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Lactoferrin is a natural killer of *Candida* spp.

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Lactoferrin is an iron-binding protein in milk. It plays an important role in the host defense system as it prevents microbes from growing and forming biofilms. In addition to antimicrobial activity, lactoferrin exhibits some anticancer activities. Lactoferricin (Lfcin) and lactoferrampin (Lfampin), which are peptides derived from lactoferrin, demonstrated antimicrobial activity with promising prospects and are currently one of the research focuses. We investigated the antifungal effect of these two peptides. We found that fungal cells exposed to Lfcin manifested morphological alterations, changes in plasma membrane permeability and mitochondrial membrane potential and ROS accumulation in cells. Lfcin also suppressed superoxide dismutase 3 (SOD3) expression in the fungal cells. Lfampin exerted its antifungal effect mainly through induction of necrosis. It also induced changes in plasma membrane permeability and mitochondrial membrane potential. We also tested the effects of the following combinations (1) Lfcin and Lfampin (2) The Lfcin and Fluconazole and (3) Lfampin and Fluconazole against *Candida* spp.

Biography

Jack Ho Wong has completed his PhD at the Chinese University of Hong Kong and currently is a Research Associate at the School of Biomedical Sciences. He is working on bioactive peptides emphasized on antimicrobial and anticancer effect. He has published more than 100 papers in reputed journals and has been serving as an Editorial Board Member in the journals *Toxins*, *Frontiers in Microbiology* and *Frontiers in Pharmacology* and he is a manuscript Reviewer for several journals.

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