

جامعة الانبار

كلية : الصيدلة

قسم : فرع العلوم المختبرية السريرية

اسم المادة باللغة العربية: الكيمياء الحياتية

اسم المادة باللغة الإنكليزية: Biochemistry I

المرحلة: الثالثة

التدريسي: المدرس المساعد زهير عبدالستار احمد

عنوان المحاضرة باللغة العربية: مقدمة عن السكريات الثنائية والمتعددة

عنوان المحاضرة باللغة الإنكليزية: Introduction to disaccharides

and polysaccharides



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***College of Pharmacy  
third level***



# **practical lab.(9) (Carbohydrates)**

# Disaccharides

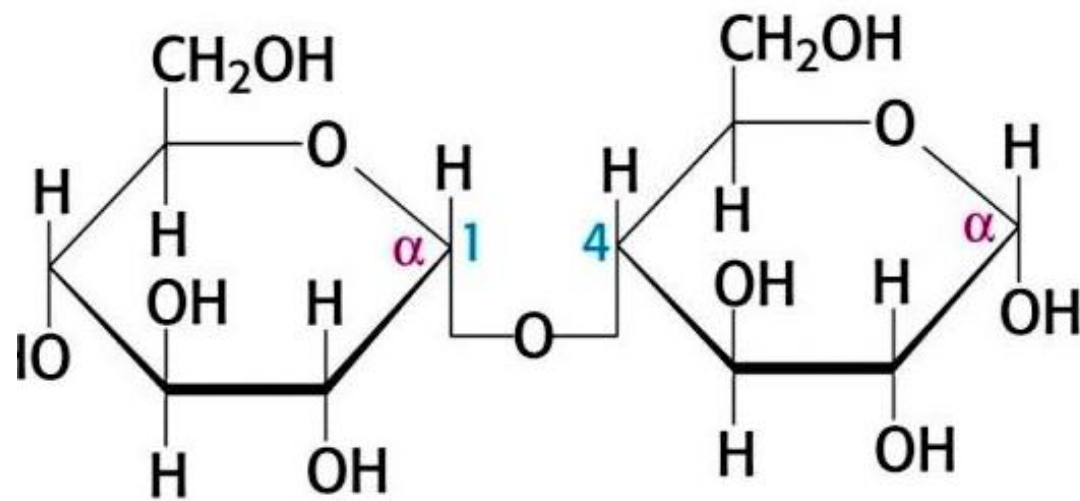
## 1-Maltose: (malt sugar)

It is the simplest reducing disaccharide consisting of :-

glucose + glucose

The glycosidic bond between two molecules The glucose in these chains is ( $\alpha$ 1—4)

- found in barley or in saliva and pancreatic juice.



**Maltose**



## 2-Lactose:(milk sugar)

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It is a disaccharide in nature and is known as milk sugar because it is present in milk only.

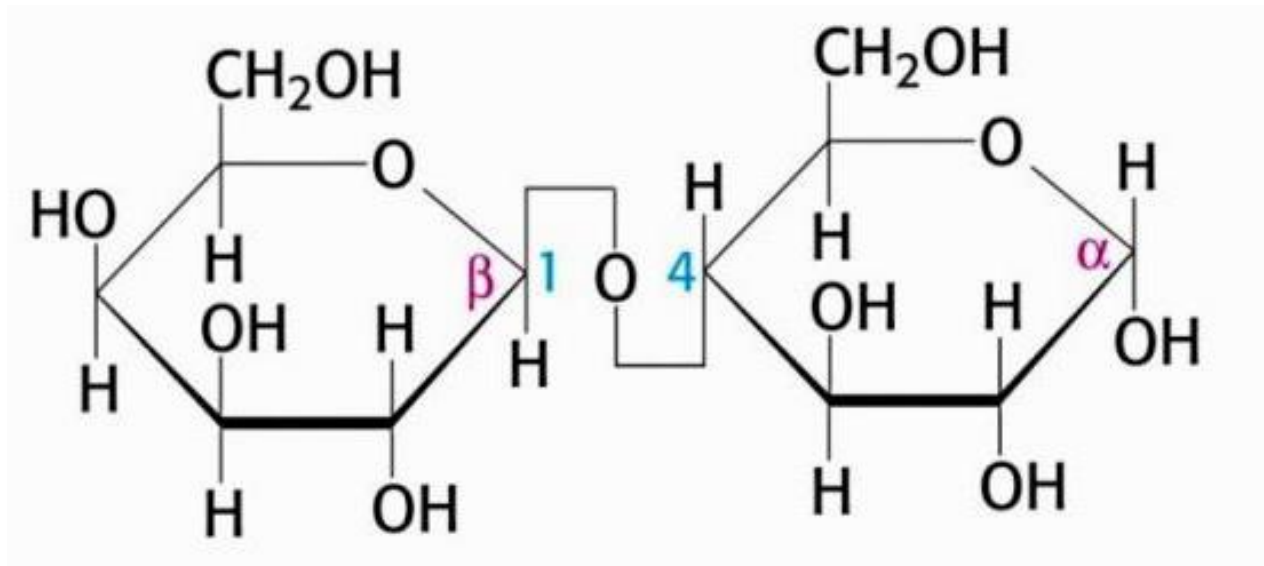
- It consists of two molecules:

