

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



SECHENOV UNIVERSITY
LIFE SCIENCES

**S.L. Kuznetsov,
N.N. Mushkambarov,
V.L. Goryachkina**

ATLAS of Histology, Cytology and Embryology

*Рекомендовано Координационным советом по области образования
«Здравоохранение и медицинские науки» в качестве учебного пособия
для использования в образовательных учреждениях, реализующих
основные профессиональные образовательные программы высшего
образования специалитета по направлениям подготовки и специальностям,
содержащим учебную дисциплину «Гистология, цитология и эмбриология»*



MOSCOW 2024

UDC [611.013+611.018](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) № 1495 ЭКУ от 16 сентября 2021 г.

Authors:

S.L. Kuznetsov — Doctor of Medical Sciences, Professor, Corresponding Member of the RAS, Head. Department of Histology, Cytology and Embryology, Sechenov University;

N.N. Mushkambarov — Doctor of Biological Sciences, Professor with the Department of Histology, Cytology and Embryology, Sechenov University;

V.L. Goryachkina — Ph.D. of Biological Sciences, Associate Professor with Department of Histology, Cytology and Embryology, Sechenov University.

Translation into English by Aleksandr Tarasov.

Kuznetsov, S.L.

Atlas of Histology, Cytology and Embryology / S.L. Kuznetsov, N.N. Mushkambarov, V.L. Goryachkina. — Moscow : Medical Informational Agency, 2024. — 376 p.

ISBN 978-5-9986-0486-7

The atlas was compiled in accordance with the program of the course of histology, cytology and embryology for medical universities by the professors of the Department of Histology, Cytology and Embryology of the First Moscow State Medical University named after I.M. Sechenov (Sechenov University).

An important feature of the atlas is the consistent and detailed captions under the images, which create a fairly solid primary idea for the student both about these images and about the topic being studied as a whole. At the same time, together with the textbook by S.L. Kuznetsov and N.N. Mushkambarov the atlas forms a unique educational complex. A complex that, relying on almost the same illustrations, offers the student material presented at several levels of complexity and informativeness.

This study guide is a translation of the third edition of the atlas in Russian. The previous editions of the atlas were widely known among professors and students.

For students of medical universities, medical faculties of universities and students of the system of postgraduate professional medical education.

UDC [611.013+611.018](075.8)

ISBN 978-5-9986-0486-7

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PREFACE TO THE FIRST EDITION

For a long time, histological atlases were almost a bibliographic rarity. The latest illustrative edition in this discipline (Eliseev V.G., Afanasiev Yu.I., Kotovsky E.F. Atlas of the Microscopic and Ultramicroscopic Structure of Cells, Tissues and Organs, 1970) was published more than thirty years before first edition of our atlas.

The need to create the latter arose in connection not only with the rarity of the book by V.G. Eliseev and others, but also with the advent of fundamentally new computer technologies.

In the manual of these authors, all images of micropreparations were **drawn**. Over the next 3 decades, this was practically the only way to represent the microscopic structure of the human body.

The rapid development of computer technologies at the turn of the century (and millennium) made it possible to produce histological illustrations that much more adequately reflect the cellular and tissue structure of a human body. We mean the **photographs of micropreparations** directly from a microscope.

And finally, the time came (in 2002) when the first edition of our atlas came to the students and teachers of medical universities.

It must be emphasized that this success is not only ours.

In this work, we used the achievements of previous generations of professors of our department — the Department of Histology, Cytology and Embryology of I.M. Sechenov 1st MMI (since 2010, I.M. Sechenov First Moscow State Medical University, or Sechenov University). And if we take into account that the authors of the previous atlas on histology (Professors V.G. Eliseev, Yu.I. Afanasiev and E.F. Kotovsky) are outstanding representatives of this Department, the continuity of the structure of the atlases created at this department becomes obvious and understandable.

In addition to that, an important role was played by the cooperation with the computer company "Diamorph", which developed the corresponding hardware and software complex. In this regard, we express our deep gratitude to the former employees of this company: O.A. Lomakin, Z.Sh. Bigildina and E.I. Popovchenko. The everyday consulting and practical assistance of the Associate Professor G.A. Kosolapov was highly appreciated.

The material of the atlas is divided into 32 topics in accordance with the calendar plan of practical classes adopted at the Department. To facilitate the usage, several images are found in the atlas several times in different topics.

Another important feature of the atlas is the completeness and detail of captions for photographs and drawings. This makes this manual largely self-sufficient, which greatly increases its value.

Authors, 2002

PREFACE TO THE SECOND EDITION

In this edition we have corrected the typographical errors and misprints noticed, replaced some not very successful photographs and diagrams, and also added several electron micrographs. The main thing is that the coherence and informativeness of the text part were increased, especially in the first half of the atlas, which in this respect clearly lagged behind the second half. Moreover, this was done only six months after the publication of our textbook, where the same illustrations appear, where the topics are considered in the same sequence, and where, in the end, even the cover is very similar to that of the atlas.

We want to say that all this does not mean duplication of one book by another, but is the embodiment of a long-established pedagogical concept. Its essence is that any material can and should be considered at several levels of complexity and informativeness, and at the same time, each level should give an integral and consistent idea of the subject. This is necessary not only for a weak student, who will happily limit himself to the most general level, but it is also useful for a good student, to whom such a system will help both to separate the main from the less important, and to dive into the specifics of the issue with greater understanding.

Thus, the atlas and the textbook form a single educational complex, where each component can be used independently, but at the same time serves as a natural and important addition to the second component.

Authors, 2007

PREFACE TO THE THIRD EDITION

For twenty years now, the atlas we created has been successfully used in the training in histology, cytology, and embryology. At the same time, in the framework of the first and second editions, additional print runs were repeatedly made. Therefore, a variety of dates can appear on the cover of atlas books: not only 2002 and 2007, but also 2005, 2010, etc.

In addition to that, during this time, in addition to the textbook mentioned above (by S.L. Kuznetsov and N.N. Mushkambarov), a number of valuable teaching tools were added to the "company":

- **"Short Course** of Histology, Cytology and Embryology" (S.L. Kuznetsov and N.N. Mushkambarov);
- electronic "Manual-Atlas of Histology, Cytology and Embryology" (S.L. Kuznetsov, N.N. Mushkambarov and V.L. Goryachkina);
- universal "Tests in Histology, Cytology and Embryology" (N.N. Mushkambarov and S.L. Kuznetsov);
- **textbook** "Molecular Biology. Introduction to Molecular Cytology and Histology" (N.N. Mushkambarov and S.L. Kuznetsov).

The **complex of the training aids** is able to bring the facet of the knowledge acquired by the student of histology to the highest degree, of course, if the student oneself strives. In any case, we passed our part of the pedagogical process towards students with great responsibility and interest.

After comparison with the second edition of the atlas, in the third edition many of the captions to the illustrations were edited and 9 pictures were replaced.

Authors, 2022

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