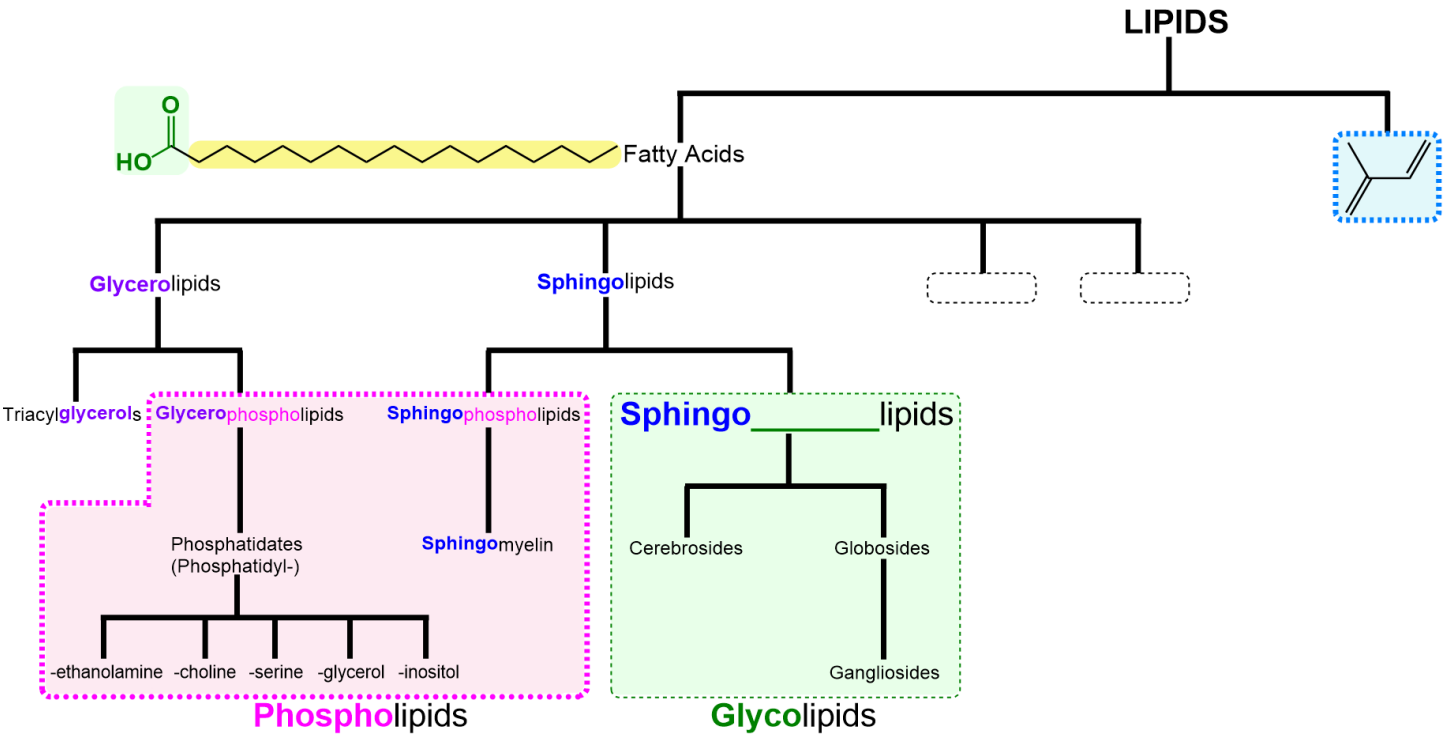
CONCEPT: SPHINGOGLYCOLIPIDS

●Sphingo**glyco**lipids: sphingolipids covalently attached to a _____ (*sugar*) *group*.

