

Review
of the bachelor graduate qualification work
"Gyrase and topoisomerase IV subunits genes mutations in isolates of *Mycoplasma hominis*
isolated in St. Petersburg"
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The work of Anna Shabalina "Gyrase and topoisomerase IV subunits genes mutations in isolates of *Mycoplasma hominis* isolated in St. Petersburg" is devoted to the actual problem of the spread of human pathogens carrying mutations associated with resistance to antimicrobials in their genomes. In the research project isolates of *M. hominis* from St. Petersburg resistant to fluoroquinolones were detected and genetically characterised.

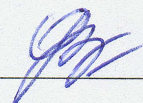
The work consists of an Introduction, Review of the literature, Chapters "Materials and Methods", "Results" and "Discussion", Conclusions and the List of references. In the Introduction and Review of the literature, the significance of investigation of mutations in the genes of gyrase and topoisomerase IV subunits in *M. hominis* is substantiated. In many bacteria such mutations are the main cause of fluoroquinolone resistance. Resistance to these compounds is common among mycoplasmas, while fluoroquinolones are one of the three groups of antimicrobial compounds prescribed for mycoplasmosis, but their non-targeted use can harm the patient. Anna Vyacheslavovna conducted an in-depth analysis of the available publications on the questions of the *M. hominis* biology, the pathogenesis of the diseases caused by it, and the molecular bases of its resistance to fluoroquinolones.

The chapter "Materials and Methods" provides a detailed and clear description of the cultural, molecular and mathematical methods used in the course of research. The chapter "Results" contains a detailed description of the results obtained at all stages of the study, as well as the results of mathematical data processing. The "Discussion" provides an analysis of the obtained results and an author's opinion on the significance of the identified mutations. Anna Vyacheslavovna had established, that among there are carriers of mutations of the genes of the subunits of gyrase and topoisomerase IV, resistant to some types of fluoroquinolones in *M. hominis* population in St. Petersburg, but, as previously described in the literature, other ways of developing resistance to these compounds are also possible in this mycoplasmas. The conclusions presented at the end of the paper correspond to the tasks that were assigned.

The research was carried out at a high methodological level. The material of the **graduate qualification** work is presented logically, clearly and consistently. The work is presented on 53 pages, illustrated with three figures and contains six tables.

Essential shortcomings in the thesis work is not revealed. Some insignificant deficiencies of the thesis were revealed concerning the stylistic presentation of the material. However, the defects found do not affect the quality of the study. The work deserves an excellent evaluation.

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