

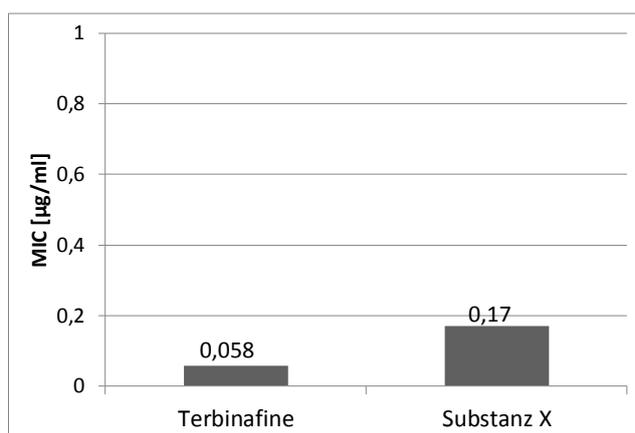


## Novel Inhibitors of *Malassezia pachydermatis*

### Problem to be solved

Fungi (yeast) of the genus *Malassezia* are found on the skin of most humans and animals. In humans this disease is most commonly caused by *Malassezia furfur*. Infections with this pathogen can result in life-threatening fungemia and other nosocomial infections. Most at risk are immunocompromised patients, especially in preterm neonates. Rare cases can be attributed to *M. pachydermatis*, for which dogs are a natural host. Dog owners, who work in health care, may carry this pathogen. In a special case, when *Staphylococcus* spp. are present at the same time, enhanced growth of this yeast can occur. Yeast hypersensitivity is a further risk factor for enhanced growth of *Malassezia*. Inflammation has been shown to be related to the release of lipases by the yeast. Furthermore, zymogen proenzyme is liberated by the yeast leading to the activation of complement.

### Novel substances



**Fig. 1** Minimum inhibitory concentration of Substance X in comparison with terbinafine tested against *M. pachydermatis*

Novel substances are provided, which show highly promising activity against *M. pachydermatis* (Fig. 1). Tested compounds are natural products belonging to different compound classes. Especially Substance X acts with an activity similar to terbinafine, which is a synthetic antifungal. The tested compounds are lipophilic in nature. The compounds commonly have  $\log P_{\text{calc.}}$  values between 0.2 and 5 and can be varied synthetically for higher or lower lipophilicity, higher activity, or other desirable properties.

### Applications

Development of formulations for the control of *Malassezia* strains for veterinary applications as well as application in human medicine.

### Commercialization

We are seeking collaborations and licensing relationships to develop this exciting new class of antimycotics.

### Patent situation

A European patent application has been filed. Filing of an international application is possible.

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