

Product Data Sheet

Product Name: Proctolin
Cat. No.: GC31177

Chemical Properties

Cas. No. 57966-42-4

SMILES Arg-Tyr-Leu-Pro-Thr

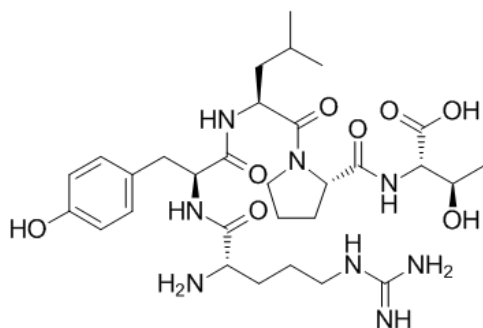
Formula $C_{30}H_{48}N_8O_8$ M.Wt 648.75

Solubility H_2O : 100 mg/mL (154.14 mM; Need ultrasonic) Storage Store at $-20^{\circ}C$

General tips For obtaining a higher solubility , please warm the tube at $37^{\circ}C$ and shake it in the ultrasonic bath for a while. Stock solution can be stored below $-20^{\circ}C$ for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Background

Proctolin is an endogenous pentapeptide that acts as an excitatory neuromodulator.

Proctolin can increase the frequency of action potentials, increase the amplitude of muscle contraction, and initiate activity in quiescent systems[1]. In the arthropods, Proctolin acts as a neuromodulator and possibly as a neurohormone. It does not appear to function as a conventional

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

neurotransmitter[2]. Proctolin is a pentapeptide with the mature peptide of RYLPT, and it is the first insect neuropeptide to be sequenced and chemically characterized. The first identification of a Proctolin precursor gene is CG7105 in *D. melanogaster*. Although a previous study showed that Proctolin is absent in *B. mori*, this pentapeptide is recently identified in a proteomic analysis of *B. mori* wings. However, the *Bombyx* Proctolin gene does not produce a mature peptide because cleavage sites are not present at the N-terminal and C-terminal of the RYLPT sequence, and a similar gene is observed in *C. suppressalis*. Therefore, a true Proctolin has been considered to be not observed in *B. mori* and *C. suppressalis*[3].

[1]. McGrath LL, et al. De novo transcriptome assembly for the lobster *Homarus americanus* and characterization of differential gene expression across nervous system tissues. *BMC Genomics*. 2016 Jan 16;17:63. [2]. Orchard I, et al. Proctolin: a review with emphasis on insects. *J Neurobiol*. 1989 Jul;20(5):470-96. [3]. Xu G, et al. Identification and expression profiles of neuropeptides and their G protein-coupled receptors in the rice stem borer *Chilo suppressalis*. *Sci Rep*. 2016 Jun 29;6:28976.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA