



Anti-tubercular activity and mutagenicity of bioactive compounds in culture broth (CBPs) of *Streptomyces lydicus* A2

Monthon Lertcanawanichakul^{1,2*}, Kittisak Chawawisit^{1,2},
Nattida Damnadee¹, Natnithi Thiengtham¹ and Nisarath Rittirak¹

¹School of Allied Health Sciences, Walailak University, Nakhon Si Thammarat 80161, Thailand

²Research Unit Natural Products Utilisation, Walailak University, Nakhon Si Thammarat 80161, Thailand

Abstract : Secondary metabolites (active metabolites) that produced from *Streptomyces lydicus* A2 excreted to culture broth is a potential molecules candidate due to its anti-MRSA activity and other biological activities. Interesting in the scope of the antibiotic, we have checked the biological activities like effect of secondary metabolites collected from culture broth (CBPs) on *Mycobacterium tuberculosis* H37Ra by green fluorescent protein (GFP)-based fluorescent detection, including their mutagenic effect. In this study, the minimum inhibitory concentration (MIC) of CBPs against *M. tuberculosis* H37Ra was found to be 130 µg/mL of protein content (µg protein/mL). When compared with known antituberculous drugs like rifampicin, isoniazid, ethambutol and streptomycin, CBPs showed higher MIC on *M. tuberculosis* H37Ra. The mutagenic effect of CBPs was performed by Ames test. CBPs was non-mutagenic up to 130 µg protein/mL concentration.

Keywords : Ames test; Mutagenicity; Bioactive compounds; *Streptomyces lydicus*.

International Journal of PharmTech Research, Vol.10, No.2, pp 89-95 (2017)

<http://dx.doi.org/10.20902/IJPTR.2017.10113>

Monthon Lertcanawanichakul *et al* /International Journal of PharmTech Research, 2017,10(2): 89-95.
