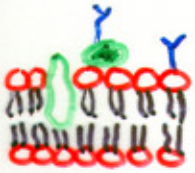
CELL STRUCTURE

A. BOUNDARIES

1. CELL MEMBRANE



PHOSPHOLIPID BILAYER WITH EMBEDED GLOBULAR PROTEINS AND GLYCOLIPID AND GLYCOPROTEIN FLAGS
(FLAGS ID CELL AS FRIEND OR FOE)

→ CONTROLS PASSAGE OF MOLEC. IN + OUT

(2.) CELL WALL (PLANT CELLS)

LAYERS OF CELLULOSE, PECTIN + LIGNIN

→ PROVIDE STRENGTH + RIGIDITY

B. ORGANELLES

1. NUCLEUS - CONTROL CENTRE

CONTAINS A FLUID CALLED NUCLEO-PLASM CONSISTING OF CHROMOSOMES (DNA) + NUCLEOLI.

1.1 NUCLEAR ENVELOPE

DOUBLE LAYERED MEMBRANE WITH NUCLEAR PORES, CONTROLLING WHAT ENTERS + LEAVES.

1.2 NUCLEOLUS (DARK SPOT)

WHERE rRNA PRODUCED + ATTACHED TO PROTEINS TO FORM RIBOSOMES

1.3 CHROMOSOMES

DIRECT PROTEIN SYNTHESIS

SEE fig. 3.3 p.47
3.4 p.52

2. RIBOSOMES

→ SITE OF PROTEIN SYNTHESIS

ATTACHED TO ENDOPLASMIC RETICULUM OR FREE IN CYTOPLASM

3. ENDOPLASMIC RETICULUM ER

TUBULAR CANALS FOR TRANSPORT, FLOWS FROM NUCLEAR ENVELOPE

2 TYPES:

3.1 SMOOTH ER

NO RIBOSOMES

→ LIPID SYNTHESIS, VESSICLE FORMAT
STEROID HORMONES

3.2 ROUGH ER

RIBOSOMES ATTACHED

→ PROTEIN SYNTHESIS (FOR EXPORT)

PROTEIN ENTER ER, MODIFIED, MOVE TO SMOOTH ER, PINCHED IN VESSICLE (BLEBBING) AND IS TRANSPORTED TO...

4. GOLGI APPARATUS (BODY)

STACK OF FOLDED MEMBRANES

→ PACKAGES, STORES + DISTRIBUTES

ER PRODUCTS (VESSICLE FORMATION)

→ALSO MODIFY BY ADDING CARBS OR Ⓟ GROUPS TO PROTEINS.

VESSICLES MOVE TO MEMB., FUSE AND RELEASE PRODUCT OUT.