

## **451f The *Candida Albicans* Adhesion Receptor Eap1 Regulates Adhesion and Biofilm Formation *in Vitro* and *in Vivo***

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*Candida albicans* is the most commonly isolated fungal pathogen of humans. *C. albicans* is an opportunistic organism, predominantly causing topical or mucosal infections. However, in immune-compromised persons, systemic bloodstream infections can occur. Most often, these infections are associated with a *C. albicans* biofilm on an implanted medical device, such as a central venous catheter. We screened a *C. albicans* genomic DNA library for genes that caused an adhesin-deficient *Saccharomyces cerevisiae* strain to adhere to polystyrene. This screen identified a novel adhesion receptor, *EAP1*, which encodes a GPI-anchored glucan cross-linked cell wall protein. We will show that *EAP1* localizes to the cell wall and permits *C. albicans* adhesion to a variety of materials used in medical devices, as well as to mammalian cells. Also, *EAP1* expression affects cell morphogenesis, another *C. albicans* virulence factor. Disrupting *EAP1* suppressed filamentation in response to particular stimuli and autonomous expression of *EAP1* restored filamentation in a strain lacking Efg1, a transcriptional regulator of dimorphic growth. Furthermore, *EAP1* expression was required for *C. albicans* biofilm formation *in vitro* and in an *in vivo* rat central venous catheter model. Expression of *EAP1* was also upregulated in the biofilm-associated cells. Together, these results suggest that *EAP1* is a promising molecular target for inhibiting *C. albicans* biofilm formation and the associated virulence.