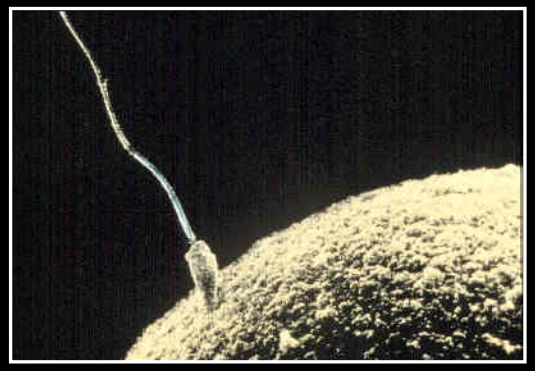
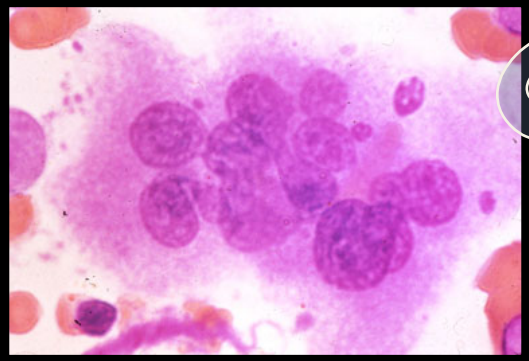
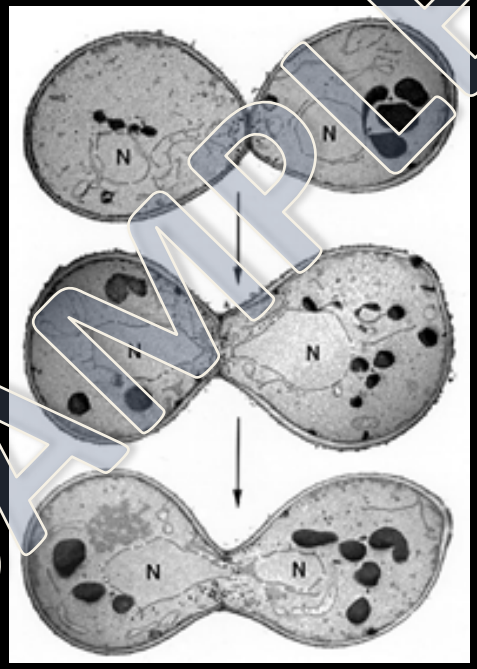
Cell-cell fusion is required for diverse biological processes



