

## Re:-Antibiofilm activity of *Streptomyces toxytricini* Fz94 against *Candida albicans* by Sheir and Hafez (2017)

Dear Sir,

This paper shows a comprehensive study undertaken covering clinical samples of *Candida* collected from hospital, as well as samples of *Streptomyces* collected from soils; all of which were inoculated, incubated and monitored over time and at various temperatures to show the greatest analyses in the prevention and destruction of the *Candida* biofilm-forming fungus.

The high inhibition activity of *Streptomyces sp.* (No.6) against the *Candida sp.* biofilms has been clearly demonstrated through various screening methods using DNA extraction and the resazurin method; its prevention and destruction modes compared with other antifungals and the evaluation of cytotoxicity for *S. toxytricini* Fz94 against human lung epithelial cells.

In both the prevention mode and the destruction mode, *Streptomyces sp.* (No.6) showed a higher percentage effect against clinical *C. albicans* isolates than ketoconazole or metronidazole which showed the lowest in urine, sputum, pus, vaginal swabs and pleural fluids.

This study shows great promise, not just for Egypt, but worldwide, in the prevention of both pre and post operative complications involving the use of prosthetics, catheters, joint replacements etc, that may initiate any form of bloodstream infection. Many patients are more susceptible to these forms of infections than others, and when their immune systems have been compromised due to illness, pain or other infection, their vulnerability to further infection increases.

As a nurse I find this study fascinating. As the authors state in their conclusion, more chemical studies are required, however, the implications of what they have discovered are so encouraging that further studies in this field would likely generate interest from international medical research institutions. Research in health areas such as this can only bring about positive change.

Of further interest, as an environmentally concerned person in Australia, our native Koala Fig. 1) population suffers badly from a) habitat loss i.e. land clearing and b) gastro-intestinal candidiasis and other haematologic changes consistent with immune suppression, such as profound lymphopaenia. Perhaps further studies will be of assistance in this area also?



**Fig. 1-** *Phascolarctos cinereus* © Teresa M. Van der Heul 2017.

Fungi have evolved over millions of years and have developed natural chemical defences between its mycelium and the bacteria within the soil. Now humans are listening to Mother Nature and learning to communicate with her to bring these same natural non-harmful possibilities to the aid of human health.

In this paper, the authors have returned to the soil to extract the fungal mycelium to carry out their testing and have returned some amazing results proving that they at least are prepared to communicate with Mother Nature; to act responsibly and help repair our fragile ecosystems, on both a human and global scale.

Sincerely,

Teresa M. Van der Heul  
20 December 2017