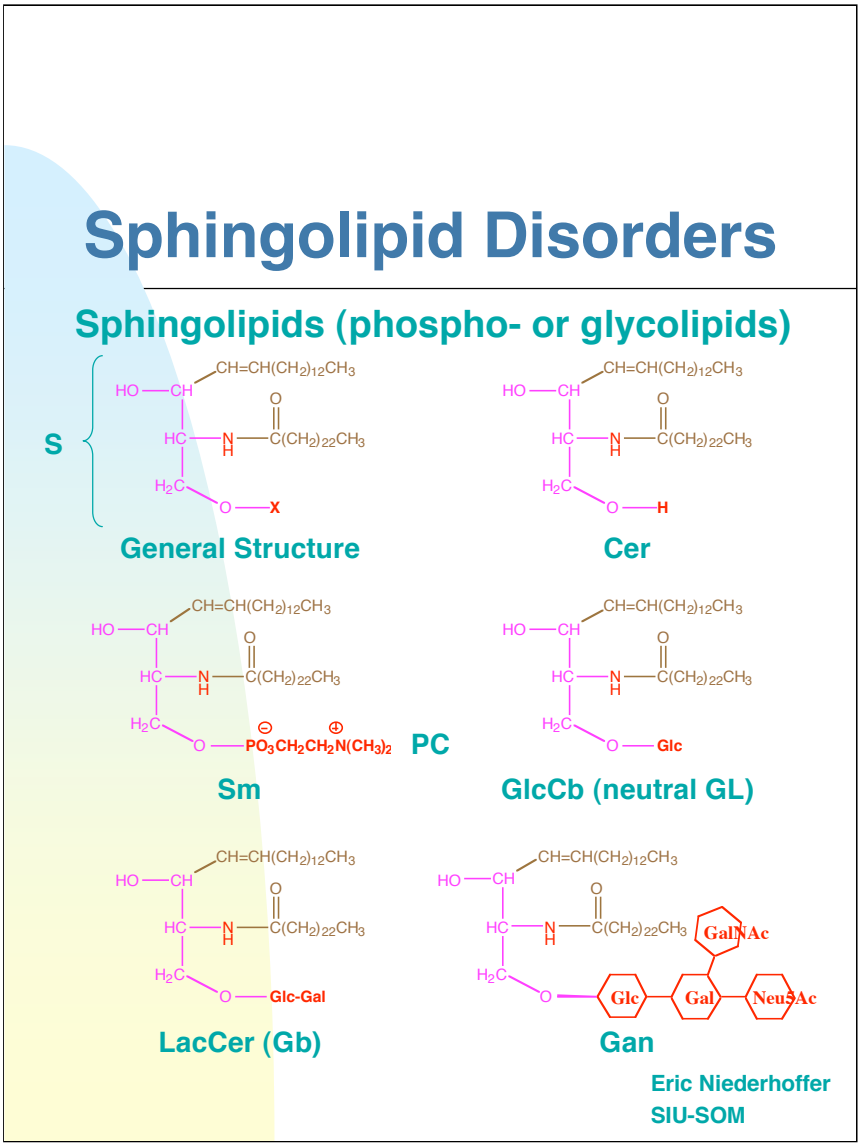


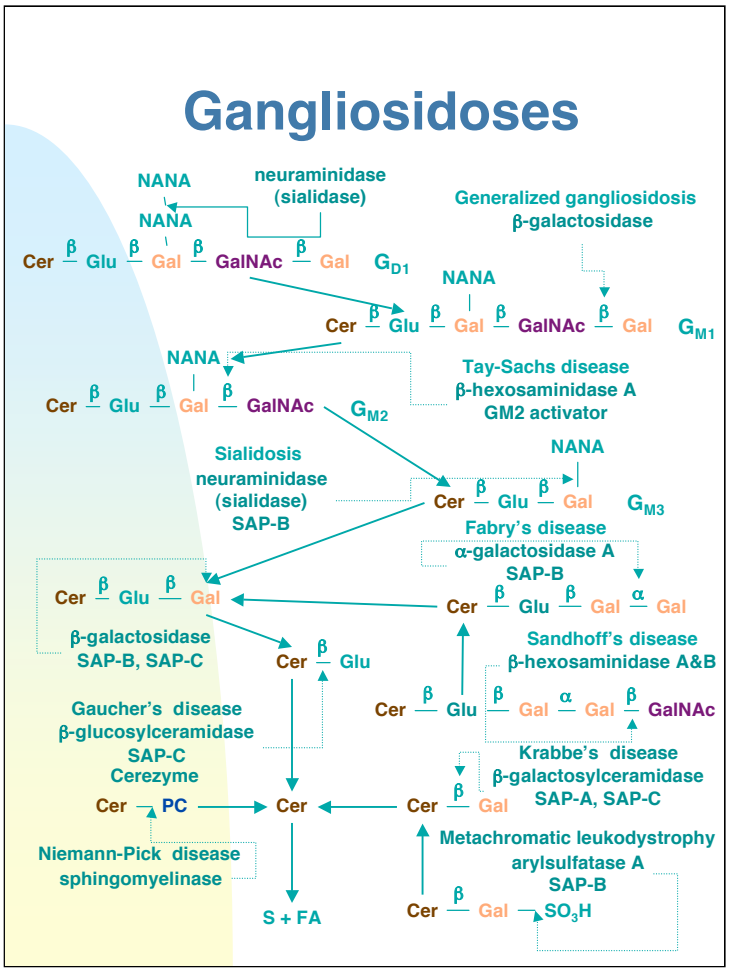
S: sphingosine **Cer**: ceramide **Sm**: sphinglmyelin

PC: phosphocholine **Glu**: glucose

GL: glycolipid **Lac**: lactose

Gb: globoside (two or more sugars plus GalNAc)

Gan: ganglioside (contains NANA) **Cb**: cerebroside (single sugars)



NANA: *N*-acetylneuraminic acid (sialic acid)

Cer: ceramide **Glu**: glucose **Gal**: galactose

GalNAc: *N*-acetylgalactosamine **G**: ganglioside

D1: dineuraminic acid + Gal-GalNAc-Gal-Glc-Cer

M1: neuraminic acid + Gal-GalNAc-Gal-Glc-Cer

M2: neuraminic acid + GalNAc-Gal-Glc-Cer

M3: neuraminic acid + Gal-Glc-Cer

SAP: sphingolipid activator protein (saposin)

