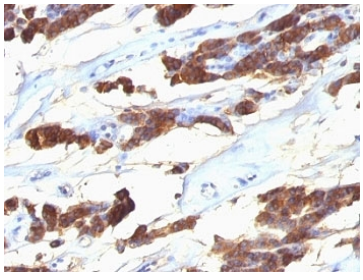
Thyroglobulin Antibody Clone SPM221 / TG Antibody [clone SPM221] (V9083)

Catalog No.	Formulation	Size
V9083-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V9083-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V9083SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V9083IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	SPM221
Purity	Protein G affinity chromatography
UniProt	P01266
Localization	Cytoplasmic and secreted
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This anti-Thyroglobulin antibody is available for research use only.



Thyroglobulin Antibody Clone SPM221. Immunohistochemistry analysis of Thyroglobulin using Thyroglobulin Antibody Clone SPM221 in FFPE human thyroid carcinoma tissue section. HRP-DAB brown chromogenic staining highlights cytoplasmic signal in thyroid follicular tumor cells, with staining observed in tumor cell clusters consistent with follicular epithelial differentiation. The staining pattern aligns with the known expression of Thyroglobulin in differentiated thyroid follicular epithelium and thyroid-derived carcinomas.

Description

Thyroglobulin (TG) is a large secreted glycoprotein synthesized by thyroid follicular epithelial cells and stored in the follicular lumen of the thyroid gland where it serves as the precursor for thyroid hormone synthesis. The TG gene located on chromosome 8q24 encodes a heavily glycosylated protein that undergoes extensive folding, post-translational modification, and proteolytic processing during thyroid hormone biosynthesis. Because thyroglobulin production is largely restricted to thyroid follicular epithelium, TG protein expression is widely used as a marker of thyroid lineage and thyroid follicular cell differentiation. Thyroglobulin Antibody Clone SPM221 is therefore commonly used to detect Thyroglobulin expression in thyroid tissues and experimental systems investigating thyroid gland biology.

Within the thyroid gland, thyroglobulin is synthesized in the rough endoplasmic reticulum of thyroid follicular epithelial cells and transported through the Golgi apparatus before secretion into the follicular lumen. In the follicular colloid, TG functions as the substrate for iodination reactions that generate the thyroid hormones thyroxine and triiodothyronine. These biochemical processes require complex enzymatic modification of the thyroglobulin precursor protein and reflect the specialized endocrine function of thyroid follicular epithelial cells. Detection of Thyroglobulin protein therefore provides a useful tool for studying thyroid follicular cell differentiation and the molecular regulation of thyroid hormone synthesis.

Thyroglobulin Antibody Clone SPM221 is a mouse monoclonal antibody developed for detection of TG protein in studies examining thyroid follicular epithelial cell biology. Antibodies targeting TG are widely used in tissue-based analyses investigating thyroid gland structure, endocrine signaling pathways, and mechanisms regulating thyroid follicular cell differentiation. Because thyroglobulin production reflects the functional activity of thyroid follicular epithelial cells, TG expression is frequently examined in studies exploring thyroid physiology and thyroid tumor biology.

Alterations in Thyroglobulin expression may occur in thyroid tumors where changes in thyroid follicular cell differentiation influence TG production. Well differentiated thyroid carcinomas frequently retain TG expression, while poorly differentiated thyroid tumors may show reduced thyroglobulin expression as follicular cell identity becomes disrupted. Detection of TG protein using Thyroglobulin Antibody Clone SPM221 therefore provides an informative approach for studying thyroid lineage markers, thyroid tumor differentiation status, and molecular mechanisms regulating thyroid follicular epithelial cell function.

Application Notes

The optimal dilution of the Thyroglobulin Antibody Clone SPM221 for each application should be determined by the researcher.

1. Staining of formalin-fixed tissues requires boiling tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min followed by cooling at RT for 20 minutes.
2. 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 this Thyroglobulin Antibody Clone SPM221.

Storage

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

Alternate Names

TG antibody, Thyroglobulin protein antibody, Thyroid hormone precursor protein antibody, Thyroid follicular cell marker

antibody

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