

**THEORETICAL AND EXPERIMENTAL SUBSTANTIATION  
OF ANALGETIC AND ANTI-INFLAMMATORY ACTIVITY  
OF *TANACETUM PARTHENIUM* NEW EXTRACTS**

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The medical and social significance of inflammatory diseases, which are widespread and often accompanied by pain, is growing worldwide. This determines the need for effective pharmacocorrection of inflammation and pain, which is traditionally used steroid and nonsteroidal anti-inflammatory drugs, which along with high efficiency can detect a number of dangerous side effects: gastrointestinal disorders, hemorrhagic syndrome, bronchospasm, tocolytic effect, necrospemia, hepato- and hematotoxicity. Given the above, the development of new anti-inflammatory and analgesic drugs, in particular of plant origin is relevant. The difficulty of developing effective and at the same time safe agents for the treatment of inflammation is that it is a polyvalent, very dynamic process with many alternative and cross pathways, existing both at the level of intracellular interactions of signaling cascades and at the level of regulation of inflammatory mediators. Given this, the effect on only one target of pathogenesis is either not accompanied by a sufficient pharmacological effect, or causes a number of side effects. Based on the above, modern medical science postulates the need to create new drugs that can regulate the activity of not one but several pathogenetic mechanisms of inflammation. In this regard, promising are drugs based on plant materials. Modern science knows at least 1200 species of plants with pronounced pharmacological activity. Their therapeutic value is proven by a thousand-year history of use and scientifically substantiated by the results of preclinical and clinical studies. The advantage of medicinal plants over synthetic pharmacological drugs is the possibility of their long-term use without significant side effects. It should also be taken into account that herbal remedies correct and balance the system of the whole organism. Given the above, the development of new anti-inflammatory and analgesic drugs, in particular herbal, which are safer, is relevant.

A promising tool in this regard is *Tanacetum parthenium* herb and extracts obtained at the Department of Botany of NUPh under the leadership of prof. Gontova T. M.

Chemical composition of extracts represented mainly by flavonoids, hydroxycinnamic acids, volatile compounds, sesquiterpene lactones, organic acids, etc. The main group of biologically active substances, which determines the biological action are sesquiterpene lactones, namely – parthenolide. Pharmacological studies of analgesic activity of lipophilic extract and anti-inflammatory activity of the obtained hydrophilic extracts indicate the presence of pronounced activity.

The obtained results substantiate the expediency of further study of the effectiveness of the obtained extracts in the model of adjuvant arthritis in rats.