3rd World Congress and Expo on **Applied Microbiology** November 07-09, 2016 Dubai, UAE

Extraction and purification of biochemical molecules from thermophilic Bacillus species

Khalid Fandi University of Tabuk, KSA

The hot springs are very rich in thermophilic microorganisms that are capable to produce thermostable enzymes and biological active compounds that have importance in industrial and biotechnological applications. This study was designed to purify the biochemical compounds extracted from aerobic strains of the genus *Bacillus* isolated from Ma'en thermal springs. Crude extracts obtained by organic solvent were subjected to silica gel, Sephadex LH-20, RP18 column chromatography and preparative PTLC for further purification. Several indole derivatives have been isolated from these selected strains, namely 1-acetyl- β -carboline, tryptophol, and indole-3-carboxylic acid. Furthermore, adenosine, tyrosol, p-hydroxy-benzaldehyde, ferulic acid, uracil and 3-methyl uracil were also isolated. Additionally, the selected strains afforded four diketopiperazine derivatives, namely cyclo-(Phe, Pro), cyclo-(Leu, Pro), cyclo-(Pro, Ile) and cyclo-(Pro, Tyr). The structures of all isolated metabolites were confirmed by searching in AntiBase using the spectroscopic information such as 1H NMR and MS data and comparison with the literature. This is the first report on biochemical compounds profile purified from thermophilic bacteria and other strains showed interesting activities as well as different UV absorbing bands on TLC. Therefore, the working on these strains could be promising to isolate active new metabolites.

Biography

Khalid Fandi has completed his PhD in Biochemistry and Molecular Biology from University of Putra Malaysia and worked as the Head of School of Life Science and Biotechnology at Technology Park Malaysia. He is an Associate Professor at the Department of Clinical Biochemistry in University of Tabuk. He has been awarded several research visits to Germany and Malaysia in collaboration with scientific research groups. He has published several papers in reputed journals and presented his research work in international conferences and meetings. He has been serving as an Editorial Board Member and Reviewer of repute journals.

fandikh@yahoo.com

Notes: