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Microbial Pathogenicity Mechanisms

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Topics

Damage to the host

Pathomechanisms at the mucosal interphase

Publications

Liang SH, Sircaik S, Dainis J, Kakade P, Penumutchu S, McDonough LD, Chen YH, Frazer C, Schille TB, Allert S, Elshafee O, Hänel M, Mogavero S, Vaishnava S, Cadwell K, Belenky P, Perez JC, Hube B, Ene IV, Bennett RJ (2024) The hyphal-specific toxin candidalysin promotes fungal gut commensalism. *Nature* 627(8004), 620-627.

Details



Müller R, König A, Groth S, Zarnowski R, Visser C, Handrianz T, Maufrais C, Krüger T, Himmel M, Lee S, Priest EL, Yildirim D, Richardson JP, Blango MG, Bougnoux ME, Kniemeyer O, d'Enfert C, Brakhage AA, Andes DR, Trümper V, Nehls C, Kasper L, Mogavero S, Gutsmann T, Naglik JR, Allert S, Hube B (2024) Secretion of the fungal toxin candidalysin is dependent on conserved precursor peptide sequences. *Nat Microbiol* 9(3), 669-683.

Details



Sprague JL, Schille TB, Allert S, Trümper V, Lier A, Großmann P, Priest EL, Tsavou A, Panagiotou G, Naglik JR, Wilson D, Schäuble S, Kasper L[*], Hube B[*#] (2024) *Candida albicans* translocation through the intestinal epithelial barrier is promoted by fungal zinc acquisition and limited by NFκBmediated barrier protection. *Plos Pathogens* 20(3), e1012031.

Details

Valentine M*, Rudolph P*, Dietschmann A, Tsavou A, Mogavero S, Lee S, Priest EL, Zhurgenbayeva G, Jablonowski N, Timme S, Eggeling C, Allert S, Dolk E, Naglik JR, Figge MT, Gresnigt MS*#, Hube B*# (2024) Nanobody-mediated neutralization of candidalysin prevents epithelial damage and inflammatory responses that drive vulvovaginal candidiasis pathogenesis. *mBio* 15(3), e0340923.

Details

Allert S, Schulz D, Kämmer P, Großmann P, Wolf T, Schäuble S, Panagiotou G, Brunke S, Hube B (2022) From environmental adaptation to host survival: Attributes that mediate pathogenicity of *Candida auris*. *Virulence* 13(1), 191-214.

Details

Mogavero S, Höfs S, Lauer AN, Müller R, Brunke S, Allert S, Gerwien F, Groth S, Dolk E, Wilson D, Gutsmann T, Hube B (2022) Candidalysin is the hemolytic factor of *Candida albicans*. *Toxins (Basel)* 14(12), 874.

Details



Westman J, Plumb J, Licht A, Yang M, Allert S, Naglik JR, Hube B, Grinstein S, Maxson ME (2022) Calcium-dependent ESCRT recruitment and lysosome exocytosis maintain epithelial integrity during *Candida albicans* invasion. *Cell Rep* 38(1), 110187.

Details



Liu J, Willems HME, Sansevere EA, Allert S, Barker KS, Lowes DJ, Dixson AC, Xu Z, Miao J, DeJarnette C, Tournu H, Palmer GE, Richardson JP, Barrera FN, Hube B, Naglik JR, Peters BM (2021) A variant ECE1 allele contributes to reduced pathogenicity of *Candida albicans* during vulvovaginal candidiasis. *PLOS Pathog* 17(9), e1009884.

Details



Mogavero S, Sauer FM, Brunke S, Allert S, Schulz D, Wisgott S, Jablonowski N, Elshafee O, Krüger T, Kniemeyer O, Brakhage AA, Naglik JR, Dolk E, Hube B (2021) Candidalysin delivery to the invasion pocket is critical for host epithelial damage induced by *Candida albicans*. *Cell Microbiol* 23(10), e13378.

