The effect of food intake on expression level of AMPKβ in the brain of the blowfly, *Phormia regina*

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AMP-activated protein kinase (AMPK) is an evolutionarily conserved sensor of cellular energy status, and essential for maintaining cellular energy homeostasis. In the mouse hypothalamus, AMPK has been reported to regulate food intake (Minokoshi *et al.* (2004), *Nature*, 428, 569-574). AMPK is a heterotrimeric protein kinase consisting of the catalytic α subunit, the β subunit, and the regulatory γ subunit which binds AMP. Other than a scaffold for the α and γ subunits, the β subunit has been recently shown to play important roles; glycogen sensing and the regulation of its localization in mammalian cells. However, very few studies were carried out on the function of the subunit in insects. In this study, we investigated the implication of the β subunit for food intake in the blowfly, *Phormia regina*. We found that the expression level of AMPKβ mRNA gradually increased after food intake, while that of AMPKγ mRNA did not significantly chanege. This raised the possibility that AMPKβ plays a role in the control of the energy balance in the blowfy.