Monoclonal Mouse Anti-Human Thyroglobulin
Clone DAK-Tg6
Code No. M 0781

Intended use
For in vitro diagnostic use.

Monoclonal Mouse Anti-Human Thyroglobulin, Clone DAK-Tg6, is intended for use in immunocytochemistry. The antibody labels thyroglobulin in thyroid tissue and is a useful tool for the identification of well differentiated thyroid carcinomas (1). Differential identification is aided by the results from a panel of antibodies. Interpretation must be made within the context of the patient’s clinical history and other diagnostic tests by a qualified pathologist.

Introduction
Thyroglobulin (Tg) is a glycoprotein, with a predominant form as a 660 kDa homodimer. Tg, the precursor of thyroid hormones, is synthesized by thyrocytes and transported to the apical surface where it is secreted into the lumen of thyroid follicles and stored as the major component of colloid (> 95%). A minor proportion of Tg is found as 330 kDa monomers or as tetramers. Reduction or degradation of 660 kDa or 330 kDa Tg molecules can lead to the formation of smaller polypeptides, some of which are present in trace amounts in the colloid. At the cell-colloid interface, post-transitional modifications of Tg occur, which are characterized by coupling of tyrosyl residues with iodide, leading to the formation of thyroid hormone residues within the Tg molecule. Hormone release generally requires uptake of Tg from the colloid by thyrocytes and proteolytic cleavage along the lysosomal pathway (2).

Reagent provided
Monoclonal mouse antibody provided in liquid form as cell culture supernatant dialysed against 0.05 mol/L Tris/HCl, pH 7.2, and containing 15 mmol/L NaN3.

Clone: DAK-Tg6. Isotype: IgG1, kappa.
Mouse IgG concentration mg/L: See label on vial.

Immunogen
Purified human thyroglobulin.

Specificity
In Western blotting and indirect ELISA the antibody reacts strongly with thyroglobulin.

Precautions
1. For professional users.
2. This product contains sodium azide (NaN3), a chemical highly toxic in pure form. At product concentrations, though not classified as hazardous, sodium azide may react with lead and copper plumbing to form highly explosive build-ups of metal azides. Upon disposal, flush with large volumes of water to prevent metal azide build-up in plumbing.
3. As with any product derived from biological sources, proper handling procedures should be used.

Storage
Store at 2-8 °C. Do not use after expiration date stamped on vial. If reagents are stored under any conditions other than those specified, the user must verify the conditions. There are no obvious signs to indicate instability of this product. Therefore, positive and negative controls should be run simultaneously with patient specimens. If unexpected staining is observed which cannot be explained by variations in laboratory procedures and a problem with the antibody is suspected, contact our Technical Services.

Specimen preparation
Paraffin sections: The antibody can be used for labelling paraffin-embedded tissue sections fixed in formalin or Bouin’s fixative (3). Pre-treatment of tissues with proteinase K or heat-induced epitope retrieval is recommended. For heat-induced epitope retrieval of tissues fixed in formalin, optimal results are obtained with Dako Target Retrieval Solution, code No. S 1700, Dako Target Retrieval Solution, High pH, code No. S 3308, 10 mmol/L citrate buffer, pH 6.0, or 10 mmol/L Tris buffer, 1 mmol/L EDTA, pH 9.0. The tissue sections should not dry out during the treatment or during the following immunocytochemical staining procedure.

Staining procedure
Dilution: Monoclonal Mouse Anti-Human Thyroglobulin, code No. M 0781, may be used at a dilution range of 1:100-1:200 when applied on formalin-fixed, paraffin-embedded sections of human thyroid tissue and using 20 minutes heat-induced epitope retrieval in Dako Target Retrieval solution, code No. S 1700, and 30 minutes incubation at room temperature with the primary antibody. Optimal conditions may vary depending on specimen and preparation method, and should be determined by each individual laboratory. The recommended negative control is Dako Mouse IgG1, code No. X 0931, diluted to the same mouse IgG concentration as the primary antibody. Unless the stability of the diluted antibody and negative control has been established in the actual staining procedure, it is recommended to dilute these reagents immediately before use, or dilute in Dako Antibody Diluent, code No. S 0809. Positive and negative controls should be run simultaneously with patient specimen.

Visualization: DAKO LSAB™+/HRP kit, code No. K 0679, and DAKO EnVision™+/HRP kits, code Nos. K 4004 and K 4006, are recommended. Follow the procedure enclosed with the selected visualization kit.

Performance characteristics
Cells labelled by the antibody display staining confined to the lumen of thyroid follicles and the apical surface of thyrocytes. In carcinomas, the antibody may also label the thyrocyte cytoplasm in addition to the extracellular labelling of the colloid (1).

Normal tissues: The antibody labels Tg in thyroid follicles and at the apical surface of thyrocytes.
Abnormal tissues: In primary tumours of the thyroid gland, the antibody labelled 8/8 papillary, 6/6 oncocytic cell, 4/7 poorly differentiated, and 3/4 follicular carcinomas, as well as 6/6 follicular, and 5/6 oncocytic adenomas. No labelling was observed in 4/4 cases of anaplastic and 2/2 cases of medullary carcinomas. In metastases of thyroid tumours, the antibody labelled 9/9 papillary, and 1/3 poorly differentiated tumours, whereas no labelling was observed in 3 cases of medullary and one case of anaplastic tumours (1).

References

Explanation of symbols

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<tr>
<th>REF</th>
<th>Catalogue number</th>
<th>0-8°C</th>
<th>Temperature limitation</th>
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<tbody>
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<td>IVD</td>
<td>In vitro diagnostic medical device</td>
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