

## **A new organic solvent tolerant protease from *Bacillus pumilus* 115b**

### **ABSTRACT**

Five out of the nine benzene–toulene–ethylbenzene-xylene (BTEX) tolerant bacteria that demonstrated high protease activity on skim milk agar were isolated. Among them, isolate 115b identified as *Bacillus pumilus* exhibited the highest protease production. The protease produced was stable in 25% (v/v) benzene and toluene and it was activated 1.7 and 2.5- fold by n-dodecane and n-tetradecane, respectively. The gene encoding the organic solvent tolerant protease was cloned and its nucleotide sequence determined. Sequence analysis revealed an open reading frame (ORF) of 1,149 bp that encoded a polypeptide of 383 amino acid residues. The polypeptide composed of 29 residues of signal peptide, a propeptide of 79 residues and a mature protein of 275 amino acids with a calculated molecular mass of 27,846 Da. This is the only report available to date on organic solvent tolerant protease from *B. pumilus*.

**Keyword:** Organic solvent tolerant protease, Cloning, *Bacillus pumilus*, Isolation