

## EFFECT OF $\alpha$ -TOMATINE AND TOMATIDINE ON

*Phytomonas serpens*

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Some plants produce substances for their own defense against pathogens and predators. In *lycopersicon* species, such as tomato *L. esculentum*, the main antimicrobial compound is the steroidal glycoalkaloid  $\alpha$ -tomatine. The loss of saccharide side chain of tomatine forms the aglycone tomatidine. Flagellates of the genus *Phytomonas* are etiologic agents of diseases affecting plants of great economical importance, including coffee, coconut, tomato and many others. In the present study we describe tomatine and tomatidine as inhibitors of growth of *Phytomonas serpens*, and its effects on membrane permeability, cell division and morphological cell changes. When tomatine was added in cells culture, almost 100% of cell death was observed in the first 24 h of contact with the drug. On the other hand, tomatidine did not kill the cells, but stopped cellular proliferation and caused morphological changes like decrease of cellular length, vacuolization, and shortening of flagellum. Assays of release of piruvate kinase (cytoplasmic enzyme) showed that tomatine, but not tomatidine, was able to permeabilize the plasma membrane. On the other hand, by thin-layer chromatography, an evident reduction in the ergosterol level after tomatidine treatment was observed. The results indicate that tomatine and tomatidine have different molecular target.

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