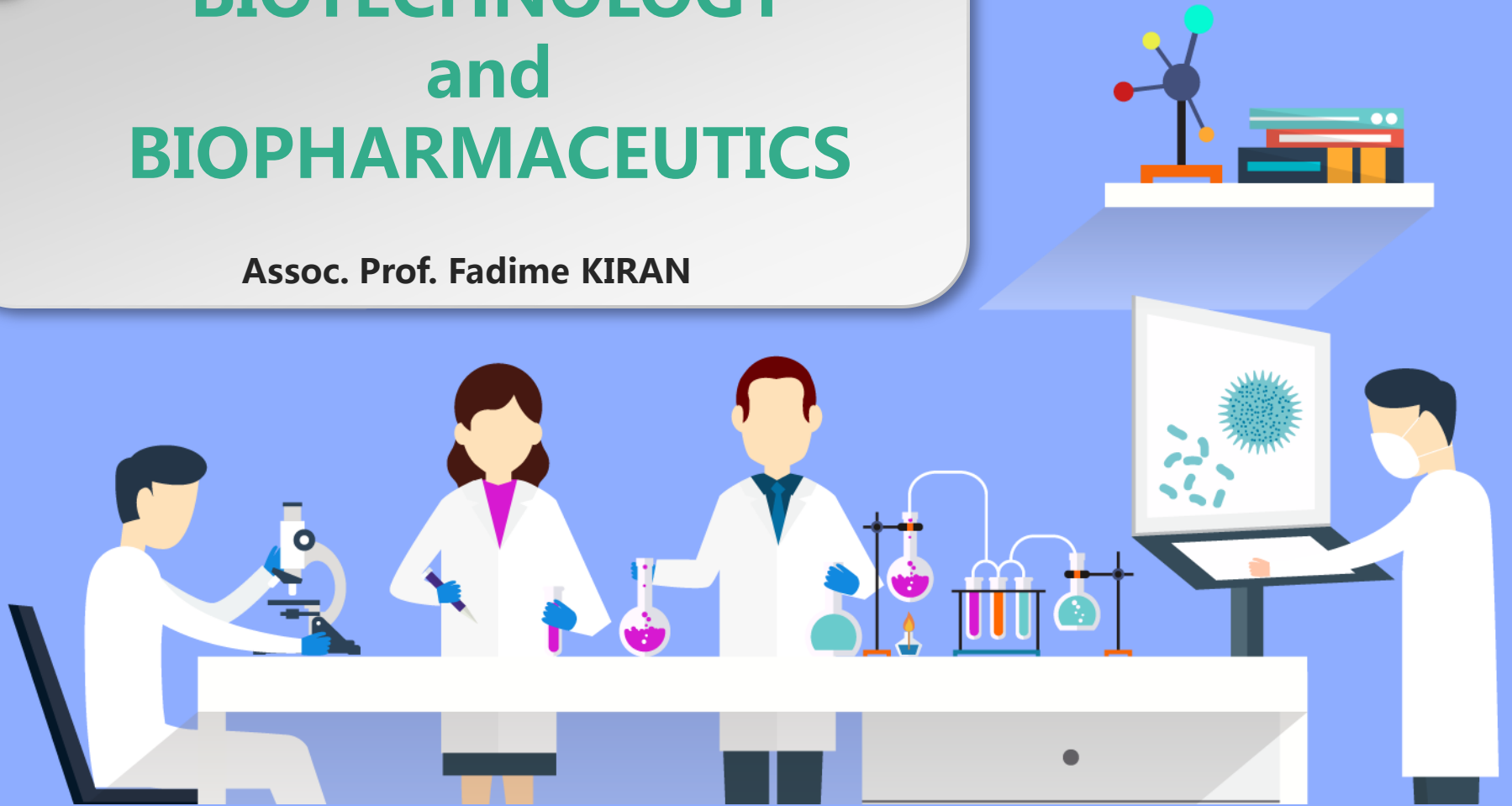


# BIOTECHNOLOGY and BIOPHARMACEUTICS

Assoc. Prof. Fadime KIRAN



03

- Biopharmaceuticals





What you need to know about

# DRUGS



## CHEMICAL

ORIGINAL

GENERIC



## BIOLOGIC

REFERENCE

BIOSIMILAR



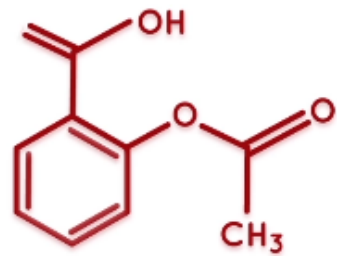
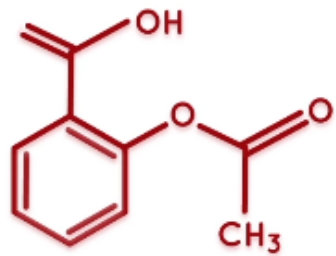
**Brand Name**

=

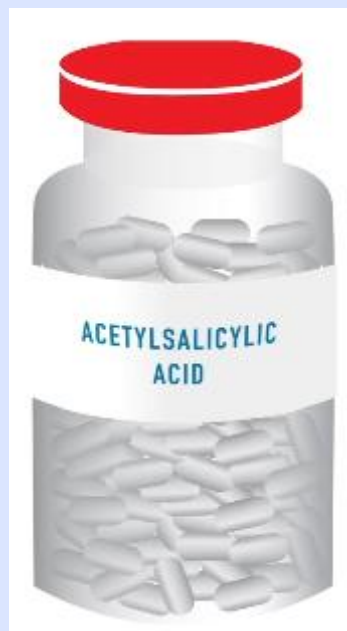
**Generics**

**FACT:**

A PATENT EXPIRES **AFTER 20 YEARS**  
AND OTHERS ARE ALLOWED TO  
**MAKE AND SELL** THE SAME DRUG.



bioequivalent



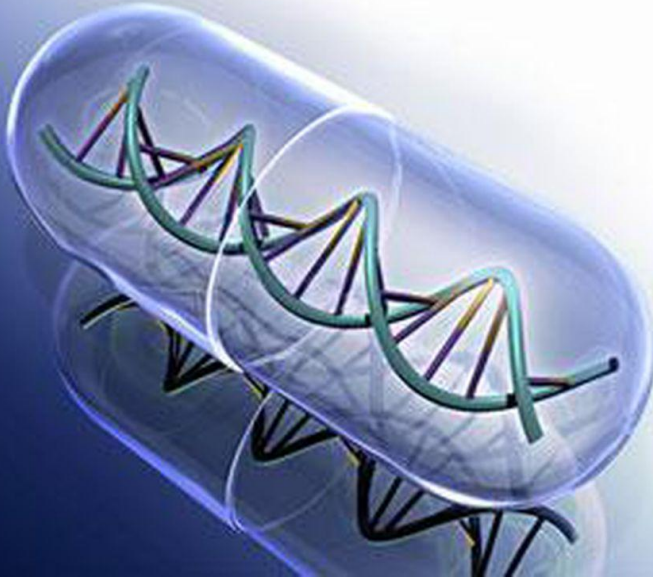


What you need to know about

# DRUGS



**BIOLOGIC**







**Biologic drugs are  
complex**





Originator  
Brand Name

≈

Biosimilar

**FACT:**

**ORIGINATOR** BRAND NAME DRUGS  
ARE ALSO CALLED **INNOVATOR**  
OR **REFERENCE DRUGS**.

similar



not bioequivalent



**Generics**

**Biosimilars**



ANY  
QUESTION?





Thank you

