



## Mouse anti-Thyroglobulin

**Cat. No.: MSK039 (1 ml Concentrate); MSK039-05 (0.5 ml Concentrate);  
MSG039 (6 ml Ready-to-use)**

### Instructions for use

#### Intended use

This cocktail of monoclonal antibodies is designed for the specific localisation of thyroglobulin in formalin-fixed, paraffin-embedded tissue sections. Anti-thyroglobulin antibody is intended for in vitro diagnostic use.

#### Specifications

<b>Specificity:</b>	Human Thyroglobulin
<b>Clone:</b>	2H11 & 6E1
<b>Isotype:</b>	Mouse IgG1 $\kappa$
<b>Species reactivity:</b>	Human +, others not tested

#### Summary and Description

Thyroglobulin is mainly present as a homodimer with a molecular weight of 660 kDa, in smaller amounts as a 330 kDa monomer or as a tetramer. It is synthesised by thyrocytes and secreted through the apical membrane into the lumen of the thyroid gland. Thyroglobulin is the main component of the colloid.

All follicular neoplasias and papillary carcinomas of the thyroid gland show immunopositivity for thyroglobulin, poorly differentiated thyroid gland carcinomas only for about 50 %.

The major role of thyroglobulin antibodies is the identification of primary and metastatic thyroid carcinomas. In combination with calcitonin it is also useful to identify medullary carcinomas of the thyroid gland. The combined detection of thyroglobulin and TTF-1 (thyroid transcription factor-1) allows for the discrimination of thyroid gland or lung as the organ of the primary tumour.

#### Reagent provided

Monoclonal antibody cocktail from cell culture supernatant in TBS with carrier protein and preservative for stabilisation in the following formats:

<b>Concentrate:</b>	1 ml	(Cat. No. MSK039)
<b>Concentrate:</b>	0.5 ml	(Cat. No. MSK039-05)
<b>Ready-to-use:</b>	6 ml	(Cat. No. MSG039)

#### Dilution of primary antibody

Dilution of Zytomed Systems' concentrated antibody depends on the detection system used. The final working dilution must always be determined by the user. The elaboration of staining protocol should be done by an experienced specialist. For Zytomed Systems' recommendations see chapter 'Staining procedure'.

#### Storage and handling

The antibody should be stored at 2-8°C without further dilution.

Dilutions of the concentrated antibody should be done with a suitable antibody dilution buffer (e.g. ZUC025 from Zytomed Systems). The diluted antibody should be stored at 2-8°C after use. Stability of this working solution depends on various parameters and has to be confirmed by appropriate controls.

The antibody provided is suitable for use until the expiry date indicated on the label, if stored at 2-8°C. Do not use product after the expiry date. Positive and negative controls should be run simultaneously with all specimens. If unexpected staining is observed which cannot be explained by variations in laboratory procedures and a problem with the antibody is suspected, contact Zytomed Systems' technical support or your local distributor.

#### Precautions

Use through qualified personnel only.

Wear protective clothing to avoid contact of reagents and specimens with eye, skin and mucous membranes. If reagents or specimens come in contact with sensitive area, wash with large amounts of water.

Microbial contamination of the reagent must be avoided, since otherwise non-specific staining may occur.

Sodium azide ( $\text{NaN}_3$ ), used for stabilisation, is not considered hazardous material in the concentration used. Reaction of sodium azide with lead or copper in drainage pipes can result in the formation of highly explosive metallic azides. Sodium azide should be discarded in a large volume of running water to avoid formation of deposits. Material safety data sheets (MSDS) are available upon request.

### Staining procedure

Refer to the following table for conditions specifically recommended for this antibody. Also refer to detection system data sheets for guidance on specific staining protocols or other requirements.

Parameters	Zytomed Systems recommendations
*Pre-treatment	Heat Induced Epitope Retrieval (for example in Citrate Buffer pH 6.0)
*Control tissue	Thyroid gland
*Working dilution	1:100 - 1:200 (for concentrates)
*Incubation time	60 minutes

### Quality control

The recommended positive control tissue for this antibody is thyroid gland tissue. We recommend carrying out a positive and a negative control with every staining run. Please refer to the instructions of the detection system for guidance on general quality control procedures.

### Troubleshooting

If you observe unusual staining or other deviations from the expected results please read these instructions carefully, refer to the instructions of the detection system for relevant information or contact your local distributor.

### Expected results

This antibody stains positive in the lumen of thyroid follicles and apical inside the thyrocytes in formalin-fixed, paraffin-embedded tissue sections. In carcinomas a diffuse positive staining is also seen in the cytoplasm of thyrocytes. Further details about the expression pattern of thyroglobulin can be found in the chapter 'Summary and Description'. Interpretation of the staining results is solely the responsibility of the user. Any experimental result should be confirmed by a medically established diagnostic procedure.

### Limitations of the Procedure

Immunohistochemistry is a complex technique involving both histological and immunological detection methods. Tissue processing and handling prior to immunostaining, for example variations in fixation and embedding or the inherent nature of the tissue can cause inconsistent results (Nadji and Morales, 1983). Endogenous peroxidase, pseudoperoxidase activity in erythrocytes or biotin may cause non-specific staining depending on the detection system used. Tissues containing Hepatitis B Surface Antigen (HBsAg) may give false positive results with HRP (horse radish peroxidase) detection systems (Omata *et al*, 1980). Inadequate counterstaining and mounting can influence the interpretation of the results.

Zytomed Systems warrants that the product will meet all requirements described from its shipping date until the expiry date is reached, if the product is stored and utilised as recommended. No additional guarantees can be given. Under no circumstances shall Zytomed System be liable for any damages arising out of the use of the reagent provided.

### Performance characteristics

Zytomed Systems has conducted studies to evaluate the performance of the antibody for use with a standard detection system. The product has been found to be sensitive and specific to the antigen of interest with minimal or no cross-reactivity.

### Bibliography

Pilotti S *et al*. Am J Surg Pathol 18:1054-1064, 1994  
Keen CE *et al*. Histopathol 34:113-117, 1999  
Nadji M and Morales AR Ann N.Y. Acad Sci 420:134-9, 1983

Bejarano PA *et al*. Appl Immunohistochem Mol Morphol 8:189-194, 2000  
Omata M *et al*. Am J Clin Pathol 73(5): 626-32, 1980



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#### Explanations of the symbols on the product label

Symbols are used in accordance with ISO 15223-1. Further symbols on the product label might be:



GSH07: Warning / Attention

RUO

For Research Use Only