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## Ultrastructural effects of pyridalyl, an insecticidal agent, on epidermal cells of *Spodoptera litura* larvae and cultured insect cells Sf9

Shigeru Saito<sup>1)</sup>, Takafumi Yoshioka<sup>2)</sup> and Kimitoshi Umeda<sup>1)</sup>

1) Agricultural Chemicals Research Laboratory, Sumitomo Chemical Co., Ltd.

2) Environmental and Health Science Laboratory, Sumitomo Chemical Co., Ltd.

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### Abstract:

The ultrastructural effects of pyridalyl on the epidermal cells of *S. litura* larvae and cultured Sf9 cells were observed. In epidermal cells, hydropic degeneration containing swollen mitochondria, dilated rough endoplasmic reticulum, dilated Golgi apparatus, shrunken nuclei and increase of unidentified clear granules appeared 6 hr after treatment. In Sf9 cells, swelling of mitochondria was observed 4–6 hr after treatment, and then the cells finally entered hydropic degeneration. Since the time course of such ultrastructural changes was parallel to that of poisoning symptoms in the larvae, these effects were thought to be related with insecticidal action.

### Keywords:

pyridalyl, *Spodoptera litura*, Sf9, cytotoxicity, ultrastructure

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