

Crude extracts of epidermal mucus and epidermis of climbing perch *Anabas testudineus* and its antibacterial and hemolytic activities

ABSTRACT

Epidermal mucus of fish contains a number of biologically active constituents including antimicrobial peptides that are continuously expressed and also engaged in provision of protection to the fish against injurious substances as well as potential pathogenic microbes. This study seeks to determine the hemolytic and antibacterial properties of crude extract from epidermal mucus of climbing perch. Epidermal mucus and epidermis were obtained from 15 climbing perches after hypothermic stress stimulation for extraction of crude by aqueous and acidic methods. Antibacterial activity by well diffusion agar was applied for both extracts against 11 strains belonging to 7 different bacterial species using well agar diffusion test assay. In addition, haemolytic activity was investigated using horse RBCs. Antibacterial activity was performed for acidified crude extract only and it was found to be significant ($P < 0.05$) against *P. aeruginosa* while the least reactivity was observed against Methicillin Resistant *Staphylococcus aureus*. Total soluble protein concentration was 1.2 mg/ml with 13 bands of proteins (245–11) kDa distinguished. There was absence of haemolytic activity of acidified crude extract using horse RBCs. The finding of this study indicates that proteins in bioactive crude extracted from climbing perch have potential therapeutic application.

Keyword: Epidermal mucus; *Anabas testudineus*; Antibacterial peptides; Hemolytic activity; Innate immunity; Fish