

**P020** Engineered from Nature: Immunologically inert novel antifungal peptides

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Endogenous broad-spectrum eukaryotic antimicrobial peptides such as the defensins are central to the primary innate host defence response to opportunistic, pathogenic fungi. Evidence suggests that specific mutations within the genes that encode these effector molecules predispose humans to fungal infections. Clinically relevant fungal microbes such as *Trichophyton*, *Candida*, *Cryptococcus* and *Aspergillus* are notoriously difficult to treat with conventional fungicides. In the immunocompromised, these infections are life-threatening. Endogenous antimicrobial peptides would seem to be ideal therapeutic targets for novel antifungal therapies, but their use in this context is ruled out by several factors including their chemotactic and immunostimulatory potential. In order to benefit from the antifungal properties of endogenous antimicrobials while at the same time removing any risk of potentially harmful effects, we have designed a novel class of peptide that is more effective *in vitro* in its fungicidal activity than human  $\beta$ -defensins.