

# 微生物サステナビリティ研究センター MiCS国際セミナー

日時：2024年2月5日（月）  
15：00～16：30



会場：筑波大学 総合研究棟A110  
（公開講義室）

講師：Full professor, Gustavo. H. Goldman  
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## 「A host defense peptide mimetic, brilacidin, potentiates caspofungin antifungal activity against human pathogenic fungi」

Fungal infections cause more than 1.5 million deaths a year. Due to emerging antifungal drug resistance, novel strategies are urgently needed to combat life-threatening fungal diseases. Here, we identify the host defense peptide mimetic, brilacidin (BRI) as a synergizer with caspofungin (CAS) against CAS-sensitive and CAS-resistant isolates of *Aspergillus fumigatus*, *Candida albicans*, *C. auris*, and CAS-intrinsically resistant *Cryptococcus neoformans*. BRI also potentiates azoles against *A. fumigatus* and several Mucorales fungi. BRI acts in *A. fumigatus* by affecting cell wall integrity pathway and cell membrane potential. BRI combined with CAS significantly clears *A. fumigatus* lung infection in an immunosuppressed murine model of invasive pulmonary aspergillosis. BRI alone also decreases *A. fumigatus* fungal burden and ablates disease development in a murine model of fungal keratitis. Our results indicate that combinations of BRI and antifungal drugs in clinical use are likely to improve the treatment outcome of aspergillosis and other fungal infections.

主催：国立大学法人筑波大学 微生物サステナビリティ研究センター（MiCS）

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