



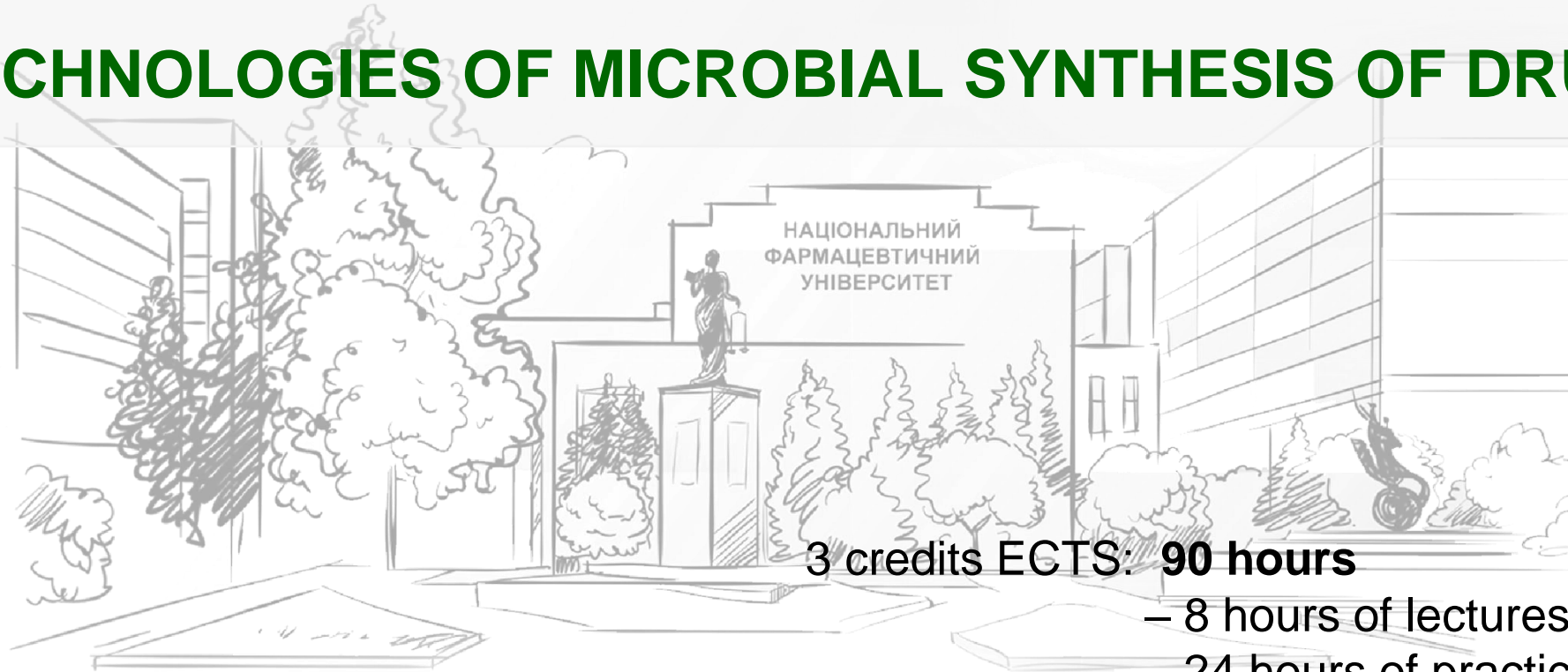
МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
НАЦІОНАЛЬНИЙ ФАРМАЦЕВТИЧНИЙ УНІВЕРСИТЕТ

Кафедра біотехнології



Selective component
EP «Pharmacy»

TECHNOLOGIES OF MICROBIAL SYNTHESIS OF DRUGS



3 credits ECTS: **90 hours**

- 8 hours of lectures
- 24 hours of practical classes

Dear students!

