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# DISCOVERY OF AN INNOVATIVE DRUG FOR THE TREATMENT OF DIABETES MELLITUS 1



Казанский федеральный  
УНИВЕРСИТЕТ

# DISCOVERY OF AN INNOVATIVE DRUG FOR THE TREATMENT OF DIABETES MELLITUS 1

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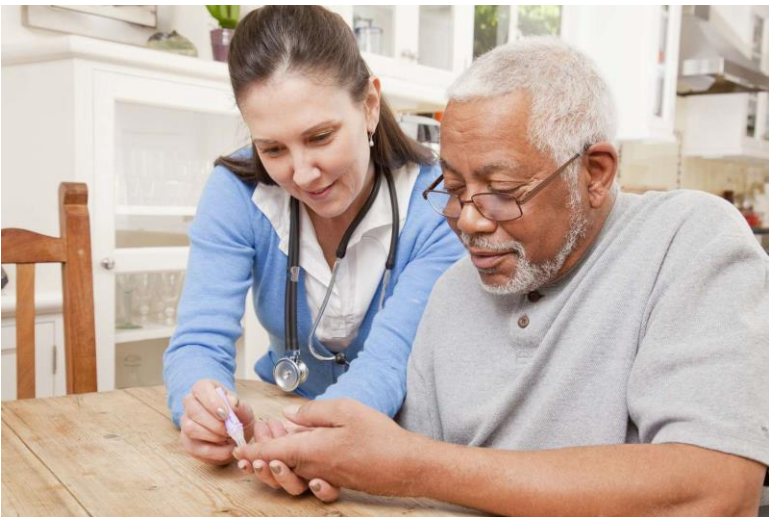
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Education Disciplines



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- ❖ The problem of identifying and synthesizing new anti-diabetic drugs remains a major priority due to the high prevalence of type 1 and type 2 diabetes in the modern world.
- ❖ Type 1 diabetes is an autoimmune disease that destroys insulin-producing beta-pancreatic cells. In contrast, patients with type 2 diabetes develop insulin resistance, meaning that insulin is less and less effective at reducing blood sugar.

[https://www.verywellhealth.com/thmb/DOtSO3mw\\_qrUk7YzEV1RVixNF7g=/1500x0/filters:n\\_o\\_upscale\(\):max\\_bytes\(150000\):strip\\_icc\(\)/GettyImages-187138955-1b11c766c9e946eca0f10d9055d5871c.jpg](https://www.verywellhealth.com/thmb/DOtSO3mw_qrUk7YzEV1RVixNF7g=/1500x0/filters:n_o_upscale():max_bytes(150000):strip_icc()/GettyImages-187138955-1b11c766c9e946eca0f10d9055d5871c.jpg)



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- ❖ In 2017, a team of scientists from the Ural Federal University (UrFU) and the Institute of Immunology and Physiology (IIP, Ural Department of the Russian Academy of Sciences) modeled type 1 diabetes in an experiment to study recovery processes in the pancreas. The results of the study will help develop new approaches to treating diabetes.
- ❖ First of all, they selected heterocyclic compounds of 1,3,4-thiadiazine synthesized in UrFU in the Department of Organic and Biomolecular Chemistry under the guidance of Oleg Chupakhin (Russian Academy of Sciences, full member). These substances have anti-oxidizing and anti-glycation properties. Then the researchers tested the compounds on lab rats with diabetes and it was successful.



THESE ARE THE URFU SCIENTISTS, WHO WORKED ON THE ARTICLE, HEADED BY IRINA DANILOVA



- ❖ On 27 April 2022 it was reported that scientists of the Ural Federal University and their colleagues from the Volgograd State Medical University have created a drug with the conventional name AB-19 for the prevention and treatment of complications of diabetes.
- ❖ They already have three patents of the Russian Federation: for the method of obtaining a substance with antiglycemic activity, for the method of obtaining a pharmaceutical composition based on it and for its use as a means of treatment and prevention of late complications of diabetes.

<https://hti.urfu.ru/ru/novosti/41546/>

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- ❖ The scientists also concluded an agreement with a Russian pharmaceutical company to attract investment and the subsequent launch of the drug on the market.
- ❖ In the case of successful clinical trials, Russia will have an innovative drug for the prevention and treatment of diabetes complications. This is extremely important because there are currently no drugs with a similar mechanism of action - blocking the main pathways for the development and progression of late complications of diabetes mellitus- exist today.

<https://apa.az/storage/news/2023/february/01/resize/63da49f08e58563da49f08e586167525016063da49f08e58163da49f08e583.jpeg>



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## List of literature

Materials from websites were used in the preparing of this work:

- ❖ <https://www.eurekalert.org/news-releases/685119>
- ❖ <https://medicalxpress.com/news/2017-12-scientists-approaches-diabetes-treatment.html>
- ❖ <https://www.who.int/news-room/fact-sheets/detail/diabetes>
- ❖ <https://www.prlog.org/12678925-russias-ural-federal-university-developing-new-medicine-against-diabetes.html>
- ❖ <https://www.1888pressrelease.com/russia-s-ural-federal-university-developing-new-medicine-aga-pr-626056.html>
- ❖ <https://indiaeducationdiary.in/ural-federal-university-university-and-pharmaceutical-company-create-drug-to-treat-complications-of-diabetes-mellitus/>
- ❖ <https://www.news-medical.net/health/History-of-Diabetes.aspx>
- ❖ <https://www.vedantu.com/english/essay-on-healthy-lifestyle>





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## Thank You For Your Attention!

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