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De-orphaning Olfactory Receptors in *Manduca sexta* Moths

The general mechanism of olfaction is well understood but there is still not much known about the molecular receptive range of the receptors that mediate olfactory responses. The goal of this work is to de-orphan two ORs—i.e., determine their ligands using *Manduca sexta* moths. The antennae of these moths were exposed to a variety of known host plant odorants at different concentrations. Electroantennogram (EAG) responses to these compounds were recorded that indicated a concentration dependent response. Furthermore, RNAi studies were done to determine if knocking down expression of components of the olfactory receptors, OR30 and *Msex/orco*, led to a change in response. Comparisons between wild-type and RNAi treated moths for OR30 did not show a significant reduction in EAG response.