

**Product Name** : Proctolin

**Synonyms** : —

**Cat No.** : M22353

**CAS Number** : 57966-42-4

**Molecular Formula** : C30H48N8O8

**Formula Weight** : 648.75

**Chemical Name** : —

**Description** : Proctolin is a bioactive neuropeptide that modulates interneuronal and neuromuscular synaptic transmission in a wide variety of arthropods. Proctolin can increase the frequency of action potentials, increase the amplitude of muscle contraction, and initiate activity in quiescent systems. In the arthropods, Proctolin acts as a neuromodulator and possibly as a neurohormone. It does not appear to function as a conventional neurotransmitter. 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*.

**Pathway** : Others

**Target** : Other Targets

**Receptor** : Others

**Solubility** : H<sub>2</sub>O

**SMILES** : C[C@@H](O)[C@@H](C(=O)=O)NC([C@H]1N(C([C@H](CC(C)C)NC([C@H](CC2=CC=C(O)C=C2)NC([C@H](CCCNC(N)=N)N)=O)=O)CCC1)=O

**Storage** : (-20°C)

**Stability** : ≥ 2 years

**Reference** :

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.