

Bio-Rad Laboratories  
The Clear Choice in Autoimmune Testing

# Anti-rTPO

## Autoimmune EIA

### Simple, Objective, Sensitive, Specific

Bio-Rad offers the most comprehensive menu of EIA assays available today, with a constantly expanding menu that includes new clinically relevant assays.

Using recombinant human TPO antigen, the Bio-Rad Kallestad™ Anti-Thyroid Peroxidase (anti-TPO) test is a quantitative/qualitative enzyme-linked immunosorbent assay (ELISA) for the detection of the IgG class of autoantibodies specific for thyroid peroxidase in human serum or EDTA, heparin or citrated plasma. It is intended to aid in the multicriterion diagnostic process of autoimmune thyroid disorders.

### Product Highlights

- Common assay protocol and reagents
- Color-coded breakaway wells
- Quantitative and qualitative result interpretations
- Easy-to-automate

### Clinical Utility

Autoimmune thyroid disorders encompass autoimmune destruction and stimulation; both states are associated with predominantly IgG local and circulating thyroid autoantibodies.

Trotter et al<sup>1</sup> and Roitt et al<sup>2</sup> subsequently showed that many patients with advanced thyroiditis had antibodies for a thyroid antigen distinct from Tg (Thyroglobulin). This was termed thyroid microsomal antigen (TMA). Considerable evidence indicates that TMA is antigenically related to thyroid peroxidase (TPO), a membrane-bound glycoprotein enzyme with an approximate mass of 101kD, whose in vivo function is the iodination of tyrosine in the synthesis of the thyroid hormones T3 and T4. Anti-TPO antibodies are found, often in conjunction with anti-thyroglobulin autoantibodies, in the majority of Hashimoto's Thyroiditis, Graves' disease and in cases of Primary Myxoedema. The relationship of autoimmune thyroid disease

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# Anti-Thyroid Peroxidase (rTPO)

in pregnancy has been the subject of considerable interest, with the demonstration of TPO antibodies in most cases of post-partum thyroid disease syndrome<sup>3-6</sup> and the association of thyroid autoantibodies with increased miscarriage risk.<sup>7</sup> Anti-TPO antibodies are found in other non-thyroid conditions, e.g. pernicious anemia,<sup>8,9</sup> diabetes mellitus,<sup>10,11</sup> rheumatoid arthritis,<sup>12</sup> Addison's disease<sup>11</sup> and Sjögren's Syndrome.<sup>9</sup> In addition, anti-TPO antibodies are detectable at low levels in 2-8% of apparently healthy individuals, particularly in the elderly and more often in women than in men, although the clinical significance of this is unclear.

Bio-Rad's new recombinant kit format maintains the same Bio-Rad Kallestad™ EIA methodology, calibration to NIBSC 66/387 thyroid microsomal antibody reference preparation, and kit assay protocol (60'/30'/30' incubation) as the rest of the Bio-Rad Kallestad™ autoimmune EIA product range.

The driving force behind this improvement is to make an assay that provides reproducible results through the use of DNA recombinant technology. This technology minimizes the potential of antisera to bind both to specific and unspecific thyroid cell components. The new and improved Bio-Rad Kallestad™ Anti-Thyroid Peroxidase kit is made with human recombinant TPO antigen, which has been demonstrated to be highly specific for TPO autoantibodies. Additional features include: a lower clinical cut-off reflecting increased sensitivity and specificity and a narrower measuring range ensuring greater accuracy and precision.

Result Interpretation	
Qualitative Absorbance Ratio	Result Interpretation
< 1.0	Negative
≥ 1.0	Positive
Quantitative	
< 10 IU/mL	Negative
≥ 10 IU/mL	Positive

### REFERENCES

1. Trotter WR, et al. *Proc R Soc Med*, 50, 961, 1957.
2. Roitt IM, et al. *Lancet II*, 1027-1033, 1958.
3. Vargas VT, et al. *J Clin Endocrin Metab*, 67, 327-333, 1988.
4. Jansson R, et al. *J Clin Endocrin Metab*, 58, 681-687, 1984.
5. Stagnaro-Green A. *Thyroid Today*, 16, 1-11, 1993.
6. Lazurus JH. *Thyroid*, 9 No. 7, 685-689, 1999.
7. Stagnaro-Green A, et al. *Jama*, 264 No.11, 1422-1425, 1990.
8. Estienne V, et al. *European Journal of Endocrinol*, 141, 563-569, 1999.
9. Feldt-Rasmussen, et al. *Autoimmunity*, 9, 245-253, 1991.
10. Chang CC, et al. *European Journal of Endocrinol*, 139, 44-48, 1998.
11. Scherbaum WA. *Acta Endocrinol (Copenh) Suppl*, 281, 325-329, 1987.
12. Walker DJ, et al. *Ann Rheum Dis*, 45, 323-326, 1986.

## Ordering Information

Catalog No.	Description
25087	Bio-Rad Kallestad™ Anti-Thyroid Peroxidase (anti-rTPO) .....96 tests



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