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## Role of Cytochrome P450 in Mechanism of Pyrethroid Resistance

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### Abstract:

Cytochrome P450 monooxygenases are important metabolic enzymes involved in catalyzing a number of compounds and thus are essential for most creatures. One of the major roles of P450s in insects is detoxification or activation of pesticides including pyrethroid insecticides. In this paper, our recent attempts to elucidate the role of P450s in mechanisms of pyrethroid resistance in *Culex* mosquitoes, houseflies and fruit flies are summarized. Possible applications to insect pest management and to the development of novel insect regulators are also discussed.

### Keywords:

cytochrome P450 monooxygenases, pyrethroids, *Culex quinquefasciatus*, insecticide resistance, target site, microarray



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