Nerve & Muscle Targets

- 1. Acetylcholinesterase (AChE) inhibitors 1A: Carbamates 1B: Organophosphates
- 2. GABA-gated chloride channel blockers 2A: Cyclodiene Organochlorines
- 3. Sodium channel modulators 3A: Pyrethrins, Pyrethroids
- Nicotinic acetylcholine receptor (nAChR) allosteric modulators – site I Spinosyns
- 6. Glutamate-gated chloride channel (GluCl) allosteric modulators Avermectins, Milbemycins
- 19. Octopamine receptor agonists Amitraz
- 32. Nicotinic acetylcholine receptor (nAChR) allosteric modulators Site II GS-omega/kappa HXTX-HV1a Peptide
- 30. GABA-gated chloride channel allosteric modulators *Isoxazolines*
- 33. Calcium-activated potassium channel (KCa2) modulators <u>Acynonapyr</u>

Mites - Mode of Action Classification by Target Site



Growth & Development Targets

- 10. Mite growth inhibitors affecting CHS1 10A: Clofentezine, Diflovidazin Hexythiazox
 - 10B: Etoxazole
- 15. Inhibitors of chitin biosynthesis affecting CHS1 Benzoylureas
- 23. Inhibitors of acetyl-CoA carboxylase <u>Tetronic & Tetramic</u> acid derivatives

Respiration Targets

- 12. Inhibitors of mitochondrial ATP synthesis 12A: Difenthiuron 12B: Organotin miticides
 - 12C: Propargite
- 13. Uncouplers of oxidative phosphorylation via disruption of the proton gradient *Chlorfenapyr*
- 20. Mitochondrial complex III electron transport inhibitors – Qo site 20B: Acequinocyl 20C: Fluacrypyrim 20D: Bifenazate
- 21. Mitochondrial complex I electron transport inhibitors 21A: METI acaricides
- 25. Mitochondrial complex II electron transport inhibitors 25A: Cyenopyrafen, Cyflumetofen 25B: Pyflubumide
- 34. Mitochondrial complex III electron transport inhibitors – Qi site *Flometoquin*

Unknown or uncertain MoA

Benzoximate, Chinomethionat, Dicofol



Mode of Action: A key to effective insecticide resistance management

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