

Russian regional scientists project proposals for participation in FP7

THEME 1: Health

[FP7-HEALTH-2010-single-stage](#)

[FP7-HEALTH-2010-two-stage](#)

[2.4. TRANSLATIONAL RESEARCH IN OTHER MAJOR DISEASES](#)

[3.5. SPECIFIC INTERNATIONAL COOPERATION ACTIONS FOR HEALTH SYSTEM RESEARCH](#)

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Is interested in participation in a project that will be prepared and submitted in the following topics:

- 1) Physiological substantiation of necessity of microreologic blood properties' estimation in the diagnostic and correction of microvascular abnormalities*

Call identifier: FP7-HEALTH-2010-single-stage, FP7-HEALTH-2010-two-stage

Expertise offered:

The project's aim is to reveal the cellular mechanisms of microreologic abnormalities in the changed conditions of organism induced by ecological and pathological environment factors. The urgency of the investigation is defined by the wide extension of microvascular changes of various genesis and by absence of data concerning leading physiological and pathological mechanisms and their emergence.

In the earlier carried researches on this path, homogeneous changes of white and red blood's microreologic properties of the experimental animals which were exposed to environmental extreme conditions influence and of patients with some types of pathologic. It was determined that the evidence of studied reactions' shifts was depended on rate of organism's abnormalities.

Problems to be solved and results: On the basis of the experimental and clinical investigations of the estimation of blood cells' microreological properties was intended to elaborate solid effective adaptation abilities' organism's diagnostic tests, to estimate the possibility of functional abnormalities' transition to the pathologic conditions, to reveal the informative criterion of abnormalities on the cellular level and earlier stages' markers of microvascular disorders.

- 2) Investigation of physiological mechanisms' changes on the cellular level during diseases connected with abnormalities of neuroendocrinal regulation (insular diabetes, metabolic syndrome, hypertension, thyroiditis). The reveal of possible reasons and the ways of correction of all existing disturbances.*

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Expertise offered:

<http://www.ric.vsu.ru>

The first-motion direction of investigation is the study of physiological mechanisms induced by socio-economical, ecological and pathological environmental factors. On the base of estimation of functional properties and deformational blood cells' characteristics with the help of electronic (Quanta 200 3D) and microprobe microscopy (SZM Complex NTEGRA Vita) timely diagnostics and prognostication of organisms' abnormalities caused by worsening of blood supply of different organs and tissues is possible. Correction of the revealed changes can provide the favorable outcome of latent and early forms of diseases, increase the effectiveness of activity of able-bodied citizens, optimize the health control and increase active life span. Special attention is paid to such widespread types of pathology as insular diabetes, hypertension, metabolic syndrome, thyroiditis. Problems to be solved and results: On the basis of the experimental and clinical investigations of the estimation of blood cells' microreological properties was intended to elaborate solid effective adaptation abilities' organism's diagnostic tests, to estimate the possibility of functional abnormalities' transition to the pathologic conditions, to reveal the informative criterion of abnormalities on the cellular level and earlier stages' markers of microvascular disorders, to conduct the selection of correction biological active and safety preparations.

Publications on the topic:

- ✓ Fyodorova M.Z., Klochkova G.N., Ankudinov I.V. The role in cellular reactions in the forming of indices of health among people with disfunctions of neuroendocrinal regulation//Ecology and ealth. Matherials of Satellite symposium XX Congress of Russian physiologists. -M.:RUDN, 2007. -P. 180-181.
- ✓ Fyodorova M.Z., Klochkova G.N., Ankudinov I.V. The changes of cells' contact properties among patients with vascular abnormalities with various genesis//Regional blood circulation and microcirculation, №16 2007. -P. 141-143.
- ✓ Fyodorova M.Z., Ankudinov I.V., Klochkova G.N., Pavlov N.A. Coplementarity of the blood cells' contact properties and plasma compound changes at person with dysfunction of neuroendocrinal regulation// "Hemoreology and microcirculation": Matherials of international conference. -Yaroslavl: Publishing house YSEU, 2007. -P. 40.
- ✓ Fyodorova M.Z., Klochkova G.N., Ankudinov I.V. Microreologic leukocytes' properties under vascular disfunctions with various genesis//Matherials of Third All-Russian scientific conference "Clinical hemostasiologic and hemoreologic in vascular surgery". -M., 2007. -P.247-248.
- ✓ Fyodorova M.Z., Klochkova G.N., Ankudinov I.V. Functional blood cells' characteristics as the criterion of evidence of microreologic changes' degree//5-th International scientific-practical conference "Valeology: modern state, direction and progress perspective". -Kharkov, 2007. -P. 180-183.
- ✓ Ankudinov I.V., Klochkova G.N., Levin V.N., Fyodorova M.Z. The compound and functional blood cells' characteristics among the patients with disfunctions of regulatory systems//Physiology-hygienic problems of ecology of human. Matherials of All-Russian conference with international participation. Belgorod, 2007. -P.12-14.

3) Diagnostic estimation of microreological blood properties

Call identifier: FP7-HEALTH-2010-single-stage, FP7-HEALTH-2010-two-stage

Expertise offered:

The project's aim is to solve the actual diagnostic's problems and to correct the microreologic abnormalities produced by ecologic and pathologic environmental factors as well as age-specific changes of human organism. On basis of deformation characteristics' estimation of blood cells with usage of electron (Quanta 200 3D) and probe (SZM Complex NTEGRA Vita) microscopy taking into consideration genotypic features of adhesion molecules' synthesis, the prediction of organism's abnormalities determined by deterioration of different organs and tissues' blood supply are quite possible.

Correction of revealed changes will allow the successful outcome of latent and early sickness forms, will increase effectiveness of activity of capable working people, will optimize health control and enlarge active lifetime of elderly person.



<http://www.ric.vsu.ru>

Problems to be solved and results: On the basis of the experimental and clinical investigations of the estimation of blood cells' microreological properties was intended to elaborate solid effective adaptation abilities' organism's diagnostic tests, to estimate the possibility of functional abnormalities' transition to the pathologic conditions, to reveal the informative criterion of abnormalities on the cellular level and earlier stages' markers of microvascular disorders, to conduct the selection of corrective biologically active and harmless preparations.