

НПАК «ПАМ»

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NP AC PAM

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Dear colleagues,

This month, we would like to present you our portfolio of antidiabetic agents: product **PAM-41** "Compound for Treatment of Type 2 Diabetes Mellitus" and **PAM-10** "Compound for Prevention and Treatment of Metabolic Syndrome (Diabetes Mellitus, Atherosclerosis, Hypertension and Ischemic Diseases)".

Diabetes mellitus (DM) is called epidemic of the 21 century. Our team pays great attention to investigations of the problem and search of new effective products.

In accordance with the Russian Federation State Registry for Diabetes Mellitus, as of 1 January 2014, 396 million of patients were registered; about 90% of them were patients with type 2 diabetes mellitus (T2DM).

Numerous studies have shown that actual prevalence rates of DM in Russia are 9.6 mln. of patients of which about 8.5 mln. are patients with T2DM. Not all of them are aware of their diagnosis and are officially followed-up.

Available drug products administered in patients with type 2 diabetes mellitus have their disadvantages in the form of adverse events. The most frequently reported adverse event is hypoglycemia which may develop to hypoglycemic coma. Moreover, gastrointestinal adverse events may occur: metallic taste, dyspeptic events, etc.

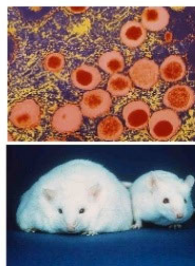
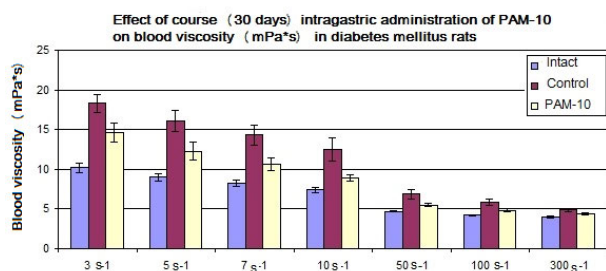
Studies of **PAM-41** efficacy were carried out on the type 2 diabetes mellitus model in Wistar rats in two directions: **examination of hypoglycemic and lipid-lowering effects.**

As a result, it was established that the test compound has more evident **hypoglycemic activity** in comparison to metformin.

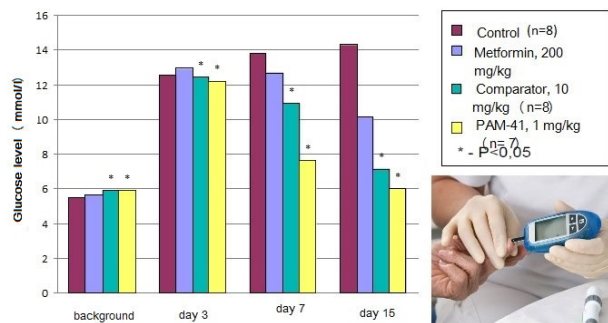
Toxicology studies of the product have shown that it is low toxic and does not have mutagenic properties.

The most probable targets of **PAM-41** are sulphonylurea receptor/ATP-sensitive K⁺-channel.

The efficacy of **PAM-10** was also examined on the diabetes mellitus model. The experiments were made on outbred female rats. Course intragastric administration of **PAM-10** reduced severity of hyperviscosity syndrome, which accompanied DM.



Efficacy of PAM-41 in low doses 1mg/kg



It is established that **PAM-10** may show its hemoreologic properties in rats with diabetes mellitus, mainly due to exposure on cell factors of blood rheology – erythrocyte deformability and aggregation. Intragastric administration of **PAM-10** significantly suppresses erythrocyte membranes damage.



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Alliance of Competencies “Park of Active Molecules” (PAM) has become the first key partner of AstraZeneca in Russia as part of initiative “Open innovations”.

On May 12, AstraZeneca announced the launch of the first project as part of initiative “Open Innovations”, which targeted the development of scientific research potential in Russia. The project will be implemented in partnership with the innovative core of the Kaluga Pharmaceutical Cluster, Alliance of Competencies “Park of Active Molecules” and “Research Center of PAM” (RC of PAM).

As part of the project, scientists of PAM will be able to participate in preclinical studies of AstraZeneca’s molecule, having perspectives in treatment of malignancies of various types. Specialists from AstraZeneca will also share their knowledge and expertise for maximally effective development of the molecule for potential new indications.

The more detailed information can be found in the press-release at: <http://www.pharmvestnik.ru/publs/lenta/v-rossii/astrazeneka-objavila-o-sotrudnichestve-s-kljuchevymi-partnerami.html#.VVNItHA1GrU> or reviewed on our site <http://pam-alliance.ru/index.php/news/alliance-news/180-astrazeneca-news>. The press-release is also attached to the Digest.

This month, the project PAM-3 “Hemoglobin-Based Oxygen Carrier” has been actively developed. Currently, preclinical studies have been completed, and the documents have been submitted to the Ministry of Health of the Russian Federation to get approval for I phase clinical trial. We will be happy to provide details about this project in our next letter.

Best regards,
Roziyev Rakhim