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## Screening of Protease-Producing Bacteria from Soil Metagenomic Library

Ju-Hyung Kang, Bo-Hye Kim, Sun-Yi Lee, Eun-Hee Kong<sup>1</sup>,  
Young-Bu Kim, Young-Min Park and Soon-Cheol Ahn\*

Department of Microbiology and Immunology, College of Medicine, Pusan National  
University

<sup>1</sup>Department of Family Medicine, Kosin University Gospel Hospital

Microorganisms cultured from soil have provided most of the antibiotics, many other medicinal agents and industrial biocatalysts. But, the number of microorganisms typically cultured from soil represents 0.1~1.0% of the total microbial community. Recent, the unculturable approaches instead of traditional cultivation have been introduced to explore new antibiotics and biocatalysts.

Construction of soil DNA library has great potential for biochemical and biotechnological purposes. Various soil bacterial DNA was isolated from soil samples using our optimized and modified protocols. Soil metagenomic libraries were constructed with DNA extracted directly from soil. The extracted DNA was fractionated by size and cloned into the *Sau3AI* site of pWHM3, a *Streptomyces-E. coli* shuttle vector.

In this study, protease-producing bacteria were isolated from soil metagenomic library. Those protease producers were analyzed by digestion patterns with restriction enzymes, *Bam* HI and *Sal* I and sequenced to confirm those novelty. Also those enzymatic activity were determined by spectrophotometric method after casein and skim milk hydrolysis.