Results: Immobilisation time (IT) in FST after the administration of imipramine was shorter than the control, same as for subgroups treated with AE I, II and VS. In the subgroup treated with fluoxetine, IT in TST was shorter than the control time, and the same was observed in subgroups treated with AE I, II and VS.

Significant binding energies were found for Serotonin Reuptake Transporter (SERT) and verbenalin (−7.20 kcal/mol) and verbascoside (−6.61 kcal/mol), and for the Leucine Transprter (LeuT), the homologue of the noradrenaline reuptake transporter, and verbenalin (−6.27 kcal/mol) and caffeic acid (−5.85 kcal/mol).

Conclusion: In both pharmacodynamic tests the antidepressive effect of AE and VS has been confirmed. Verbenalin and verbascoside binding energies and poses in interaction with SERT were similar to those of paroxetine. For LeuT, verbenalin showed both a similar binding energy and pose to that of imipramine, whereas caffeic acid showed only a similar binding energy.[1–4]

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PS213

Thermal denaturation profiles of proteome and blood serum of rats with drug-induced dementia. A DSC study

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Aim: The aim of this study is to evaluate the effect of scopolamine on different brain segments using DSC.

Introduction: In this work, probes from different brain segments of rats with drug-induced dementia were characterized by differential scanning calorimetry (DSC) and their thermodynamic properties were determined.

Methods: Male Wistar rats were injected with scopolamine for 14 consecutive days in order to induce drug model of dementia. After being decapitated, their brains were divided into the following segments: telencephalon, mesencephalon and cerebellum. Afterwards, the brain supernatants of the latter 3 segments were examined by DSC and compared with the controls.

Results: The DSC measurements revealed large differences between the denaturation profiles of rat brain supernatants and blood serum. The thermograms of brain tissues displayed clearly expressed low-temperature exothermic transitions with peaks in the range 35–45 °C which are missing in blood serum samples. There were differences between the termograms of the separate brain segments as well. The thermodynamic parameters of the denaturation profiles were also determined.

Conclusion: These measurements show that DSC is an appropriate method with great potential for detection and characterization of the changes taking place at molecular level in different tissues, especially in brain tissues affected by neurodegenerative disorders.

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PS231

Effects of Vitamin D on the expression of markers of principal neurons, interneurons and astrocytes in cerebral cortex and hippocampus in gerbils exposed to transient global cerebral ischemia

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Aim: Examination of the effects of vitamin D pretreatment on the expression of markers of principal neurons (NeuN), inhibitory interneurons (PV) and astrocytes (GFAP) in cerebral cortex and hippocampus in gerbils who were exposed to transient global cerebral ischemia.

Introduction: Brain ischemia may cause serious damage to the cells in the central nervous system. Vitamin D has an important role in brain injury treatment due to its neuroprotective effects.

Methods: Gerbils were divided in 5 groups: control group; two groups that underwent ischemia and then reperfusion for three (I/R3d) and seven days (I/R7d) and two groups that were treated with vitamin D before I/R (vitD + I/R3d and vitD + I/R7d). Complete blood supply to the brain was cut off for 10 minutes and reperfusion lasted 3 and 7 days. They were daily treated with vitamin D for 7 days prior ischemia. Expression of proteins was detected using Western blot.

Results: No changes were detected in expression of NeuN markers in cortex of experimental groups, while there was increase in expression in hippocampus in groups I/R7d and vitD + I/R7d in comparison to the control group and group vitD + I/R3d. Expression of PV in cortex was significantly reduced in group I/R7d in comparison to group I/R3d, whereas in hippocampus the expression was significantly higher in group vitD + I/R3d than in group I/R3d. Expression of GFAP has significantly risen in all groups in comparison to the control group whereas in hippocampus there was a rise in groups vitD + I/R3d, I/R7d and vitD + I/R7d in comparison to the control group. There was also a rise of GFAP expression in groups treated with vitamin D (vitD + I/R3d and vitD + I/R7d) in comparison to those that have not been treated (I/R3d, I/R7d).

Conclusion: Vitamin D has positive effect on astrocytes in both structures of gerbils that underwent global cerebral ischemia, especially in hippocampal region.

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PS238

Identification of genetic modifiers of somatic CAG instability in Huntington's Disease by in vivo CRISPR – Cas9 genome editing

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