

Areas of research

Scientific researches are conducted in two directions: (I) experimental and (II) the molecular-genetic.

Experimental direction: *Study of dystrophic and sclerotic changes and calcification of arterial and venous vessels*

In this direction we study the following problems:

- Energy metabolism in the blood vessels under normal and pathological conditions
- Pathophysiology of veins
- The pathogenesis of Menkeberg arteriosclerosis
- Mechanisms of hypervitaminosis D-induced lesions of blood vessels

Molecular genetic direction: *Studying the role of allelic polymorphisms of genes in the development of pathological processes and disease*

In this direction we study the following questions:

- The role of polymorphisms of "genes of phosphorus-calcium exchange" in the development of acute coronary syndrome, ischemic stroke, Menkeberg arteriosclerosis, and complications of diabetes
 - Connection of polymorphism of "endothelial dysfunction genes" with the development of common cardiovascular diseases, metabolic diseases, and tumorigenesis
 - Effect of polymorphisms of genes for cytokines, cellular receptors and intracellular mediators on the course and results of treatment of common human diseases

On the basis of the [scientific laboratory of molecular genetic studies](#) , doctor and master theses are prepared.

Research topics:

- The role of allelic polymorphisms of genes in the development of pathological processes and diseases. Head – prof. O.V.Ataman;
- Defining the role of single nucleotide polymorphism in the development of sclerotic lesions of blood vessels. Head – prof. O.V.Ataman, responsible executor – prof. V.Yu.Harbusova;

- Connection of the single nucleotide polymorphism of VDR and MGP genes with the development of atherothrombotic ischemic stroke. Head – prof. O.V.Ataman, responsible executor – prof. V.Yu.Harbusova;
- Connection of allelic polymorphism of "genes of ectopic calcification" with the development of common cardiovascular diseases and their complications. Head – prof. O.V.Ataman, responsible executor – prof. V.Yu.Harbusova.

Articles:

1. Rozumenko I.A, Garbusova V.Y., Ataman Y.A., Polonikov A.V., Ataman A.V. K121Q Polymorphism of the ENPP1 gene is related to acute coronary syndrome in Ukrainian patients with normal but not enhanced body mass index // OnLine J. Biol. Sci. – 2014. – V.14 (4). – P. 271–276.
2. Garbusova V. Yu., Polonikov A. V., Ataman Y. A., Mychaylova T. I., Obukhova O. A., Matlaj O. I., Ataman A. V. T-138C polymorphism of MGP gene is associated with blood plasma cholesterol levels but not related to other risk factors of atherosclerosis in patients with ischemic stroke. // Biopolymers and Cell. – 2014. – Vol. 30. N 1. – P. 47–53.
3. Yarosh S.L., Churnosov M.I., Ataman A.V., Solodilova M.A., Polonikov A.V. Synergism between the N-acetyltransferase 2 gene and oxidant exposure increases the risk of idiopathic male infertility. // Reproductive BioMedicine Online. – 2014. – Article in press. DOI: <http://dx.doi.org/10.1016/j.rbmo.2014.04.008>.
4. Ryzhkov II, Borzilov EE, Churnosov MI, Ataman AV, Dedkov AA, Polonikov AV Transforming Growth Factor Beta 1 Is a Novel Susceptibility Gene for Adolescent Idiopathic Scoliosis // Spine. – 2013. – V. 38 (12). – P. E699–E704.
5. Ataman A. V., Garbusova V. Yu., Ataman Yu. A., Matlaj O. I., Obukhova O. A. Investigation of the MGP promoter and exon 4 polymorphisms in patients with ischemic stroke in the Ukrainian population // J. of Cell and Mol. Biol. – 2012. – Vol. 10, №1. – C. 19–26.
6. Garbusova V. Y., Ataman A. V. Matrix Gla-protein and its role in vascular calcification //

Scientific Topics

Written by Administrator

Friday, 27 April 2012 16:07 - Last Updated Friday, 04 September 2020 20:27

Int. J. of Physiology and Pathophysiology. – 2012. – V. 3, № 1. – P. 79–99. (see [here](#))
7. Garbuzova V. Y., Gurianova V. L., Stroy D. A., Dosenko V. E., Parkhomenko A. N., Ataman A. V. Association of matrix Gla protein gene allelic polymorphisms (G-7→A, T-138→C and Thr83→Ala) with acute coronary syndrome in the Ukrainian population // Exp. & Clin. Cardiol. – 2012. – V. 17, № 1. – P. 30–33. (see [here](#))