CALMODULIN-BINDING PROTEINS IDENTIFIED IN THE HONEYBEE BRAIN *APIS MELLIFERA L.*

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Calmodulin is a Ca^{+2}-binding protein, important in a wide variety of cellular functions. The complex Ca^{+2}/calmodulin interact and regulate several enzymes and target-proteins, known as calmodulin-binding proteins (CaMBPs). This study identified comparatively the composition of CaMBPs in the brain of the workers honeybees *A. mellifera*, aiming to relate with their behavior in the colony. For that, the CaMBPS from the forager and nurse workers bee brain were purified by affinity chromatography, separated in gel 1DE, digested and submitted to MALDI-TOF for identification. Peptide mass fingerprint data revealed 21 proteins identified as CaMBP. Sequence analysis of these CaMBPs showed the following classification: potential *IQ* motif (1), potential CaM- binding site" (13), non-specific CaM-binding motif (3) and absence of CaM-binding site motif (4). We found two and thirteen CaMBPs behavior-specific related, respectively to forager and nurse bees. Each of these proteins was annotated for their functions and cellular locations. Most of them were involved in metabolism. Therefore, these results indicate that behavior changes in the colony of *A. mellifera* modify the CaMBPs composition and possibly its functions in the workers brain.

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