

Genetic Production of Novel and Functional Mussel Adhesive Protein Mgfp-5 from *Mytilus galloprovincialis*

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Mussel adhesive proteins have been studied as water-resist, environmental-friendly, and medical adhesives¹⁾. In this research, cDNA for novel mussel adhesive protein, *Mytilus galloprovincialis* foot protein-5 (Mgfp-5), was obtained by reverse transcriptase-polymerase chain reaction (RT-PCR) from total RNA that was isolated from foot of mussel *M. galloprovincialis* and genetically expressed in *Escherichia coli* expression system^{2),3)}. cDNA of Mgfp-5 with 357 bp was successfully cloned from *M. galloprovincialis* for the first time in this research and its nucleotide sequence was almost elucidated except a few signal sequence part. Recombinant Mgfp-5 which is fused with (His)₆ affinity tag was successfully expressed as a soluble form in *E. coli* and was purified with high purity using one step immobilized metal affinity chromatography (IMAC). We confirmed the expressed and purified recombinant Mgfp-5 through amino acid composition analysis. Finally, we investigated its adhesion ability using atomic force microscopy (AFM) analysis and coating on glass substrate.

참고문헌

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