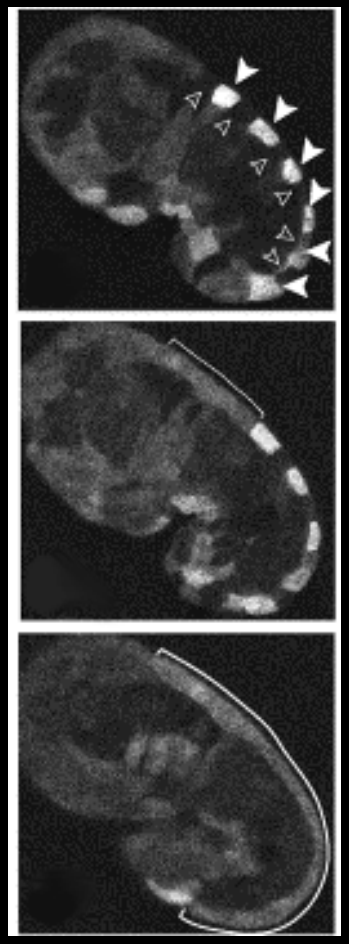
fertilization
sperm+egg fusion



bone remodeling/
immune response
macrophage fusion

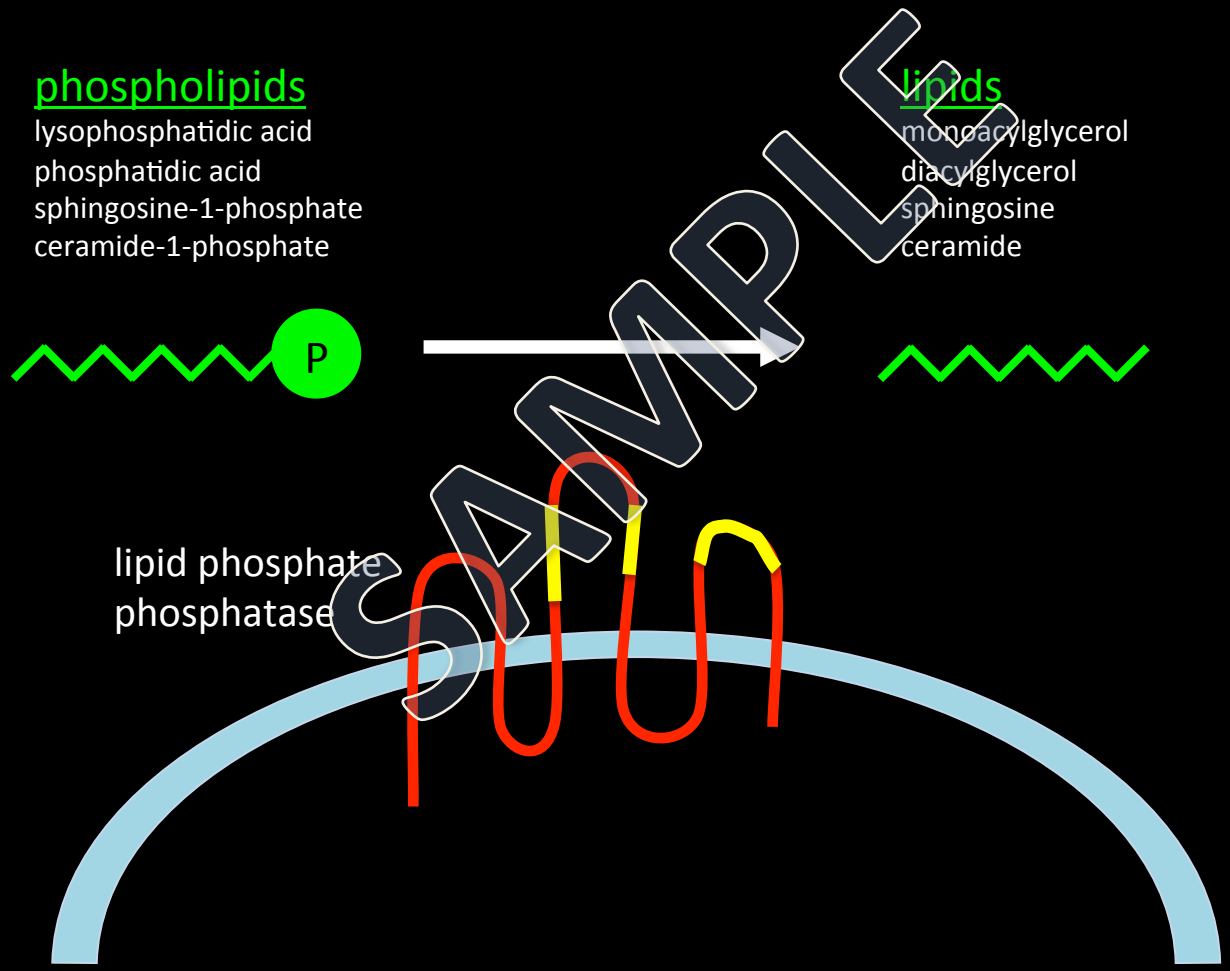


diploid formation
MATα/MATa cell fusion

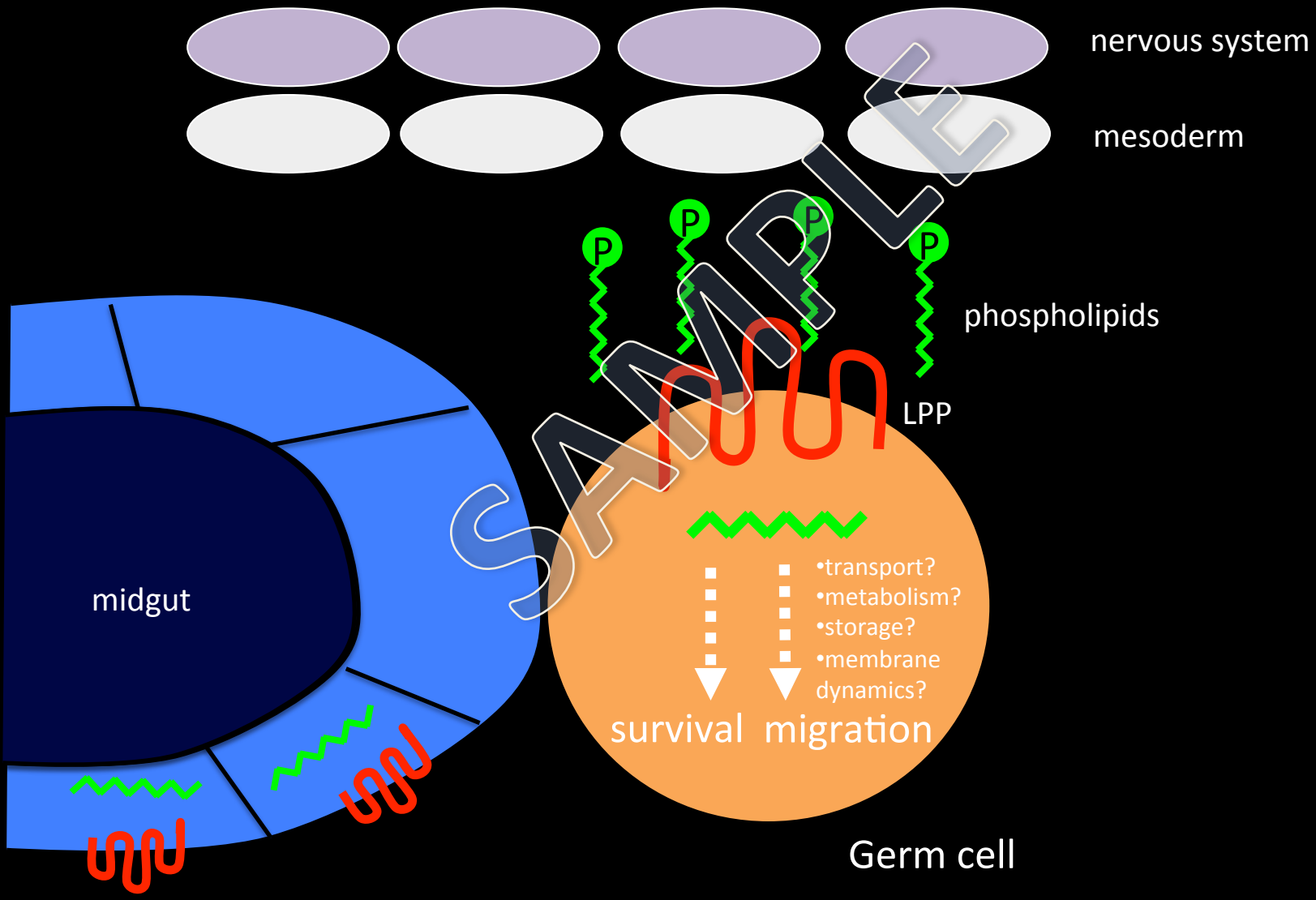


development
epidermal cell fusion

Wunens: lipid phosphate phosphatases

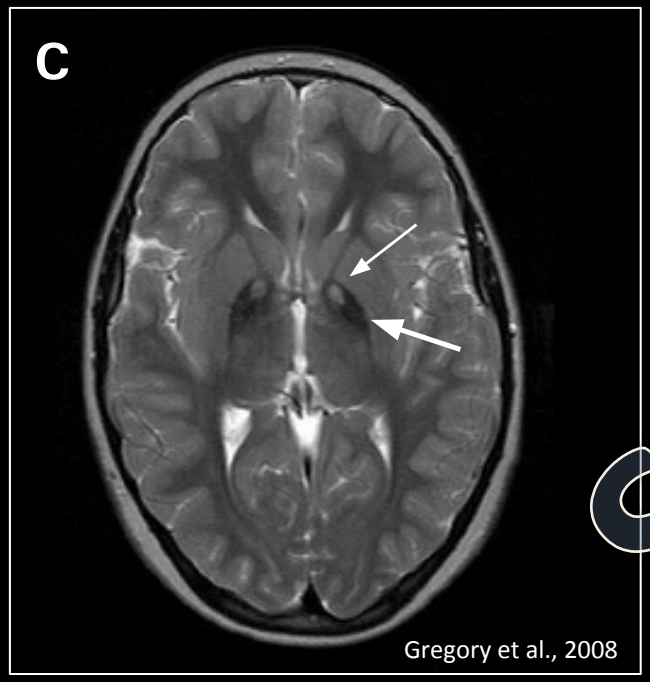


Lipid signaling in germ cell migration and survival



PKAN
pantothenate kinase-associated neurodegeneration

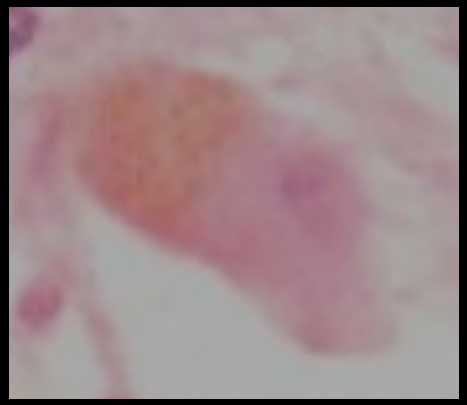
T2-weighted MRI

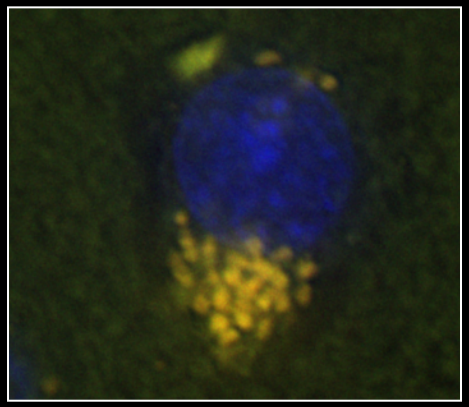


Eye-of-the-tiger sign in the globus pallidus
Thick arrow: peripheral hypointensity
Thin arrow: central hyperintensity

- First described as a clinical syndrome in 1924
- Accounts for ~50% of childhood neurodegeneration with brain iron accumulation
- Estimated prevalence of 1–3/million
- "Classic" PKAN characterized by early onset and rapid progression
- Primary clinical features include dystonia, dysarthria, and rigidity

Lipofuscin Background





- Granular yellow-brown pigment granules found in many cell types
- Composed of lipid-containing residues of lysosomal digestion
- Known to also contain proteins, sugars and metals
- Increases significantly with aging and in several neurodegenerative disorders