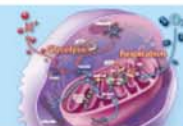


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6 Pheromone reception in fruit flies expressing a moth's odorant receptor.

Syed Z, Ishida Y, Taylor K, Kimbrell DA, Leal WS
Proc Natl Acad Sci U S A. 2006 Oct 31; 103(44):16538-43

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Abstract

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Taking advantage of the powerful genetic manipulations that are readily feasible in the fruit fly *Drosophila melanogaster*, Leal and his coworkers have done an exciting experiment in which "empty" olfactory receptor cells in flies are made to express the gene that encodes a sex-pheromone-receptor protein from the moth *Bombyx mori*.

The findings reported in this paper strongly suggest that, although a pheromone-binding protein enhances the sensitivity and selectivity of responses of the receptor cells to the pheromone, the binding protein is not necessary for the responses.

Thus, the authors conclude that the semiochemical alone, and not a complex of that compound with the pheromone-binding protein, activates the pheromone receptors. In addition, this work supports the hypothesis that pheromone-degrading enzymes expressed in the sensilla are necessary for normal limitation of the action of pheromone on the receptor cells.

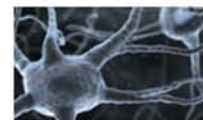
Competing interests: None declared

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