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EFFECT OF *Escherichia coli* ENDOTOXIN ON *Archachatina marginata* HAEMOLYMPH COAGULATION SYSTEM

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The effect of *E. coli* endotoxin on the haemolymph coagulation response of *Archachatina marginata* was studied. Haemocyte Lysate(HL), Haemocyte Lysate Supernatant(HLS) and Haemocyte Lysate Debris (HLD) were exposed to *Escherichia coli* endotoxin. Controls were prepared with endotoxin-free water(<0.025 EU/ml). The differential protein coagulation was estimated in each mixture. Fractions of the haemolymph exposed to endotoxin produced higher protein coagulates than endotoxin-free fractions when incubated at 37 °C for 1 h ($p<0.05$). The results showed significantly higher ($p<0.05$) concentrations of protein coagulated when HL/plasma mixture were used than when either fraction was used. At a ratio 1:1 of HL:Plasma, highest protein coagulation was recorded. This study revealed that maximum protein coagulation in response to endotoxin was elicited by a synergy between plasma and haemocyte lysate(HL). A linear relationship to endotoxin concentration was also established between 0 EU/ml and 1.0 EU/ml. At higher concentrations of endotoxin, the protein coagulation dropped significantly ($p<0.05$) and higher concentrations of endotoxin produced no increase in protein coagulation but a sharp drop and then no further significant change. The results suggest the presence of lipopolysaccharide(LPS)-binding proteins in the haemolymph fractions of *Archachatina marginata* capable of recognizing the cell-wall components of *E. coli* and binding it quantitatively until the response becomes overwhelmed at higher doses of endotoxin.

Keywords: *Archachatina marginata* haemolymph, *Escherichia coli* endotoxin, invertebrate coagulation systems, phenoloxidase activity