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Triintsin, a human pathogenic fungus-derived defensin with broad-spectrum antimicrobial activity

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Highlights · A fungal defensin, named triintsin, was characterized from a clinical isolate of *Trichophyton interdigitale*.

· Triintsin was found to have broad-spectrum antimicrobial activities against reference strains as well as several clinical pathogenic microbes.

· Triintsin adopted a typical cysteine-stabilized α -helical and β -sheet fold motif, which determined its antimicrobial activity.

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Abstract

Since there is a symbiotic and competitive relationship between microorganisms in the same ecological niche, fungal defensins have been found to be important resources for antimicrobial peptides. Here, a fungal defensin, triintsin, was characterized in a clinical isolate of *Trichophyton interdigitale* from a patient with onychomycosis. The comparison of its genomic and mRNA sequences showed the gene organization and structure of three coding exons separated by two introns. The precursor peptide of triintsin contained 85 amino acid residues, which were

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