

Comparison of feeding suppression effect by new peptides in blowfly, *Phormia regina*.

Tetsutaro Hiraguchi^a, Takanori Ida^b, Toru Maeda^a, Saki Terajima^a, Masayasu Kojima^c, Mamiko Ozaki^a

a: Grad. Sch. Sci., Kobe Univ., Kobe 657-8501, Japan

b: Interdisciplinary Research Organization, University of Miyazaki, Miyazaki 889-1692, Japan

c: Molecular Genetics, Institute of Life Science, Kurume University, Kurume, Fukuoka
839-0864, Japan

We compared the behavioral effects of feeding suppression by the two kinds of new peptides in blowfly. Both of gustatory and olfactory systems are required to elicit appropriate motor pattern in feeding behavior. Feeding behavior was also controlled by internal condition based on many peptides. Proboscis extension response (PER) is indicator of feeding behavior that is generally controlled by the chemical cues from the maxillary palps. The behavioral experiment showed that they detect palatable chemical signals increasing their appetite in blowfly, *Phormia regina*. *Phormia* usually have detected the appetite odor like mushroom (1-octen-3-ol) by maxillary palps. However, some kinds of newly found peptide have an effect on feeding behavior. Therefore, we compared the effect of two kinds of newly found peptides in drosophila. First, we test whether they affect feeding behavior by the amount of sucrose intake. After injection of one kind of peptide, food intake amount was obviously increased. In the next step, we investigated the odor of 1-octen-3-ol by maxillary palps did not work as appetitive odor when they are starved sufficiently in behavioral experiments. The results showed that these peptides work as the appetite-suppressant in blowfly feeding behavior, and it did worked as counteractant to odor stimulation.