |
| **Species Reactivity** | Human. Other species not known. |
| **Format** | Purified |
| **Host** | Rabbit |
| **Clonality** | Recombinant Rabbit Monoclonal |
| **Isotype** | Rabbit IgG, kappa |
| **Clone Name** | TG157-3R |
| **Purity** | Protein A affinity chromatography |
| **UniProt** | P01266 |
| **Localization** | Cytoplasmic, secreted |
| **Applications** | Immunohistochemistry (FFPE) : 0.5-1ug/ml for 30 min at RT<br>Prediluted IHC Only Format : incubate for 30 min at RT (1) |
| **Limitations** | This Thyroglobulin antibody is available for research use only. |



Immunohistochemistry analysis of Thyroglobulin antibody in human thyroid carcinoma tissue (clone TG157-3R). FFPE human thyroid carcinoma sections demonstrate strong HRP-DAB brown cytoplasmic staining in tumor epithelial cells arranged in follicular structures, consistent with Thyroglobulin localization in differentiated thyroid cells. Prominent dense brown chromogenic signal is observed within luminal colloid material, reflecting abundant secreted Thyroglobulin. Tumor cell cytoplasm shows diffuse granular positivity, while surrounding stromal elements exhibit minimal staining. Nuclear hematoxylin counterstain is visible in blue. Heat induced epitope retrieval was performed in 10 mM Tris with 1 mM EDTA, pH 9.0, by boiling tissue sections for 10-20 minutes followed by cooling at room temperature for 20 minutes prior to antibody incubation.

## Description

Thyroglobulin antibody recognizes Thyroglobulin, a large dimeric glycoprotein encoded by the TG gene that is synthesized exclusively by thyroid follicular epithelial cells. Thyroglobulin serves as the essential precursor for thyroid hormone production and is a major structural component of the colloid within thyroid follicles. It provides the scaffold for iodination of tyrosine residues and subsequent coupling reactions that generate the thyroid hormones thyroxine and triiodothyronine, which regulate systemic metabolism, growth, and development.

Thyroglobulin is synthesized in the rough endoplasmic reticulum as a high molecular weight precursor, undergoes extensive glycosylation and folding in the Golgi apparatus, and is secreted into the follicular lumen where it accumulates as colloid. Upon stimulation by thyroid stimulating hormone, iodinated Thyroglobulin is endocytosed back into follicular cells and proteolytically processed within lysosomes to release active thyroid hormones into the circulation. Because of this tightly regulated biosynthetic pathway, Thyroglobulin expression is highly restricted to differentiated thyroid epithelium under normal physiological conditions.

In research and pathology settings, Thyroglobulin antibody is widely used to evaluate thyroid lineage differentiation. Expression is typically retained in well differentiated thyroid neoplasms such as papillary thyroid carcinoma and follicular thyroid carcinoma, while reduced or absent expression may be observed in poorly differentiated or anaplastic thyroid cancers. The presence of Thyroglobulin can therefore serve as an indicator of preserved follicular cell phenotype in tumor biology studies.

Subcellularly, Thyroglobulin localizes predominantly to the cytoplasm of thyroid follicular cells and is abundant within follicular lumina as secreted colloid material. Because of its tissue-restricted expression pattern and functional importance in endocrine physiology, Thyroglobulin antibody is a valuable tool for studying thyroid development, hormone biosynthesis pathways, and neoplastic transformation in thyroid tissues. A Thyroglobulin antibody can be used in research applications to detect TG protein expression in models of thyroid function and thyroid carcinoma.

## Application Notes

Optimal dilution of the Thyroglobulin antibody should be determined by the researcher.

1. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

## Immunogen

Human thyroid follicular cells were used as the immunogen for the Thyroglobulin antibody.

## Storage

Store the Thyroglobulin antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).