Glycosides

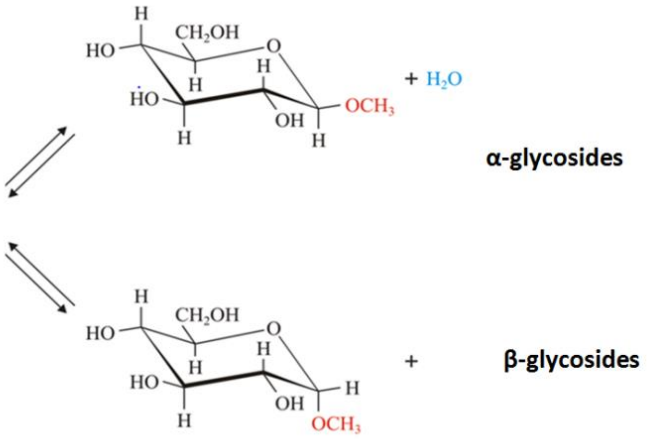
Glycoside is a molecule in which a sugar is bound to another functional group via a glycosidic bond. Glycosides play numerous important roles in living organisms. These can be activated by enzyme hydrolysis or acid which causes the sugar part to be broken off. Many such plant glycosides are used as medication. Glycosides can be classified by the glycone, by the type of glycosidic bond, and by the aglycone.

By glycone/presence of sugar

If the glycone group of a glycoside is glucose, then the molecule is a glucoside; if it is fructose, then the molecule is a fructoside; if it is glucuronic acid, then the molecule is a glucuronide; etc.

By type of glycosidic bond

Depending on whether the glycosidic bond lies "below" or "above" the plane of the cyclic sugar molecule, glycosides are classified as **α-glycosides** or **β-glycosides**.



There are four type of linkages present between glycone and aglycone:

- C-linkage/glycosidic bond
- O-linkage/glycosidic bond
- N-linkage/glycosidic bond
- S-linkage/glycosidic bond

Glycosides are also classified according to the chemical nature of the aglycone. For purposes of biochemistry and pharmacology, this is the most useful classification.

1- Saponins glycosides

2- Anthraquinone glycosides

3-cardiac glycosides

4- Flavonoid glycosides

5- Phenolic glycosides

6- Alcoholic glycosides

7- Coumarin glycosides

8- Chromone glycosides

9- Flavonoid glycoside

10-Isothiocyanate glycoside

11-Lacton glycoside

12-Aldehyde glycoside

13-Tannins glycoside

14-cyanophor glycoside