

## EFFECT OF BUTYLATED HYDROXY TOLUENE AND AVOIDANCE LEARNING ON DOPAMINE D1 RECEPTOR DISTRIBUTION IN CEREBELLUM OF MALE RAT

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Butylated hydroxytoluene (BHT) is the most widely used antioxidants in foods and in food-related products. So the aim of present study was to investigation of the effect of BHT and Passive avoidance learning on dopamine D1 receptor distribution in cerebellum of male rats. Thirty six male rats weighting 200-220 g were used. Animals were divided into 6 groups:

- 1- negative sham (received 2.5 ml/kg/day sesame oil without learning);
- 2- Sham group (received 2.5 ml/kg/day sesame oil with learning);
- 3- experimental1 (received BHT 25 mg/kg/day without learning);
- 4- experimental2 (received BHT 100 mg/kg/day without learning);
- 5- experimental3 (received BHT 25 mg/kg/day with learning);
- 6- experimental4 (received BHT 100 mg/kg/day with learning).

BHT was used by oral intake for 15 days. Learning and memory were performed by a passive avoidance shuttle-box. Distribution of dopamine D1 receptor was investigated by immunohistochemical procedure. Data was analyzed by one ways ANOVA and Tucky's test as post-hoc test. The level of significant was  $P < 0.05$ . immunohistochemical data according to image analyzer program showed that BHT in high dose without learning significantly increased distribution of dopamine D1 receptor in cerebellum and learning significantly decreased distribution of dopamine D1 receptor in cerebellum. According to our results BHT improved distribution of dopamine D1 receptor in cerebellum.