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Effect of Cerulenin on Bacillus Subtilis 168

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Abstract

The antibiotic cerulenin, a specific inhibitor of fatty acid synthesis, prevents the formation of extracellular but not of membrane proteins in some bacteria [1–3]. It has been suggested that this effect is a result of a physico-chemical interaction between the amphiphilic molecule of the agent and the membrane rather than of its interference with lipid synthesis. We used specific biochemical and ultracytochemical methods to study the location and the activity of membrane-bound ATPase in whole cells of **Bacillus subtilis** grown with cerulenin and in isolated membranes from this microorganism treated **in vitro** with the drug. The enzyme could serve not only as a sensitive probe for detecting changes induced by membraneactive agents, but in view of some recent findings [4] it seems to be somehow involved in protein translocation across membranes.