

EFFECT OF W7, MELITTIN AND NMDA ON THE BRAIN PROTEIN PROFILE OF THE HONEYBEE *APIS MELLIFERA L.*

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A. mellifera honeybees are social insects with a complex sensorial system and behavior characterized by a division of labor in nurse and forager workers. To compare the effect of calmodulin antagonists such as W7 and melittin and an agonist of glutamate receptor known as NMDA on the honeybee brain protein profile we injected these drugs directly in the brain of forager and nurse's bee. Each group of 3 bees received an injection through a region near to the mandibles of 1uL of a specific low concentration dose of one of these three drugs. Bee brains were dissected 30 minutes, 1h, 2hs and 3hs after these injections and subject to SDS-PAGE and optical densitometric analysis. We observed an effect of these drugs at 30 minutes and 3hs after injection causing changes in specific bands of the brain protein profile when compared with the control group (saline). Therefore, injection of W7, melittin and NMDA on honeybee's brain can affect, upon time, the protein profile, independent of the group of honeybee tested. To investigate if these effects are specific to some neuronal targets we are currently probing these samples with different antibodies to synaptic vesicle markers, kinases and calmodulin-binding proteins and preparing to use proteomics approach to identify these proteins.

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