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## Characterization of A cDNA Encoding Phenazine Biosynthesis Protein (PHZF) from Hot Pepper

Ukjo Kim, Sang Jik Lee, Mi Yeon Lee, Soon Ho Choi, Seung Gyun Yang and Chee Hark Harn.

Biotechnology Center, Nong Woo Bio Co., Ltd., 537-17 Jeongdan, Ganam, Yeosu, Kyonggi 469-885, Korea

### Objectives

The objective is to characterize *CcPHZF* gene encoding Phenazine Biosynthesis Protein that is known to exhibit broad-spectrum of antibiotic activity against various species of bacteria and fungus.

### Materials and Methods

1. Materials: *C. chinense* PI257284 (L3/L3); PMMV (P1,2 pathotype); *P. syringae* pv. *syringae* 61
2. Methods: from *C. chinense* PI257284 treated with PMMV, SSH was done and resistant related EST clones were isolated.

### Result and Discussion

We have found a novel cDNA encoding PHZF, a phenazine F biosynthesis protein, from a EST pool constructed by PCR-select cDNA subtraction after PMMV treatment. The entire region of *CcPHZF* is 879 bp in length and the open reading frame predicted a polypeptide of 292 amino acids. The homolog of *CcPHZF* is not present in database except for clones of AC004044 and NM100203 from *Arabidopsis* with 58 and 59%, respectively. Genomic Southern analysis indicated that the pepper genome contains a single copy of *CcPHZF*. The *CcPHZF* was strongly induced in the pepper leaves 48 hrs after PMMV treatment. And this gene was also induced at rather early hours, such as 3 hrs, after inoculating *Pseudomonas syringae* pv. *syringae* 61, and it was strongly expressed at 24 hrs. Taken together, the data here indicate that the *CcPHZF* is related to disease resistance against pathogens.