

Identification of an entomopathogenic bacterium, *Photorhabdus temperata* subsp. *temperata*, in Korea

Sangjin Kang, Yonggyun Kim, Dongjin Ji, Youngkeun Yi, and Sangchan Han

(Department of Agricultural Biology, College of Natural Sciences, Andong National
University)

Entomopathogenic nematodes include two genera *Heterorhabditis* and *Steinernema*. These two genera are mutualistically associated with their symbiotic bacteria. This study reports identification of the symbiotic bacteria of *H. megidis* collected in Andong, Korea. The isolated bacteria emitted bioluminescence under dark condition and showed red color on MacConkey agar medium. To identify the bacterium, we assessed the physiological and biochemical characteristics described about the symbiotic bacteria of the entomopathogenic nematodes. Fatty acid composition and carbon utility were analyzed by Sherlock and Biolog identification systems, respectively. Finally, 16S rDNA sequence indicated the bacterial isolates share the highest sequence homology with that of *Photorhabdus temperata* subsp. *temperata*. We also found the potent pathogenicity of the bacterium against the fifth instar larvae of *Galleria mellonella* and *Spodoptera exigua*.