

Membrane asymmetry

→ membrane contain

- phospholipid, cholesterol, glycosphingolipid
- protein - Integral & peripheral
- Carbohydrate - glycolipid, glycoprotein

→ protein has unique orientation in membrane, making outside surfaces different from inside surfaces

- Specific proteins are located exclusively on outside or inside of membrane
- also regional heterogeneities in membrane.

e.g. At villous border of mucosal cell - almost microscopically visible.

• At gap junction, tight junction & Synapse - occupy much smaller region of membrane.

→ Inside - outside asymmetry of phospholipids is also present.

e.g. Choline containing phospholipids [phosphatidylcholine, sphingomyelin] are located mainly in outer leaflet.

- Aminophospholipids [phosphatidylserine & phosphatidylethanolamine] - located mainly in inner leaflet.

- Enzyme synthesizing phospholipids are located on cytoplasmic side of microsomal membrane vesicle.