

HISTONE H3 LYSINE 4 METHYLATION IN THE NEURONS OF THE MUSHROOM BODIES OF THE HONEYBEE BRAIN IN MEMORY FORMATION

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In the honeybee, mono-, di-, and trimethylation of histone H3K4 were investigated in the neurons mushroom bodies, the structures responsible for the training and memory of insects. A significant increase in all the studied methylation variants was shown 1 h after the training, which is probably due to transcription activation during this period. 24 h after training, no differences from control were observed. This study contributes to understanding the epigenetic mechanisms of memory formation.

Keywords: histone methylation, H3K4me1, H3K4me2, H3K4me3, honeybee, learning and memory