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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

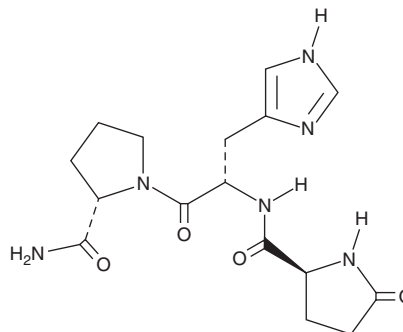
PRODUCT INFORMATION



Thyrotropin-Releasing Hormone

Item No. 22917

CAS Registry No.: 24305-27-9
Formal Name: 5-oxo-L-prolyl-L-histidyl-L-prolinamide
Synonyms: pGlu-His-Pro amide, Thyroliberin, Thyrotropin-Releasing Factor, TRF, TRH, TSH-Releasing Hormone
MF: C₁₆H₂₂N₆O₄
FW: 362.4
Purity: ≥98%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Thyrotropin-releasing hormone (TRH) is supplied as a crystalline solid. A stock solution may be made by dissolving the TRH in the solvent of choice. TRH is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of TRH in these solvents is approximately 30 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of TRH can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of TRH in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

TRH is a tropic hormone that stimulates release of thyroid-stimulating hormone (TSH) and prolactin.¹ It binds to the human TRH receptor (TRHR) expressed in CHO cells and to rat TRHR in rat brain membranes (IC₅₀s = 25 and 198 nM, respectively).^{2,3} TRH (1 μM) decreases polyphosphoinositide and increases arachidonic and oleic acid diacylglycerol incorporation into lipids of GH3 rat pituitary tumor cells.⁴ *In vitro*, it dose-dependently increases TSH release from rat anterior pituitary slices and prolactin release from cultured anterior pituitary cells.^{5,6} *In vivo*, TRH (0.01 mg/kg) increases TSH and prolactin plasma levels in rats.¹

References

1. Dettmar, P.W., Lynn, A.G., Metcalf, G., *et al. Neuropeptides* **3**(1), 1-8 (1982).
2. Yamada, M., Iwasaki, T., Satoh, T., *et al. Neurosci. Lett.* **196**(1-2), 109-112 (1995).
3. Bhargava, H.N. and Das, S. *Brain Res.* **368**(2), 262-267 (1986).
4. Martin, T.F.J. *J. Biol. Chem.* **258**(24), 14816-14822 (1983).
5. Iriuchijima, T., Michimata, T., Miyashita, K., *et al. Neuropeptides* **21**(1), 49-53 (1992).
6. Apfelbaum, M.E. *Neuroendocrinology* **67**(1), 45-50 (1998).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM