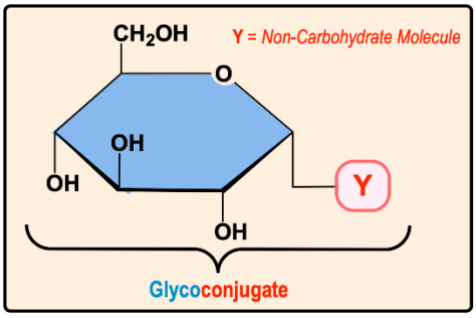
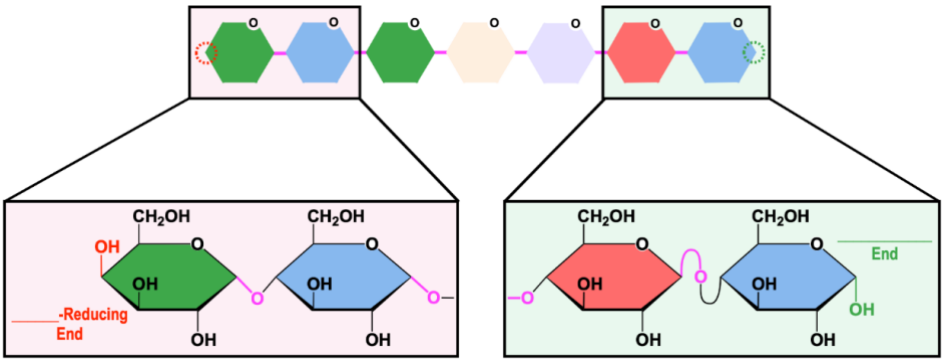
CONCEPT: GLYCOCONJUGATES

●_____: oligosaccharides *conjugated* to another chemical species (ex. lipids or proteins).

□ Oligosaccharide portions of glycoconjugates are usually very _____.

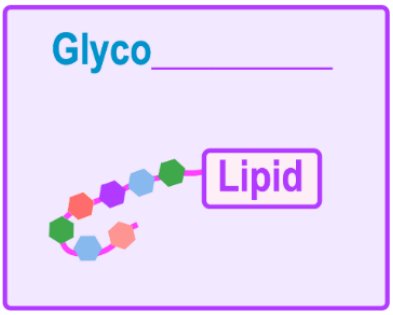
□ *Can* show _____ with a *non-reducing-end* & a *reducing-end*.





Glycolipids

●_____: a hybrid molecule made of a _____ covalently linked to relatively *small* sugars.

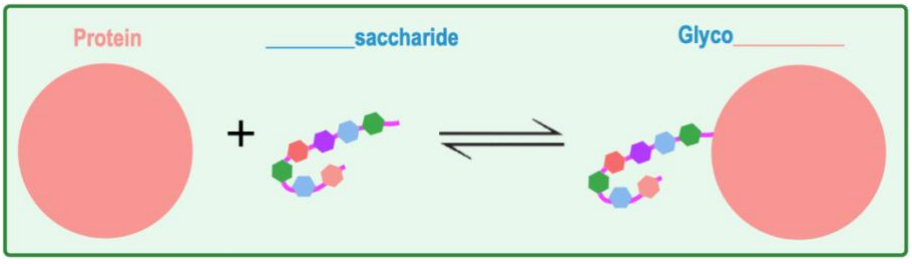


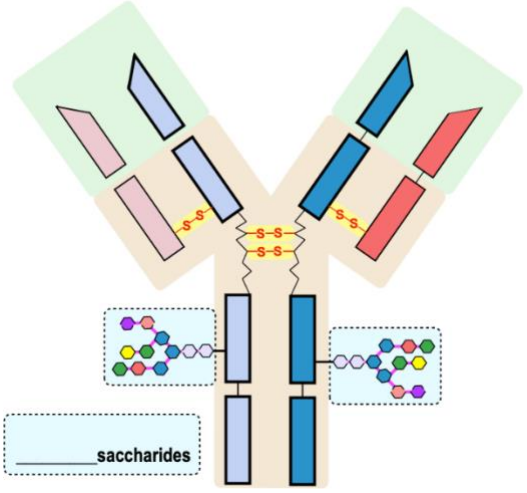
Glycoproteins

●*Glycoproteins*: a hybrid molecule made of *mostly* _____ covalently linked to relatively *small* _____.

□ Found *inside* cells, in the *extra*cellular matrix, & on the outer surface of plasma membranes.

□ _____ are glycoproteins.





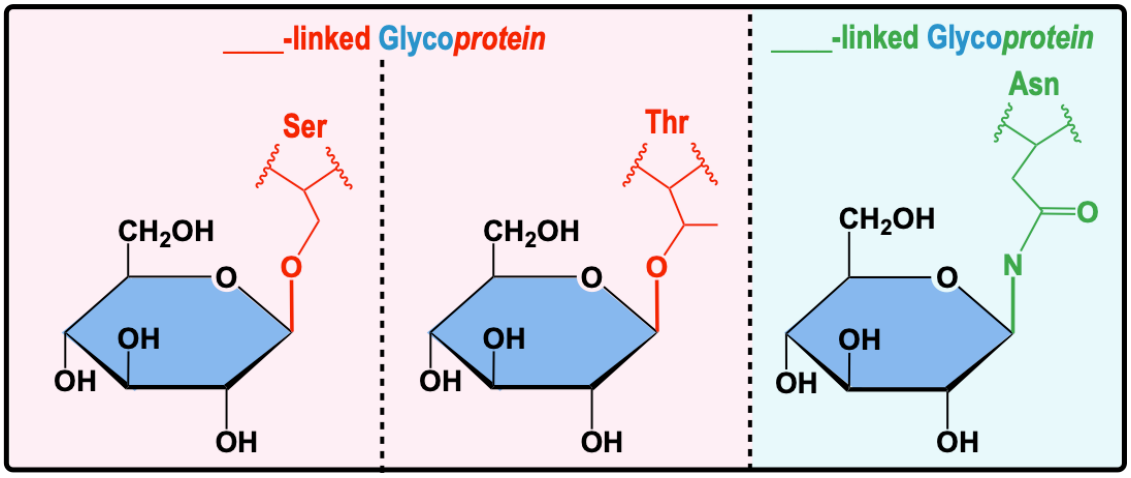
CONCEPT: GLYCOCONJUGATES

O-Linked vs. N-Linked Glycoproteins

●Glycoproteins form glycosidic bonds between a *sugar's* _____ *carbon* & an *amino acid residue's* ____*-group*.

1) ____*-linked glycosidic linkage*: forms with -OH of _____ or _____ residues.

2) ____*-linked glycosidic linkage*: forms with amide nitrogen of an _____ residue.



PRACTICE: In glycoproteins, the carbohydrate moiety is always attached through the amino acid residues:

a) Asparagine, Serine, or Threonine.
b) Aspartate or Glutamate.
c) Glutamine or Arginine.
d) Glycine, Alanine, or Aspartate.
e) Tryptophan, Aspartate, or Cysteine.

PRACTICE: The O-linked glycoproteins of eukaryotes usually have their sugar chains attached to:

a) Buried carbonyls in the protein backbone.
b) Surface carbonyls in the protein backbone.
c) The OH of Ser or Thr residues.
d) The carboxyl terminal residue.
e) The carboxyl groups of Asp or Glu.