

POSTER PRESENTATIONS

***Ajuga turkestanica* IS A PROMISING SOURCE FOR THE CREATION OF DRUGS AND BIOLOGICALLY ACTIVE ADDITIVES OF A METABOLIC TYPE OF ACTION**

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Ajuga turkestanica (Lamiaceae) is an endemic medicinal plant of Uzbekistan and a rich natural source of phytoecdysteroids, including ecdysterone (20-hydroxyecdysone), turkesterone, cyasterone, and several other biologically active constituents. Phytoecdysteroids have been reported to exhibit protein anabolic activity of varying intensity, promote the normalization of carbohydrate and lipid metabolism, and enhance the energy potential of cellular systems.

Based on ecdysterone isolated from *A. turkestanica*, the ICPS of the AS RUz developed the pharmaceutical preparation **Ecdisten**, which is commercially available as 5 mg tablets. Experimental and clinical studies have demonstrated that Ecdisten enhances the adaptive capacity and resistance of the organism to various environmental stressors. In addition, it stimulates central nervous system activity, improves physical and cognitive performance, and alleviates metabolic disturbances in different organs and tissues associated with a wide range of preclinical and pathological conditions.

A related formulation, **Megaecdysterone**, contains a higher dose of the active substance and is marketed in capsule form. Owing to its more pronounced stimulation of protein biosynthesis in skeletal muscle, Megaecdysterone has attracted considerable attention as a promising actoprotective agent for improving physical performance and exercise tolerance.

Another preparation, **Ayustan**, was developed from the total phytoecdysteroid fraction together with other bioactive constituents of *A. turkestanica*. In addition to its general tonic effects, Ayustan exhibits significant lactogenic activity and is indicated for the management of hypogalactia in postpartum women. Its administration has also been shown to increase the concentrations of proteins, lipids, and carbohydrates in breast milk.

The dietary supplement **Exumid**, produced using a proprietary extraction and processing technology, contains ecdysterone and turkesterone in approximately equal proportions. It is intended to improve physical and mental performance, enhance functional capacity, and increase resistance to stress. In addition, Exumid has been reported to exhibit mild aphrodisiac activity.

Another dietary supplement, **Jistenin**, contains phytoecdysteroids that stimulate the synthesis of aquaporins involved in transmembrane water transport within the skin. These properties make it a valuable ingredient in moisturizing creams and other cosmetic formulations designed to improve skin hydration.

In addition to phytoecdysteroids, *A. turkestanica* contains several other biologically active compounds with considerable pharmacological potential. Among these are the iridoid glycosides **harpagide** and **acetylharpagide**, which have been shown to stimulate bile secretion and normalize its biochemical composition. Furthermore, a lipid concentrate isolated from the aerial parts of the plant exhibits pronounced wound-healing activity.

Overall, *Ajuga turkestanica* represents a valuable source of structurally diverse bioactive metabolites with broad pharmacological potential. These compounds offer promising applications in pharmaceuticals, dietary supplements, cosmeceuticals, and health-promoting medicine.