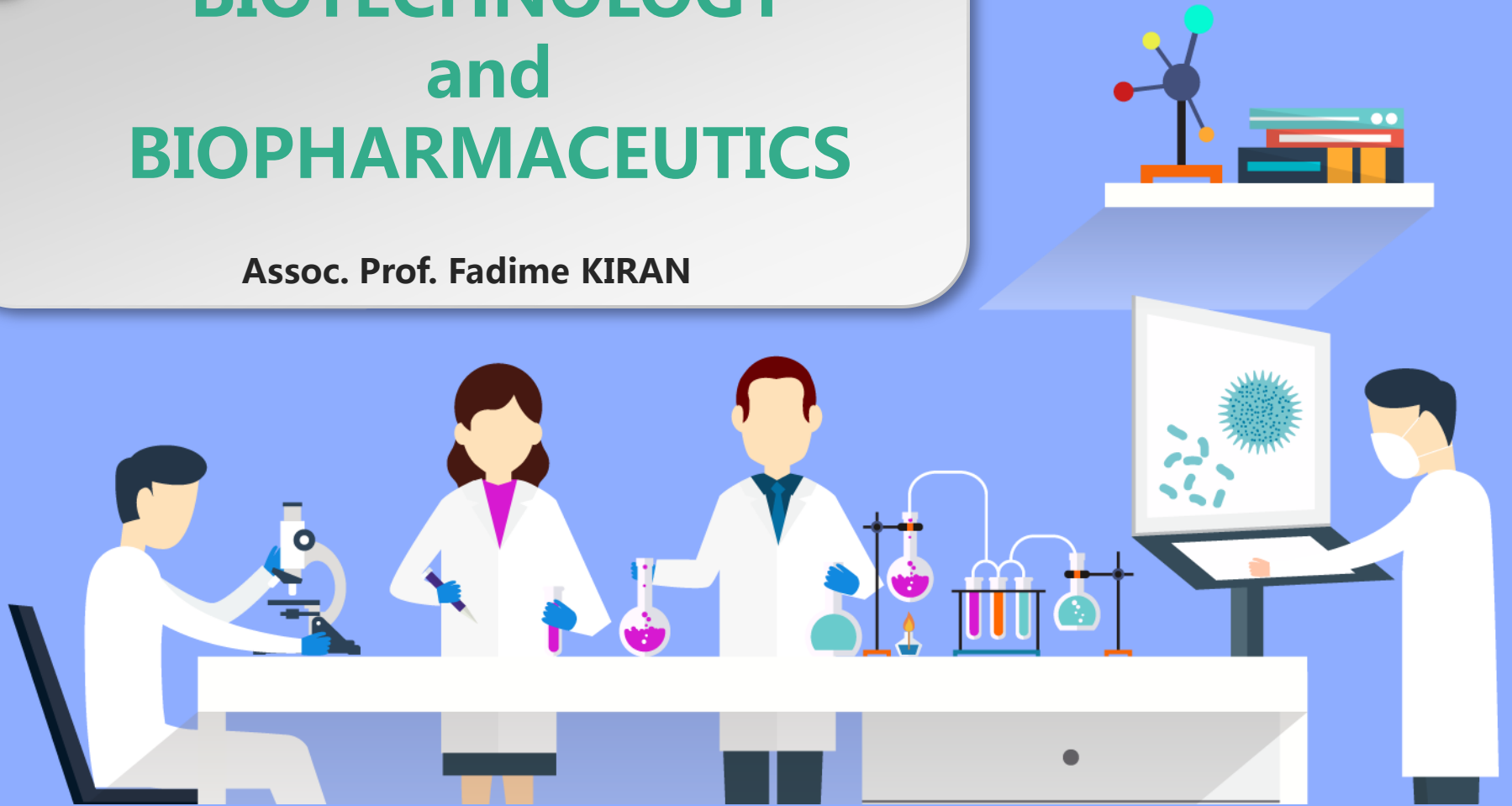


BIOTECHNOLOGY and BIOPHARMACEUTICS

Assoc. Prof. Fadime KIRAN



07

-Biopharmaceuticals from microorganisms:
from production to purification-II

MANUFACTURING PROCESS



Recombinant DNA products

manufacturing process

Basic production of drug substances may employ three major types of processes: fermentation, chemical synthesis, and biological and natural extraction

Recombinant DNA products

manufacturing process

Multi-step manufacturing process

- 1. Selection of organisms**
- 2. Formulation of medium**
- 3. Production process (Up/down stream)**
- 4. Recovery and purification of product**
- 5. Final product (Formulation)**

Selection of organism

Formulation of medium



Production process

❖ The duration of fermentation is variable around **2-7 days**, in most production processes.

❖ Besides the desired product(s), several other metabolites are also produced. Targeted product has to be **recovered and purified**.

Recovery and purification of product

Formulation of final product

Bioprocessing Part 1/2/3

<https://www.youtube.com/watch?v=5eKdZ0dVCC>

<https://www.youtube.com/watch?v=VKpthcW1IU>

<https://www.youtube.com/watch?v=N7vxq948I-U>

From idea to medicine | Drug development at Roche

<https://www.youtube.com/watch?v=attNofZ7AnY>



ANY
QUESTION?



Thank you