Cer-Glu-Gal: lactosylceramide **Cer-Glu**: glucosylceramide

S: sphingosine **FA**: fatty acid

Cer-Glu-Gal-Gal-GalNAc: globoside **Cer-Glu-Gal-Gal**: globotriaosylceramide

PC: phosphocholine **Cer-PC**: sphingomyelin

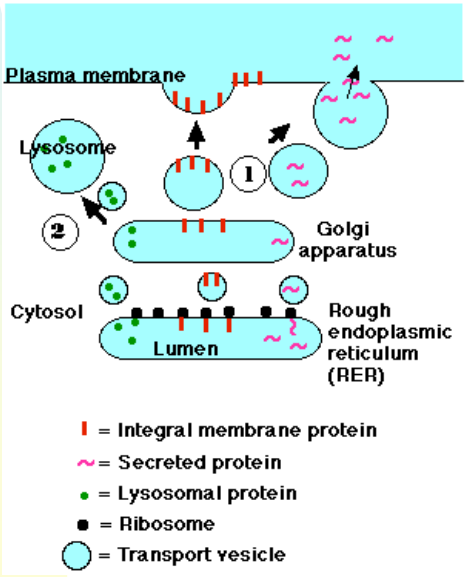
Cer-Gal-SO_3H: sulfatide **Cer-Gal**: galactosylceramide

Targeting of Lysosomal Enzymes to Lysosomes

Addition of M6P to lysosomal enzymes

Recognition by MPRs

M6P independent pathways



M6P: mannose-6-phosphate

MPR: mannose-6-phosphate receptor

Review Questions

- How do you interpret ganglioside names (G, D, M, 1, 2, 3)?
- What do the different lysosomal enzyme names mean in the context of removing saccharides?
- Where does ganglioside degradation occur?