

On the Mode of Action of Methionine Enkephalin, FK 33–824 and Naloxone in Regulating the Hemolymph Glucose Level in the Fresh Water Field Crab *Oziotelphusa senex senex*

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The possible involvement of opioid system in the regulation of hemolymph glucose level in the fresh water crab *Oziotelphusa senex senex* Fabricius, was investigated. Opioid agonist and antagonist was also used in addition to methionine-enkephalin itself. Injection of the opioid, methionine-enkephalin and FK 33–824 significantly elevated hemolymph glucose level. In contrast, injection of naloxone in to crab resulted in decrease in hemolymph glucose level. Injection of naloxone prior to injection of methionine-enkephalin blocked the hyperglycemic action of methionine-enkephalin. Injection of methionine-enkephalin, FK 33824 and naloxone produced no significant effect on hemolymph glucose level in eyestalk-less crab. The alterations in the intact crab hemolymph glucose level hypothesised to be due to stimulation of release of hyperglycemic hormone during methionine-enkephalin and FK 33824 treatment and blocking of release of hyperglycemic hormone during naloxone treatment from the eyestalks of crab *Oziotelphusa senex senex*.