New herbal products for the treatment and prevention of socially significant diseases

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>10,000 wild-growing and several hundred cultivated plant species

Center of medicinal plant cultivation (SPCPA)
For the realization of these advantages we created the «phytopharmaceutical platform»

- Choice of a rational formulation and development of technology of drugs
- Evaluation of the pharmacological activity of plant substances
- Development of technologies for the production of total extracts and isolation of individual compounds
- Information and analytical database of medicinal plants
- Technologies of cultivation and drying of medicinal plants
- Phytochemical screening of medicinal plants
- Standardization of plant raw materials
- Evaluation of the possibility of chemical modification and synthesis of active molecules
Search for drugs for the prevention and treatment of socially significant diseases

**Socially significant diseases**

- **Diabetes**
- **Disorders of fat and carbohydrate metabolism**
- **Liver diseases** (hepatitis, nonalcoholic and alcoholic fatty liver, liver fibrosis, etc.)
Objective of the project:

Obtaining new promising natural compounds and development of active pharmaceutical substances of plant origin for the treatment and prevention of socially significant diseases in partnership between St. Petersburg State Chemical-Pharmaceutical Academy and scientific and educational organizations of Baltic Region.
Galega officinalis

Avena sativa

Scutellaria baicalensis

galegine

avenantramide

baicalein

etc. ...

(more than 20 plants)
Partnership Objectives

- Isolation and purification of individual substances from plant materials
- Confirmation of the structure of individual substances by spectral analysis techniques
- Analysis of the biological activity using in vitro methods
Uniting the possibilities of SPCPA and foreign partners ...
The expected results:

• Technologies of cultivation and drying of medicinal plants will be used by farmers engaged in the cultivation of medicinal plants for the medical industry.

• Projects of monographs for Russian and European Pharmacopoeias will be used to standardize new herbal medicinal raw materials.
The expected results:

• Individual substances of plant origin with a confirmed molecular structure and pharmacological activity will be used to create new effective and safe drugs.

• Protocols of preclinical research will form the basis of patents for new medicinal substances.
The expected results:

• The results of the project will be published in international journals.

• Educational programs will be created for students in the courses of botany, pharmacognosy, phytochemistry and technology of medicines.

• Training courses will be organized to exchange students from Russia and foreign countries.
«Developing Future Networks for joint Russian-Finnish Life Science Activities (FuNLife)»
"Development of highly effective safe pharmaceutical substances on the basis of individual natural compounds for correction of disorders of fat and carbohydrate metabolism"
Thank you for your attention!