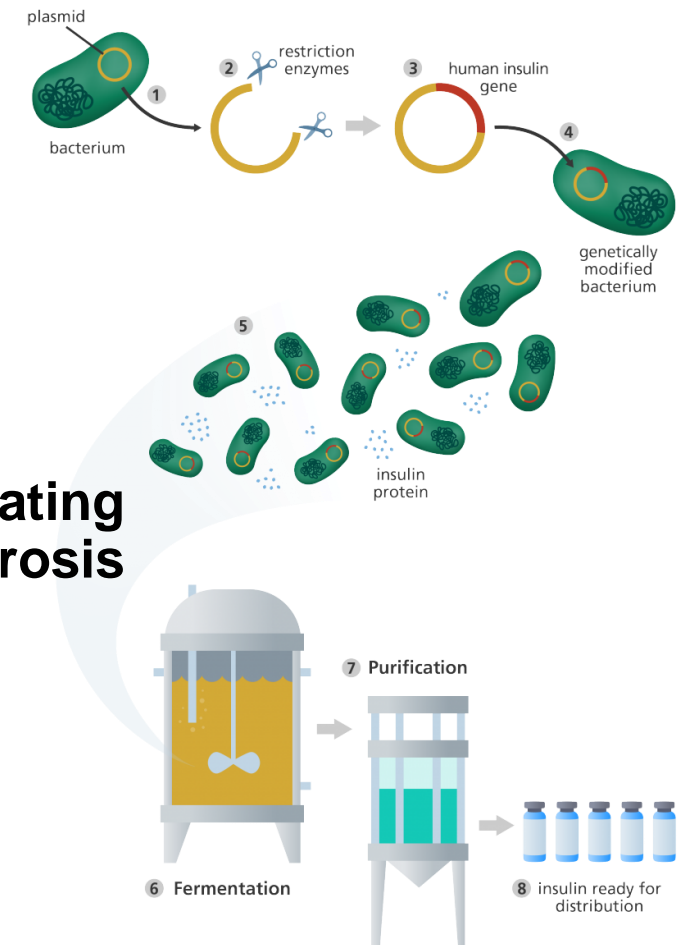
Microbiological synthesis- methods of obtaining compounds and products due to the activity of microbial cells. The obtained compounds and products are biotechnological. Biotech drugs account for more than 15% of the total global pharmaceutical market.

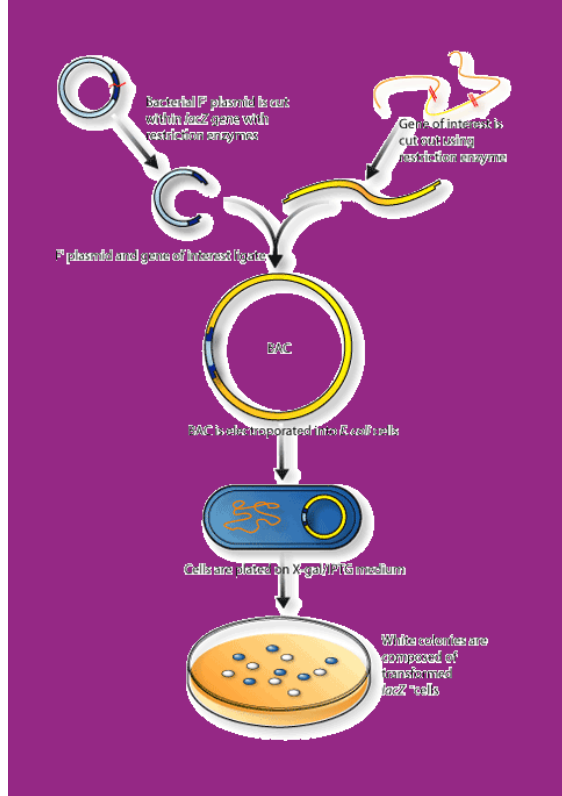
U.S. Biotechnology Market Size, by Application, 2012- 2024 (USD Million)



WHICH MEDICINES ARE OBTAINED BY MICROBIAL SYNTHESIS?

