

B22

**Isolation and Characterization of Two Mosquitocidal
Bacillus thuringiensis Strains Belonging to subsp.
kurstaki and subsp. *aizawai***

**Jong Yul Roh, Ming Shun Li, Jin Hee Chang, Hee Jin Shim,
Byung Rae Jin¹ and Yeon Ho Je .**

School of Agricultural Biotechnology, Seoul National University, Suwon,

¹*College of Natural Resources and Life Science, Dong-A University, Pusan*

Two *B. thuringiensis* strains, which had mosquitocidal activities, were isolated from Korean soil samples and named K-1205-1 and K-1381-1. Serological studies indicated that K-1205-1 and K-1381-1 belonged to *B. thuringiensis* subsp. *kurstaki* (H3a3b3c) and subsp. *aizawai* (H7), respectively. K-1205-1 produced typical bipyramidal parasporal inclusions K-1381-1 produced irregular bipyramidal shape. Total plasmid DNA patterns analysis showed that K-1205-1 and K-1381-1 were different from their reference strains, subsp. *kurstaki* and subsp. *aizawai*, in high molecules, whereas their crystal protein patterns showed no difference. The *cry* gene contents of K-1205-1 and K-1381-1 were identical with those of the reference strains. Mosquitocidal activities of crystal proteins produced by K-1205-1 and K-1381-1 were significantly higher by about 4050 folds at LC50 when compared to those of subsp. *kurstaki* and subsp. *aizawai*. Finally, in southern blot analysis using *cryIA*- type specific probe, K-1205-1 and K-1381-1 had different bands from subsp. *kurstaki* and subsp. *aizawai*. In conclusion, our results suggested that K-1205-1 and K-1381-1 are new mosquitocidal *B. thuringiensis* strains isolated from Korea.