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## Inhibitors of Mitochondrial Respiratory Enzymes

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### Abstract:

The active conformation of antimycin A, a specific inhibitor of mitochondrial complex-III, expected from structure–activity studies is consistent with that come from X-ray crystallography of the enzyme. The structure–activity studies of acetogenins, potent inhibitors of complex-I, indicate that these inhibitors elicit potent activities only when the  $\gamma$ -lactone ring and hydroxylated THF ring moieties are directly linked by an alkyl spacer.  $\Delta$ lac-Acetogenins that are acetogenin mimics possessing two alkyl tails without a  $\gamma$ -lactone ring appeared to be a novel type of complex-I inhibitor, the binding site of which differs from that of ordinary complex-I inhibitors. © Pesticide Science Society of Japan

### Keywords:

respiratory inhibitors, respiratory enzymes, acetogenins, bioenergetics, structure–activity relationship

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