

Federal State Autonomous Educational Institution of Higher Education  
I.M. Sechenov First Moscow State Medical University of the Ministry of Health  
of the Russian Federation (Sechenov University)



SECHENOV UNIVERSITY  
LIFE SCIENCES

# ESSENTIAL MEDICAL BIOLOGY

## VOL. II

### GENETICS

*Edited by N.V. Chebyshev*

*Рекомендовано Координационным советом по области образования  
«Здравоохранение и медицинские науки» в качестве учебника для  
использования в образовательных учреждениях, реализующих основные  
профессиональные образовательные программы высшего образования  
уровня специалитета по направлениям подготовки, содержащим  
дисциплину «Биология» на английском языке*



Medical Informational Agency  
Moscow  
2020

UDC 575(075.8)

*Получена положительная рецензия Экспертной комиссии по работе с учебными изданиями ФГАОУ ВО Первый МГМУ имени И.М. Сеченова Министерства здравоохранения Российской Федерации (Сеченовский Университет) № 714 ЭКУ от 18 апреля 2019 г.*

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**Essential Medical Biology. Vol. II. Genetics** / ed. by N.V. Chebyshev. — Moscow : Medical Informational Agency, 2020. — 112 p.

ISBN 978-5-9986-0384-6

The textbook “Genetics” has been created by the composite authors of the department of Biology and General Genetics of the First Moscow State Medical University (Sechenov University) according to Biology course for medical students specializing in general medicine, stomatology, etc.

The manual includes all main parts of the course: general genetics, the fundamentals of molecular genetics, human genetics and medical genetics. The section dealing with general genetics gives consideration to the patterns of independent inheritance, allelic and non-allelic genes' interaction, and the mechanisms of genetic linkage, sex determination and bridging sexual characters. In the section dealing with the study of hereditary information's transfer and implementation molecular mechanisms, the processes of DNA-replication, transcription, processing, translation, regulation and expression of genes of pro- and eukaryote are considered. A special chapter deals with the mechanisms, genotypic variability and types of mutations. Moreover, the main methods of medical genetics are discussed in the textbook, as well as some hereditary diseases, including the ones of genes and chromosomes.

The material is presented in an easy-to-read way. There is a large number of original schemes, figures and tables in this textbook. Logic and wide coverage of material, based on the latest scientific achievements, are characteristic for it.

“Genetics” is a reflection of modern approach to the process of teaching medical students and can be recommended to foreigners studying the subject in English.

**UDC 575(075.8)**

**ISBN 978-5-9986-0384-6**

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