

Rat strain influences the use of egocentric learning strategies mediated by neostriatum

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Rats use place (allocentric) or stimulus-response (egocentric) learning strategies for foraging under ethological and/or experimental conditions, proposed to be conveyed by hippocampus or neostriatum, respectively. We investigated here the effect of a reversible blockade of neostriatum on learning strategies assessed by a cross maze paradigm, comparing A × C (phenotypically similar to wild rats) versus Long-Evans rat strains. The rats were trained to reach a consistently baited-arm (west arm), starting from the same arm (south arm). The learning strategy was evaluated at days 11 and 19, when test trials were performed placing the rat in a start-box at the arm (north arm) opposite to that when starting the training, following a saline or lidocaine injection into the neostriatum. Rats entering to the baited-west arm were considered to be place learners and those entering to the unbaited-east arm were response learners. It was found that Long-Evans rats injected with saline were place lea