



## **Title:** Stress testing of drug substances of herbal origin

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Stress testing is defined as the stability testing of drug substances and drug products under conditions exceeding those used for accelerated testing. Stress testing provides information about degradation mechanisms and potential degradation products. The purpose of this work is to study the stability of substances of herbal origin by stress-testing. Various substances present in herbals and herbal medical products indicated in pharmacopoeias were taken into research. Chlorogenic acid in qualitative analysis of *Urticae folia*; ellagic acid - *Alni glutinosae folia*, caffeic acid - *Taraxaci officinalis radices* and *Phaseoli vulgaris valvae fructus*; arbutin – *Vaccinii vitis-idaeae folia* and *Uvae ursi folia*, 20-hydroxyecdysone - *Rhapontici carthamoides rhizomata cum radicibus* and *folia*, glaucine – the main alkaloids of *Glaucium flavum herba* were used. The next conditions of stress-testing were chosen: hydrolysis in neutral (purified water), acid (0.01 M HCl) and alkaline (0.01 M NaOH) hydrolysis, treatment with 0.05 M aqueous solutions of ions of  $\text{Cu}^{2+}$  and  $\text{Fe}^{2+}$  for 14 days, and 0.1 and 2 % hydrogen peroxide for 24 h. The destruction of substances less than 15% during the period of storage was regarded as satisfactory result. It has been established that all investigated substances were stable in solutions of hydrogen peroxide and in purified water. Ellagic, chlorogenic and caffeic acids are unstable in solutions of alkaline, acids and metal ions. 20-Hydroxyecdysone was destructed in alkaline solution. These data can be used further in manufacturing processes or for selection of packing methods of medicinal herbals.

### **Biography**

Moiseev Dmitry has completed his specialist from pharmaceutical faculty (2002) and specialist from faculty of pedagogy and psychology (2011) of Vitebsk State Medical University. He has a Ph.D. degree in Pharmaceutical Sciences (2007). Since 2011 Dmitry Moiseev head of Department Standardization of Medicinal products of Vitebsk State Medical University. He has published more than 30 papers in reputed journals.