ANTIFUNGAL ACTIVITIES OF CRUDE EXTRACTS FROM
TERMINALIA MUELLERI

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FAKULTI SAINS DAN TEKNOLOGI
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# ANTIFUNGAL ACTIVITIES OF CRUDE EXTRACTS FROM FREE-LIVING AMOEBAE

By

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Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: **ANTIFUNGAL ACTIVITIES OF CRUDE EXTRACTS FROM FREE-LIVING AMOEBAE** oleh **ADIDA ZURAIDA BINTI MOHAMAD,** no. matrik: **UK10078** telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada keperluan memperolehi Ijazah Sarjana Muda Sains (Sains Biologi), Fakulti Sains dan Teknologi, Universiti Malaysia Terengganu.

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| | |
|---|---|
| Abs | absorbance |
| µm | micrometer |
| % | percentage |
| °C | Degree of Celcius |
| g | gram |
| ml | mililiter |
| mg | miligram |
| mg/ml | miligram per mililiter |
| rpm | rotation per minute |
| µl | microliter |
| µm | micrometer |
| µg | microgram |
| L | liter |
| Te5 | Tetracycline 5 µg |

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## ABSTRACT

In this study, extracts of two free-living amoebae, *Acanthamoeba* strain (AK) and *Acanthamoeba polyphaga* strain (AP) were tested on pathogenic fungus *Aspergillus niger*. Both strains of *Acanthamoeba* where axenically cultured in Protease Peptone D-glucose (PPG) media at Biotechnology 3 Laboratory, INOS, Universiti Malaysia Terengganu. The amoebae extracts of AK and AP were prepared in varies concentration (0.5, 1, 2, 4, 6, 8, 10 and 12 mg/ml) and were tested on *Aspergillus niger*. Thirty µl of each extracts concentration were drop on plain discs. The disc was left for a few minutes before placed onto treatment plate. For the screening process, two techniques (streaking plate technique and pour plate technique) were done to see if it has any differences in result obtained between the two techniques employed. The observation was done after 24 and 72 hours. *Aspergillus* spp. are well-known filamentous fungi to play a role in three different clinical settings in man: (i) opportunistic infections; (ii) allergic states; and (iii) toxicoses. Results obtained from this study show that both extracts at various concentration which had been used in treatment on this fungus have no antifungal potential against *Aspergillus niger*. There was no inhibition zone seen at all concentration of the extracts used indicates that the amoebae extracts did not have antifungal activities.

## AKTIVITI ANTIKULAT DARIPADA EKSTRAK MENTAH AMEBA

## ABSTRAK

Dua ekstrak daripada ameba iaitu *Acanthamoeba* strain (AK) dan *Acanthamoeba polyphaga* strain (AP) telah dirawat ke atas kulat patogenik, *Aspergillus niger* dalam kajian ini. Kedua-dua strain ameba dibiakkan di dalam media Peptone D-glucose (PPG) di Makmal Bioteknologi 3, INOS, Universiti Malaysia Terengganu. Kedua-dua ekstrak ameba iaitu AK dan AP disediakan pada kepekatan yang berbeza (0.5, 1, 2, 4, 6, 8, 10 dan 12 mg/ml) dan diuji ke atas *Aspergillus niger*. Sebanyak 30 µl ekstrak bagi semua kepekatan dititikkan ke atas disk kosong. Disk dibiarkan kering selama beberapa minit sebelum diletakkan ke atas plat rawatan. Bagi proses saringan, dua teknik (teknik plat coretan dan taknik plat tuangan) diaplikasikan untuk melihat sama ada terdapat perbezaan dalam keputusan yang diperolehi bagi kedua-dua teknik tersebut. Pemerhatian dilakukan selepas 24 dan 72 jam. Kulat *Aspergillus* diketahui umum memainkan peranan dalam tiga keadaan yang berbeza dalam tubuh manusia: (i) jangkitan bersifat oportunistik; (ii) menunjukkan alergi; dan (iii) ketoksikan. Keputusan dari kajian ini menunjukkan kesemua ekstrak yang digunakan tidak berpotensi melawan *Aspergillus niger*. Pada semua kepekatan ekstrak yang digunakan, didapati tiada zon perencatan yang menunjukkan ekstrak ameba tidak mempunyai aktiviti antikulat .