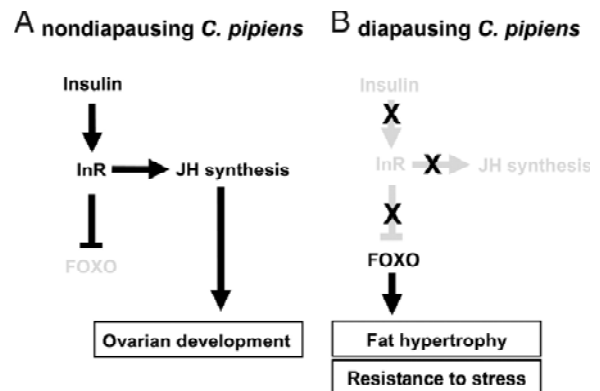




# Shutting down for the winter: A role for insulin signaling in insect diapause

Prof. David L. Denlinger  
Ohio State University, USA

Low temperatures of winter pose a major and recurring seasonal obstacle for insect development and survival. In response many insects enter a dormant state (diapause) that is programmed by the short daylengths of late summer. In the mosquito *Culex pipiens* the reproductive diapause is characterized by a switch from blood feeding to sugar feeding, accumulation of fat reserves, suppression of metabolism, enhancement of stress responses, and a shut-down of reproduction. Emerging evidence suggests that insulin signaling is a common theme of diapause, acting upstream of well known endocrine regulators of diapause (juvenile hormone). A role for insulin signaling is also evident in the regulation of diapause and other forms of dormancy in flesh flies, fruit flies, and nematodes suggesting that this may be a theme common to diverse forms of developmental arrest .



Friday Sep 2<sup>nd</sup> at 10.15 at Zoophysiology