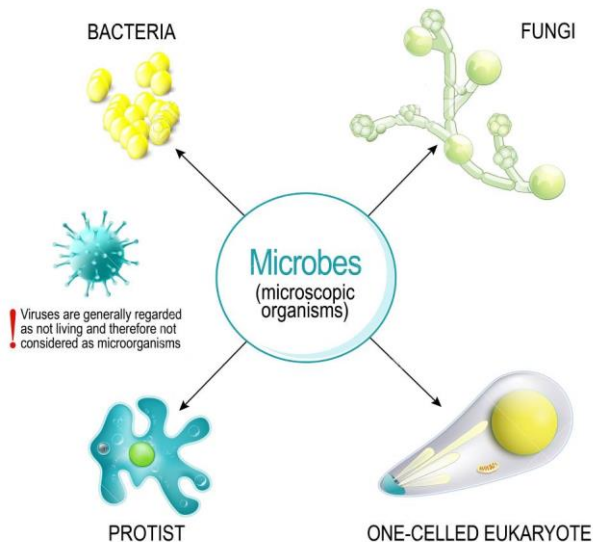
- Antibiotics
- Enzymes
- Vitamins
- Hormonal drugs
- Immunobiological drugs - vaccines, sera
- Interferons, interleukins
- Biologically active factors - colony-stimulating factors, blood coagulation factors, tumor necrosis factors
- Recombinant proteins
- Bacteriophages
- Probiotics





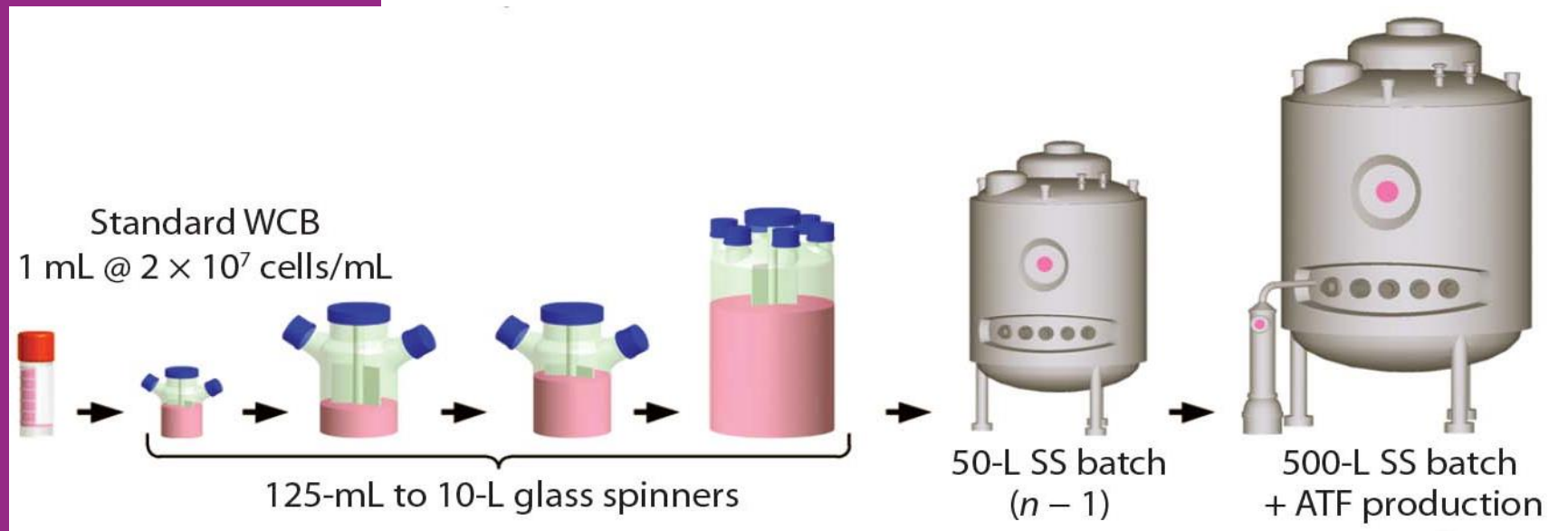
Purpose of the discipline:

- acquisition of the theoretical foundations and practical abilities and skills of carrying out biotechnological processes,
- cultivation of individual strains of industrial microorganisms, management of cultivation processes of microorganisms and quality control of the obtained target products, environmental safety of biotechnology products created on the basis of microorganisms,
- assimilation features and familiarization with the achievements of biotechnologies in the production of pharmaceuticals of the latest generation.



We wish you success in your studies!
We hope that this course will help you
to master the material of the discipline,
we are sure that the knowledge and
skills you will gain during the course
will help in your future professional
activity!

PLEASANT TEACHING!



Teachers



Head of Biotechnology department
Natalia Khokhlenkova



Assistant of Biotechnology department
Alina Soloviova