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Molecular Cloning of a Novel Collagenase Gene from *V. parahaemolyticus* 04

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The structural gene *vppC* encoding a collagenase of *Vibrio parahaemolyticus* 04 (blood type-National Institute of Infectious Disease, Japan) was cloned and sequenced. The nucleotide sequence revealed a 2445bp open reading frame encoding a 89.9kDa protein composed of 814 amino acid residues. The deduced amino acid sequence of putative collagenase contained the consensus sequence of HEXXH which has been found in all kinds of zinc metalloproteases. The amino acid sequence of this enzyme shows 88% homology with that of the collagenase of *V. alginolyticus*. The recombinant *E. coli* for the production of collagenase was prepared by transforming *E. coli* JM109 with the expression vector pCOL. The expression vector was constructed by inserting collagenase gene (*vppC*) into pUC19 vector. Most of the collagenolytic activity was observed in the culture supernatant instead of the cell extract. High extracellular collagenolytic activity suggests that the cloned collagenase is secreted.