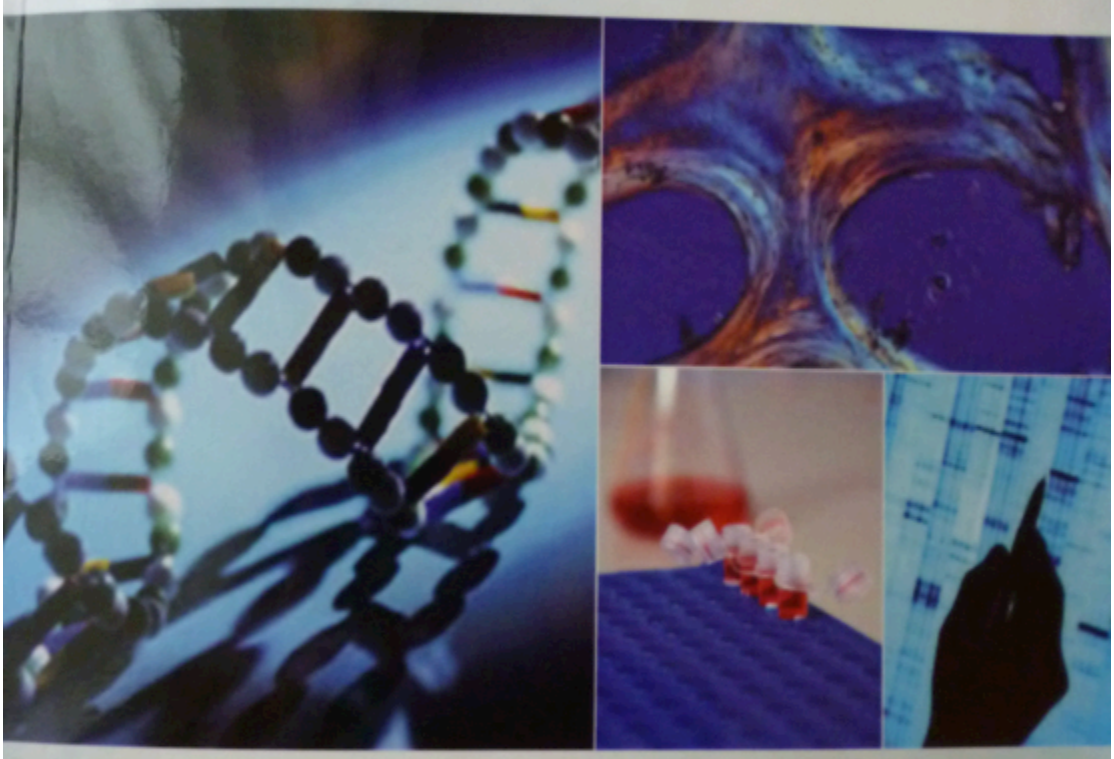
38TH ANNUAL CONFERENCE OF THE MALAYSIAN SOCIETY FOR BIOCHEMISTRY AND MOLECULAR BIOLOGY



28th - 29th August 2013

Putrajaya Marriott Hotel & Spa,
Putrajaya

www.msbmb.org

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CONFERENCE PROGRAMME
28th August 2013

TIME	EVENT	VENUE
08:00 – 09:00	Registration and welcome coffee	Ballroom 1 Foyer
09:00 – 09:10	Welcome remarks by Professor Dr. Sheila Nathan (President of the Malaysian Society for Biochemistry and Molecular Biology)	Ballroom 1
Chairperson: Saad Tayyab		
09:10 – 09:50	**Plenary 1: Alessandro Desideri** Human topoisomerase I: a target enzyme not only in cancer disease	Ballroom 1
09:55 – 10:15	**Oral 1: Mohd Firdaus Raih** *(ASM-YSN session)* Extending protein structure comparisons beyond fold level similarities to specific 3D side chain superpositions	
10:20 – 10:30	**Oral 2: Aishah Mohd Rehan** Characterisation of F420 gamma-glutamyl liase from *Mycobacterium tuberculosis*	
10:30 – 11:00	Coffee Break/Poster Viewing/Scientific Exhibition	Ballroom 1 Foyer
Chairperson: Amyza Saleh		
11:00 – 11:40	**Plenary 2: Mohammed Noor Embi** Glycogen synthase kinase-3β and inflammatory response to *Burkholderia pseudomallei* infection	Ballroom 1
11:40 – 11:50	**Oral 3: Nur Aimi Syarina Pauzi** Topical treatment of blue-green algae aqueous extract promotes healing of diabetic wound	
11:50 – 12:00	**Oral 4: Mohammad Tariqur Rahman** Human cord blood leukocyte metallothionein-2A mRNA expression is associated with primiparous and multiparous childbirth	
12:00 – 12:20	**Invited 1: Shaharum Shamsuddin** Biochemical characterization of a multivalent transcription factor CTCF and the emergence of its paralogue, BORIS	
12:20 – 13:00	Poster Viewing/Judging Session/Scientific Exhibition	Ballroom 1 Foyer
13:00 – 14:00	Lunch	Lobby Lounge, Level 1

CHARACTERISATION OF F_{420} GAMMA-GLUTAMYL LIGASE FROM *MYCOBACTERIUM TUBERCULOSIS*

AISYAH MOHAMED REHAN[1], GHADER BASHIRI[2], TED BAKER[2] AND CHRISTOPHER SQUIRE[2]

[1]Dept. of Biotechnology, Kulliyyah of Science, International Islamic University Malaysia, Pahang.
[2]Structural Biology Group, Faculty of Science, The University of Auckland, New Zealand.

Mycobacterium tuberculosis is the causative agent of tuberculosis (TB), one of the world's oldest diseases. Current therapies have many practical problems, including their failure to act against latent TB, and are threatened by the emergence of multi-drug resistance. This research focuses on a rather rare coenzyme called F_{420}, which is thought to play an important role in enabling *M. tuberculosis* to persist and survive in the human host. F_{420} is a flavin analogue which until recently has been found primarily in a small group of methanogenic archaea. Recent bioinformatic studies have, however, led to the identification of a growing number of coenzyme F_{420}-dependent enzymes in mycobacteria. It has been suggested that although F_{420} is not essential for the in vitro growth of mycobacteria, it seems likely to play a role in the pathogenesis of *M. tuberculosis* as a redox (reduction-oxidation) sensor. Several of these F_{420}-related proteins appear to be promising therapeutic targets, as are the enzymes involved in F_{420} biosynthesis. In this research, three enzymes involved in the biosynthesis of F_{420}, FbiA (Rv3261), FbiB (Rv3262) and FbiC (Rv1173), have been targeted for structural studies. The genes for each of these enzymes have been cloned, and expression trials undertaken in both *Escherichia coli* and *Mycobacterium smegmatis*. Only for FbiB was soluble protein obtained, and this protein therefore became the main research subject. My talk will focus on our progress in structurally characterising FbiB, an F_{420} gamma-glutamyl ligase in *Mycobacterium tuberculosis*.