**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 verbascone (−6.61 kcal/mol), and for the Leucine Transporter (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 verbascone 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

**Acknowledgements:** This research was made with the support of Science Fund at Medical University-Sofia, Bulgaria, Project 8-C/2016 and National Science Fund Project DN03/13/2016.

[Text of references and acknowledgements]

**References**

4. Makino Y, Kondo S, Nishimura Y, Tsukamoto Y, Huang ZL, Urade Y. Hastatoside (~8-

**PS213**

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

N. Nizamova a, S. Abarova, L. Traikov, R. Koyanova, B. Tenclov

Dept Medical Physics and Biophysics, Medical University – Sofia, 1431 Sofia, Bulgaria

E-mail address: nezi.nizamova@gmail.com

(A. Nizamova).

**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 thermograms 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.