

RISE Talks Series

- Who?** Sheo B. Singh, Ph.D.
SBS Pharma Consulting LLC, Former Head of
Natural Products at Merck
- What?** Discovery and Development of Platensimycin
- When?** 12:00-1:00 on Wednesday, April 22
- Where?** Hall of Sciences, Room 326

Platensimycin is a complex natural product antibiotic discovered by application of an innovative discovery technology. It was isolated from *Streptomyces platensis* originally recovered from a soil sample collected from South Africa. Platensimycin specifically inhibits elongation step of the bacterial fatty acid biosynthesis, which stops bacterial growth both *in vitro* and murine model of infection. Subsequently, we determined that platensimycin potently inhibited mammalian fatty acid biosynthesis without affecting any other lipid biosynthesis pathways. This enabled us to design and execute studies towards potential development of platensimycin as an antidiabetic agent. This talk will summarize rationale of target selection, screening, isolation, structure elucidation, antibiotic evaluation, x-ray co-crystal structure bound to target, antibiotic development challenges, assessment of anti diabetic activity and its potential development as an antidiabetic agent.