ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Thyrotropin-releasing hormone (TRH) Antibodies and Peptides

□ **Cat.** TRH11-A	Rabbit Anti-TRH IgG (aff pure)	**SIZE**: 100 ul
□ **Cat.** TRH15-P	Purified mature TRH peptide (pGlu-His-Pro-NH2)	**SIZE**: 1 mg

Thyrotropin-releasing hormone (TRH), also called thyrotropin-releasing factor (TRF), thyroliberin or protirelin, is a tropic tripeptide hormone that stimulates the release of thyroid-stimulating hormone and prolactin by the anterior pituitary. TRH is produced by the hypothalamus in medial neurons of the paraventricular nucleus. At the beginning, it is synthesized as a 242-amino acid precursor polypeptide that contains 6 copies of the sequence -Glu-His-Pro-Gly-, flanked by di-basic peptides that are later processed through proteolysis to give the mature TRH molecule. It travels across the median eminence to the anterior pituitary gland via the hypophyseal portal system where it stimulates the release of thyroid-stimulating hormone from cells called thyrotropes. TRH can also be detected in other areas of the body including the gastrointestinal system and pancreatic islets, as well as in the brain.

TRH tripeptide structure is: (pyro)Glu-His-Pro-NH2 (359.5). TRH (thyrotrophin-releasing hormone), also known as TRF, Prothyroliberin.

It is used in pharmacology (brand name Relefact TRH) to test the response of the anterior pituitary gland. Medical preparations of TRH are used in diagnostic tests of thyroid disorders and in acromegaly. A TRH test may be indicated if secondary hypothyroidism is suspected.

Source of Antigen and Antibodies

Antigen	TRH peptide from (1); **Designation (TRH11-P, control peptide**) conjugated to KLH;
Ab Host/type	Rabbit, Polyclonal, aff pure IgG (cat # TRH11-A) purified over antigen-agarose column
2-ab	Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates also available)
-ve control IgG	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Mature TRH peptide (#TRH15-P)

(pyro)Glu-His-Pro-NH2 (359.5), Purity >95%
Supplied as powder

Form & Storage of Antibodies/Peptide Control

Affinity pure IgG
□ 100 ug/100ul □ solution □ lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide
□ 100 ug/100 ul □ solution □ lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage
Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..
Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.

Recommended Usage

Western Blotting (1:500-1:2000) for affinity pure using ECL technique). TRH, unprocessed is ~30 kDa protein. Whole cell 293 cell lysate can be used as positive control.

ELISA (1:10K-1:100K; using 50-100 ng control peptide/well).

Histochemistry & Immunofluorescence: no tested. We recommend the use of affinity purified antibody at 1:50-1:500 dilution in formaldehyde fixed tissue. See published refs 2.

Specificity & Cross-reactivity

The TRH11-A detects both the unprocessed TRH (30 kda) and the mature Tri-peptide in human. Antibody crossreactivity in various species is not established. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at the web site.

General References: (1) Taylor T (1990) Endocrinol. 126, 317-324; Boler J & **Schally AV** (1969) BBRC 37, 705-710; Burgus R & **Guillemnin R** (1969) C.R. Hebd. Seances Acad. Sci., Ser. D, Sci. Nat. 269 (19): 1870–3

Schally and Guillemnin were awarded **Noble Prize** in Physiology and Medicine in 1977 for their discovery of TRH

TRH11-P 100602A

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