

Insecticide Selectivity: Structure of a Hemipteran Ecdysone Receptor LBD

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We report here the X-ray structure of the ecdysone receptor ligand-binding domain (LBD) of the hemipteran *Bemisia tabaci* (silverleaf whitefly) in complex with the ecdysone analogue ponasterone A and compare it with the corresponding known structure from the lepidopteran *Heliothis virescens* ecdysone receptor [1]. Our structure reveals the overall mode of ponasterone A binding is very similar in the two cases, but that the *B. tabaci* ecdysteroid-binding pocket is structured differently to that of *H. virescens* in those parts that are not in contact with ponasterone A. We propose that these differences in the ligand-binding pocket provide a molecular basis for the taxonomic order-selectivity of bisacylhydrazine insecticides [2,3].

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