

Histone H1-derived Antimicrobial Peptides from *Carassius auratus*

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Among 3 obtained-PCR products, we identified a novel histone H1 coding sequence of 576 Bp which belongs to histone H1 family and revealed it has 78% homologous with amino acid sequence of histone H1 from *Salmon salar*, which had been demonstrated that it plays an important role in salmon defenses against infectious pathogens. The H1 histone of goldfish contained several predicting cleavage sites. We successfully expressed the products of whole CDs (No ATG) of H1 histone and its N-terminal part(2-38aa) in *Pichia pPIC9K* expression system. The products of H1 histone and its N-terminal deriving peptide (AEVAPAASAPPAKAPKKKSAKAKKAGPAVGDLIVKA) show antimicrobial activity. H1 histone and the fragment in this paper are novel antimicrobial peptides found in goldfish. *Pichia* secretion expression system is a good way for expression of mature antimicrobial peptides. H1 histone plays an important role in innate immune responses of goldfish. The antimicrobial activity of the fragments of the H1 histone cleaved by Arg-c, Asp-N and Glutamyl endopeptidases will be further studied.