Mosquitoes - Mode of Action Classification by Target Site

Nerve & Muscle Targets (Larvae)

- 1. Acetylcholinesterase (AChE) inhibitors 1B: Organophosphates
- 5. Nicotinic acetylcholine receptor (nAChR) allosteric modulators – site I *Spinosyns*

Unknown or uncertain MoA

UNM Non-specific mechanical and physical disruptors Polydimethylsiloxane (PDMS)



Nerve & Muscle Targets (Adults)

- Acetylcholinesterase (AChE) inhibitors
 1A: Carbamates
 1B: Organophosphates
 Cadium changed modulators
- 3. Sodium channel modulators *3A: Pyrethrins, Pyrethroids*
- Nicotinic acetylcholine receptor (nAChR) competitive modulators
 4A: Neonicotinoids
 4D: Butenolides
- 30. GABA-gated chloride channel allosteric modulators *Meta-diamides, Isoxazolines*



Insecticide MoA groups listed on the poster are only those that have received WHO Pre-Qualification listing for at least one example.

Growth & Development Targets (Larvae)

- 7. Juvenile hormone receptor modulators 7A: Juvenile hormone analogues 7C: Pyriproxyfen
- 15. Inhibitors of chitin biosynthesis, affecting CHS1 Benzoylureas

Midgut Targets (Larvae)

11. Microbial disruptors of insect midgut membranes
11A: Bacillus thuringiensis,
11B: Bacillus sphaericus

Growth & Development Targets (Adults)

7. Juvenile hormone receptor modulators 7C: Pyriproxyfen

Respiration Targets (Adults)

13. Uncouplers of oxidative phosphorylation via disruption of the proton gradient *Pyrroles* nsecticide Resistance Action Committee

Mode of Action: A key to effective insecticide resistance management

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