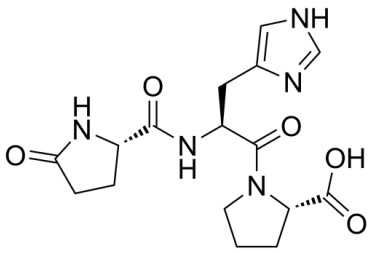
Data Sheet

Product Name:	Thyrotropin-Releasing Hormone (TRH), Free Acid
Cat. No.:	CS-0044793
CAS No.:	24769-58-2
Molecular Formula:	$C_{16}H_{21}N_5O_5$
Molecular Weight:	363.37
Target:	TSH Receptor
Pathway:	GPCR/G Protein
Solubility:	H_2O : 100 mg/mL (ultrasonic)



BIOLOGICAL ACTIVITY:

Thyrotropin-Releasing Hormone (TRH), Free Acid (TRH-OH) is a physiological metabolite of Thyrotropin-Releasing Hormone. ***In Vitro:*** TRH degradation products have been shown to be associated with a number of endocrine- and central nervous system-related biological functions. TRH (pGlu-His-Pro-NH2) can be enzymatically degraded in plasma and brain tissue to yield TRH-OH. TRH and hGHRH stimulate the release of [^{3}H]GH into the culture medium to 435 and 464%, respectively, when compared to the control, but TRH-OH has no effect[1]. TRH-OH, produced after cleavage of the C-terminal amide group by a specific proline endopeptidase, is one of the most stable derivatives of TRH and is found at high levels in numerous brain regions. TRH-OH inhibits Na^+ channel activity in mammalian septal neurons. In about 60% of the cells tested, TRH-OH at concentrations between 0.01 and 2.5 μM produces a dose-dependent reversible attenuation of Na+ currents. With 2 μM TRH-OH, peak Na^+ current amplitude is reduced by 20-50%[2].

References:

[1]. Kagabu Y, et al. Effects of thyrotropin-releasing hormone and its metabolites, Cyclo(His-Pro) and TRH-OH, on growth hormone and prolactin synthesis in primary cultured pituitary cells of the common carp, Cyprinus carpio. Gen Comp Endocrinol. 1998 Sep;111(3):395-403.

[2]. López-Barneo J, et al. Thyrotropin-releasing-hormone (TRH) and its physiological metabolite TRH-OH inhibit Na+ channel activity in mammalian septal neurons. Proc Natl Acad Sci U S A. 1990 Oct;87(20):8150-4.

CAIndexNames:

L-Proline, 5-oxo-L-prolyl-L-histidyl-

SMILES:

O=C(O)[C@H]1N(C([C@H](CC2=CNC=N2)NC([C@H](CC3)NC3=O)=O)=O)CCC1

Tel: 610-426-3128 Fax: 888-484-5008 E-mail: sales@ChemScene.com
Address: 1 Deer Park Dr, Suite F, Monmouth Junction, NJ 08852, USA