glucose + galactose

The binding is by a  $\beta(1-4)$  glucosidic bond

- it is also a reducing sugar.

## 2-Lactose:(milk sugar)



**Lactose**



# Lactose

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- It is possible for lactose to be present in the urine of a woman during pregnancy, and that its lack of absorption in the intestine can cause diarrhea.



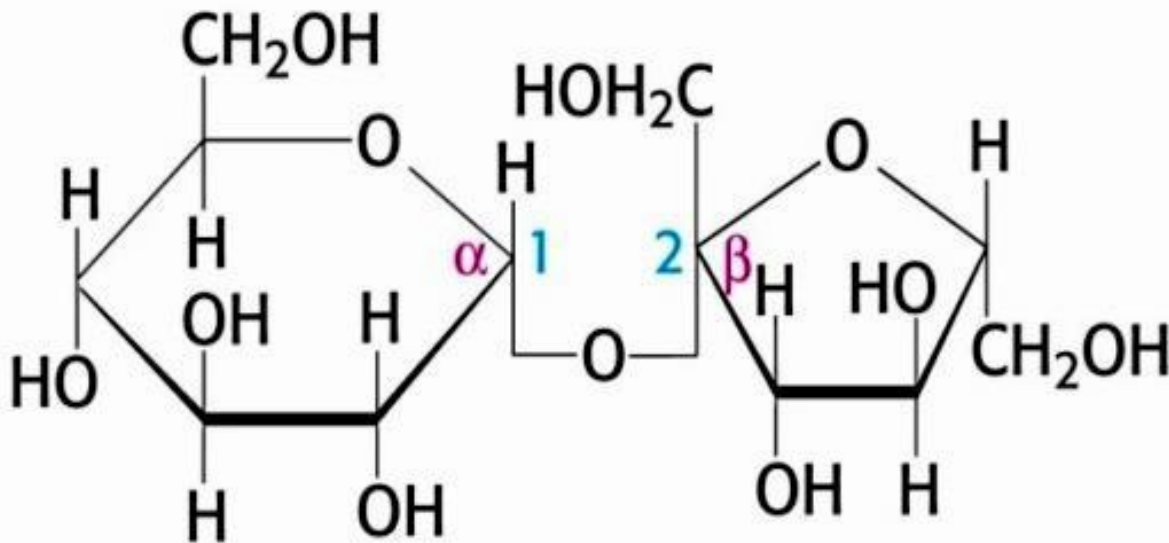


### 3-Sucrose : (cane sugar, table sugar)

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- It is one of the most important disaccharides present in nature.
- It consists of two parts  
**glucose + fructose**
- it is a non-reducing sugar because the Link between both groups is active (the aldehyde group in glucose and the ketone group in fructose called dextrose and is found in sugar cane and beet.

## 3-Sucrose



**Sucrose**



# Poly saccharides

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## ■ Starch:

- It is a multiple sugar found in the plant.
- It consists of two main:
  - A-** non-branching glucose chains called amylose.
  - B-** Branching chains called amylopectin

## ■ Glycogen:

- It is called animal starch. It is similar to vegetable starch but is more branched. It stores in the liver and muscles.

thank you for  
listening