Details



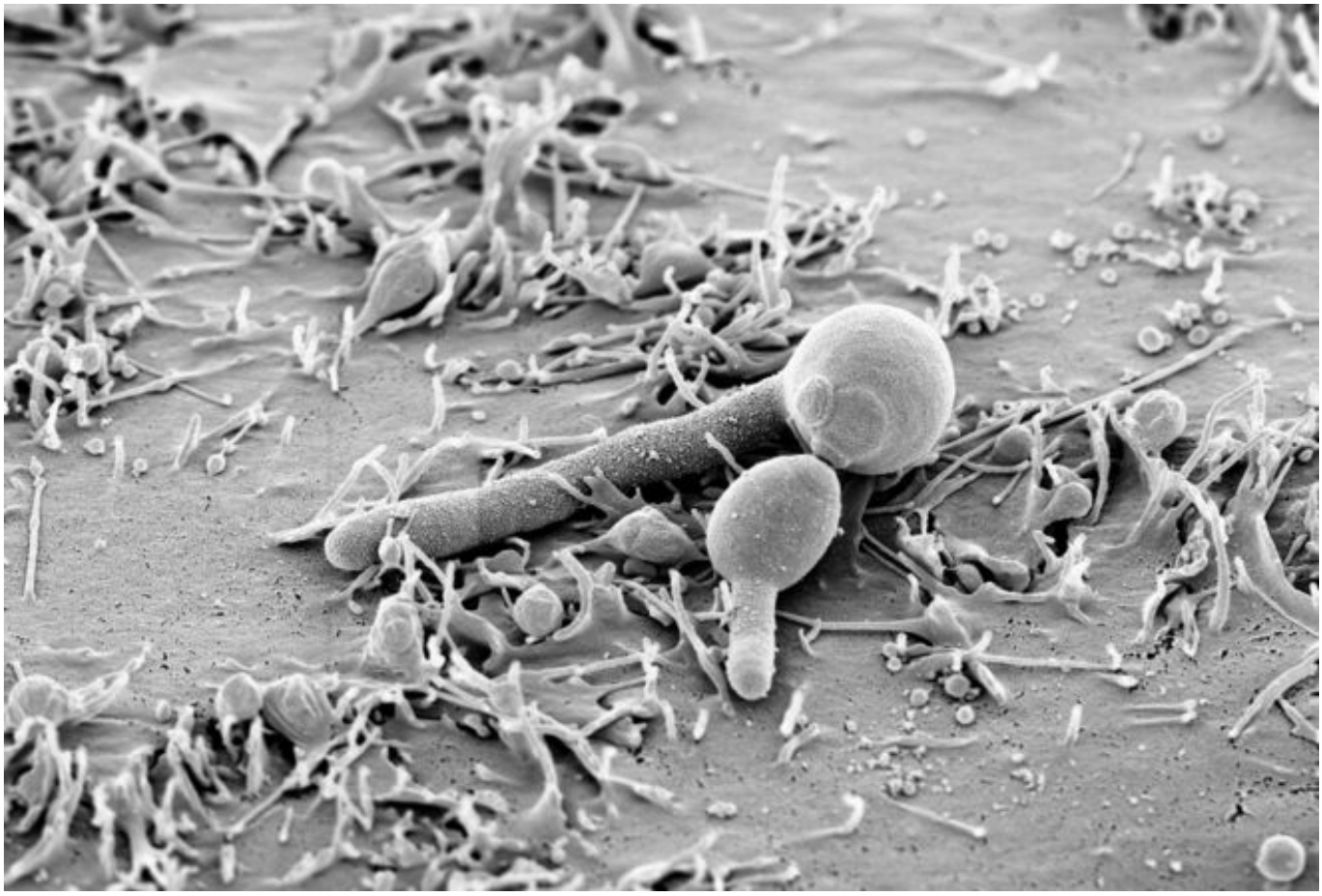
Kämmer P, McNamara S*, Wolf T, Conrad T, Allert S, Gerwien F, Hünniger K, Kurzai O, Guthke R, Hube B, Linde J, Brunke S (2020) Survival strategies of pathogenic *Candida* species in human blood show independent and specific adaptations. *mBio* 11(5), e02435-20.

Details

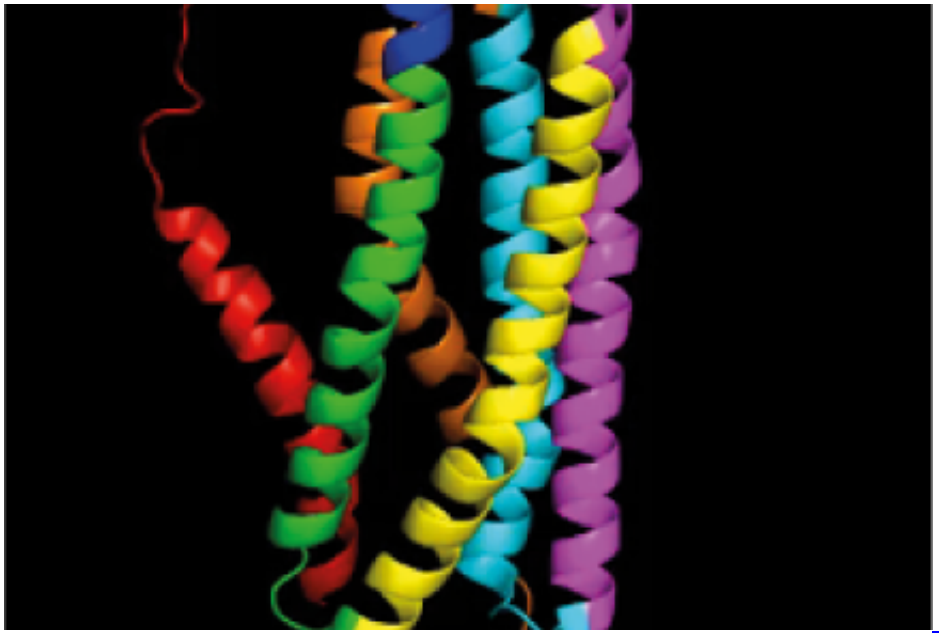


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