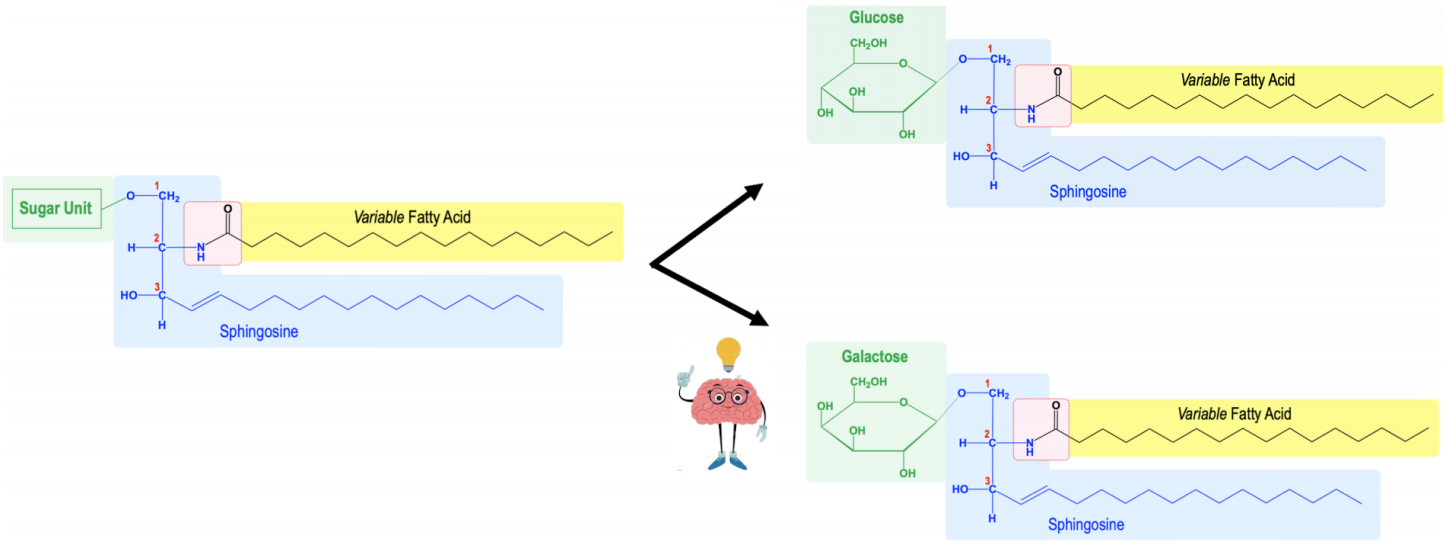


Cerebrosides & Globosides

●_____: sphingo**glyco**lipids with a *single* _____ *residue* as the head group.

□ Typically found in membranes of nerve & brain tissue (Cerebro = Head).

□ *Globosides*: sphingo**glyco**lipids with ≥ _____ *sugar residues* as the head group.

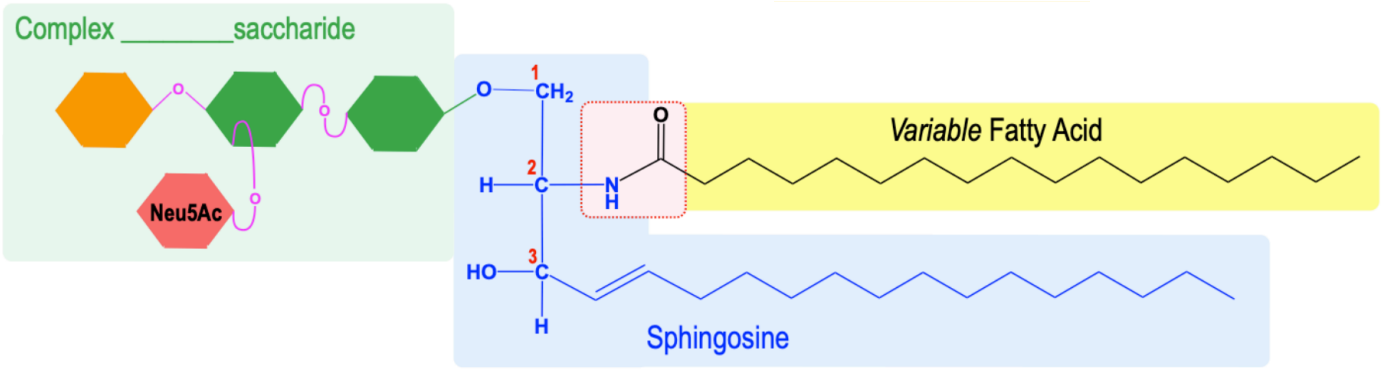


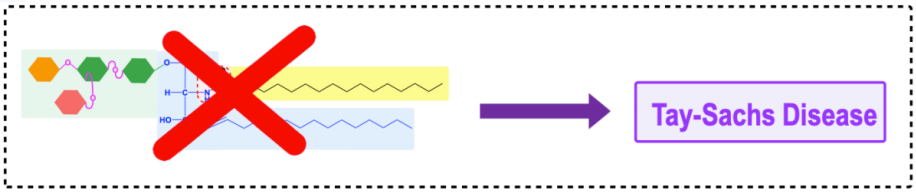
CONCEPT: SPHINGOGLYCOLIPIDS

Gangliosides

- _____: sphingo**glyco**lipids with a *complex* & branched *oligosaccharide* as the head group.
  - □ These *oligosaccharides* contain ≥ 1 _____ *acid* residue, typically N-acetylneuramic acid (*Neu5Ac*).
- *Defects* in ganglioside metabolism lead to many different diseases, including _____-_____ *disease*.

EXAMPLE: Ganglioside Structure.





PRACTICE: Sphingosine is not a component of:

a) Sphingomyelin.
b) Ceramide.
c) Cerebrosides.
d) Gangliosides.
e) Phosphatidylcholine.

PRACTICE: Tay Sachs disease is caused by an inability to degrade:

a) Sphingosine.
b) Gangliosides.
c) Ceramide.
d) Dipalmitoyl phosphatidyl choline.
e) Carbohydrates.

PRACTICE: Which of the following is true regarding a ganglioside?

a) It has 3 hydrocarbon tails.
b) It is the most abundant membrane lipid molecule.
c) It is a sterol lipid.
d) It contains oligosaccharides with one or more sialic acid residues.
e) It is found in myelin sheath cells.