Distribution of FMRFamide in Central Nervous System and Peripheral Organ of the Silk Worm, *Bombyx mori*

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Specific neurons in the insect central nervous system secrete peptides related to hormones in vertebrates and other invertebrates. These insect neuropeptides have been detected with immunoassay, bioassays, and biochemical methods. Endocrine cells in the midgut of insects such as fruitflies and mosquitoes, contain similar peptides. This distribution of peptidergic cell constitutes a brain-midgut neuroendocrine axis in insect. The FMRFamide represented as the sequence of Phe-Met-Arg-Phe-NH_2 is one of the most widely studied invertebrate peptides, although it has been first isolated from molluscs. In this study, immunocytochemical identification of FMRFamide-producing neurons or cells were detected in the central nervous system and in the gut of silk worm, *Bombyx mori*. All ganglia of brain and ventral nerve cord have a number of FMRFamide-labeled neurons, with the largest number of neurons in the brain. Some of labeled neurons project their axons into retrocerebral complex, terminating in the corpus cardiacum. Some of the neurons in the ventral nerve cord are innervated to the peripheral organs such as the gut.