

**ANTIOXIDATIVE ACTIVITY OF *ASTRAGALUS MEMBRANACEUS* (FABACEAE) ROOT AND AERIAL PARTS
EXTRACTS IN TWO MODEL SYSTEMS**

© L. V. Shurygina, ^{*} ¹ A. A. Kravtsov, ¹ S. V. Kozin, ¹ E. I. Zlishcheva, ¹ N. O. Abramova²

¹Kuban state university, Krasnodar, Russia

²ООО «Baliz Farm», Krasnodar, Russia

*E-mail: balizfarm@mail.ru

REFERENCES

1. Khajdav T. S., Menshikova T. A. 1978. Lekarstvennyie rasteniya v mongolskoy meditsine [Medicinal plants in the Mongolian medicine]. Ulan-Bator. 191 p. (In Russian)
2. Petrov E. V., Chehirova E. V., Aseeva T. A., Nikolaev S. M. 2008. Lekarstvennyie sredstva na osnove rastitelnyih resursov Baykalskogo regiona [Medicines products based on plant resources of the Baikal region]. Novosibirsk. 94 p. (In Russian)
3. Cai G., Liu B., Liu W., Tan X., Rong J., Chen X., Tong L., Shen J. 2007. Buyang Huanwu Decoction can improve recovery of neurological function, reduce infarction volume, stimulate neural proliferation and modulate VEGF and Flk1 expressions in transient focal cerebral ischaemic rat brains. — J. Ethnopharmacol. 113: 292–299.
4. Rios J. L., Waterman P. G. 1997. A review of the pharmacology and toxicology of *Astragalus*. — Phytotherapy Research. 11(6): 411–418.
5. Ko J. K.-Sh., Lam F. Y.-L., Cheung A. P.-L. 2005. Amelioration of experimental colitis by *Astragalus membranaceus* through anti-oxidation and inhibition of adhesion molecule synthesis. — World J. Gastroenterol. 11(37): 5787–5794.
6. Liu H., Chen A. P. 2006. Effect of *Astragalus* injection on lipid peroxidation and antioxidant enzymes activity in patients with chronic corpulmonale. — Chin. J. Hosp. Pharm. 26(11): 1340–1342.
7. Luo Y., Qin Zh., Hong Zh., Zhang X., Ding D., Fu J.-H., Zhang W.-D., Chen J. 2004. Astragaloside IV protects against ischemic brain injury in a murine model of transient focal ischemia. — Neuroscience Letters. 363: 218–223.
8. Chan W.-S., Durairajan S. S. K., Lu J.-H., Wang Y., Xie L.-X., Kum W.-F., Koo I., Yung K. K. L., Li M. 2009. Neuroprotective effects of Astragaloside IV in 6-hydroxydopamine-treated primary nigral cell culture. — Neurochemistry International. 55: 414–422.
9. Lu M. C., Yao C. H., Wang S. H., Lai Y. L., Tsai C. C., Chen Y. S. 2010. Effect of *Astragalus membranaceus* in rats on peripheral nerve regeneration: *in vitro* and *in vivo* studies. — J. Trauma. 68(2): 434–440.

10. Yu D., Duan Y., Bao Y., Wei Ch., An L. 2005. Isoflavonoids from *Astragalus mongholicus* protect PC12 cells from toxicity induced by l-glutamate. — J. Ethnopharmacol. 98: 89–94.
11. Shurygin A. Ya., Nikolaev S. M., Kravtsov A. A., Nemchinova E. A., Aseeva T. A., Petrov E. V., Batsuren D., Tunsag Zh. 2012. Neuprotective effect of herb extractions from *Astragalus membranaceus* and *A. mongolicus* (Fabaceae) glutamate toxicity. — Rastitelnye resursy. 48(2): 273–277. (In Russian)
12. Shurygina L. V., Kravtsov A. A., Nikolaev S. M., Zlishcheva L. I., Lobova N. N., Nemchinova E. A., Skorokhod N. S. 2012. Neuroprotective effect of extracts of roots and aerial parts of *Astragalus membranaceus* in cerebellar neurons culture of rats with glutamate excitotoxicity. — Vestnik Buryatskogo gosudarstvennogo universiteta. Meditsina i farmatsiya. 2: 109–115. (In Russian)
13. Farkhutdinov R. R., Likhovskikh V. A. 1995. Primenenie khemilyuminestsentnykh metodov v meditsine i biologii [Application of chemiluminescent methods in medicine and biology]. Ufa. 110 p. (In Russian)
14. Klebanov G. I., Babenkova I. V., Teselkin Yu. O., Komarov O. S., Vladimirov Yu. A. 1988. Evaluation of blood plasma antioxidative activity using yolk lipoproteins. — Laboratornoye delo. 5: 59–62. (In Russian)
15. Vladimirov Yu. A., Proskurina E. A. 2009. Free radicals and cellular chemiluminescence. — Uspekhi biologicheskoy khimii. 49: 341–388. (In Russian)
16. Alekseev A. V., Proskurnina E. V., Vladimirov Yu. A. 2012. Determination of antioxidants by sensitized chemiluminescence using 2,2'-azo-bis (2-amidinopropane). — Vestnik moskovskogo universiteta. Seriya 2. Khimiya. 53(3): 187–193. (In Russian)