SANTA CRUZ BIOTECHNOLOGY, INC.

TRH (F-22): sc-134112



The Power to Question

BACKGROUND

TRH (thyrotrophin-releasing hormone), also known as TRF, Prothyroliberin or Thyroliberin, is a 242 amino acid secreted protein that belongs to the TRH family and is expressed in the hypothalamus in response to hypothyroidism. TRH is a hypothalamic tripeptide that stimulates the release of thyrotrophin (TSH) and prolactin through its receptor in the anterior pituitary gland. In addition to regulating the biosynthesis of TSH, TRH acts as a neurotransmitter and a neuromodulator in the central and peripheral nervous systems. An integral membrane ectopeptidase protein, PGP-II (pyroglutamyl peptidase II), cleaves and inactivates TRH in neural and hormonal transmissions. TRH may function as a melanoma autocrine growth factor in melanomas and dysplastic nevi.

REFERENCES

- Miyashita, K., Murakami, M., Yamada, M., Iriuchijima, T. and Mori, M. 1993. Histidyl-proline diketopiperazine. Novel formation that does not originate from thyrotropin-releasing hormone. J. Biol. Chem. 268: 20863-20865.
- Heuer, H., Schäfer, M.K. and Bauer, K. 1998. The thyrotropin-releasing hormone-degrading ectoenzyme: the third element of the thyrotropin-releasing hormone-signaling system. Thyroid 8: 915-920.
- 3. Heuer, H., Schäfer, M.K. and Bauer, K. 1999. Thyrotropin-releasing hormone (TRH), a signal peptide of the central nervous system. Acta Med. Austriaca 26: 119-122.
- Prokai, L., Prokai-Tatrai, K., Ouyang, X., Kim, H.S., Wu, W.M., Zharikova, A. and Bodor, N. 1999. Metabolism-based brain-targeting system for a thyrotropin-releasing hormone analogue. J. Med. Chem. 42: 4563-4571.
- Angel Vargas, M., Uribe, R.M., Cisneros, M., Romero, F., González, S., Joseph-Bravo, P. and Charli, J.L. 2002. Thyrotropin-releasing hormone regulates the diurnal variation of pyroglutamyl aminopeptidase II activity in the male rat adenohypophysis. Eur. J. Endocrinol. 147: 363-369.
- Vargas, M.A., Cisneros, M., Joseph-Bravo, P. and Charli, J.L. 2002. Thyrotropin-releasing hormone-induced down-regulation of pyroglutamyl aminopeptidase II activity involves L-type calcium channels and cam kinase activities in cultures of adenohypophyseal cells. J. Neuroendocrinol. 14: 184-193.
- Prokai, L., Prokai-Tatrai, K., Zharikova, A.D., Nguyen, V., Perjesi, P. and Stevens, S.M. 2004. Centrally acting and metabolically stable thyrotropinreleasing hormone analogues by replacement of histidine with substituted pyridinium. J. Med. Chem. 47: 6025-6033.
- de Gortari, P., Uribe, R.M., García-Vázquez, A., Aguilar-Valles, A., Martínez, A., Valdes, A., Charli, J.L., Fernández-Guardiola, A. and Joseph-Bravo, P. 2006. Amygdala kindling differentially regulates the expression of the elements involved in TRH transmission. Neurochem. Int. 48: 31-42.
- Prokai-Tatrai, K. and Prokai, L. 2009. Prodrugs of thyrotropin-releasing hormone and related peptides as central nervous system agents. Molecules 14: 633-654.

CHROMOSOMAL LOCATION

Genetic locus: TRH (human) mapping to 3q21.3.

SOURCE

TRH (F-22) is an affinity purified rabbit polyclonal antibody raised against synthetic TRH peptide of human origin.

PRODUCT

Each vial contains 50 μg IgG in 500 μI PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

TRH (F-22) is recommended for detection of TRH of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TRH siRNA (h): sc-77977, TRH shRNA Plasmid (h): sc-77977-SH and TRH shRNA (h) Lentiviral Particles: sc-77977-V.

Molecular Weight of TRH: 30 kDa.

Positive Controls: 293T whole cell lysate.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.