



King Saud University  
College of Medicine  
Foundation Block



Histology Lecture (1)

## Cell Structure

Histology Team 432

# Histology Practical



# WHAT IS IMPORTANT?

**1) The images that will come in the practical exam will be the same ones the doctors explained on and sent to us (their frames are green). And the rest are just for help (their frames are blue).**

**2) They may ask you some questions that were taken in the lectures.**

**For example:**

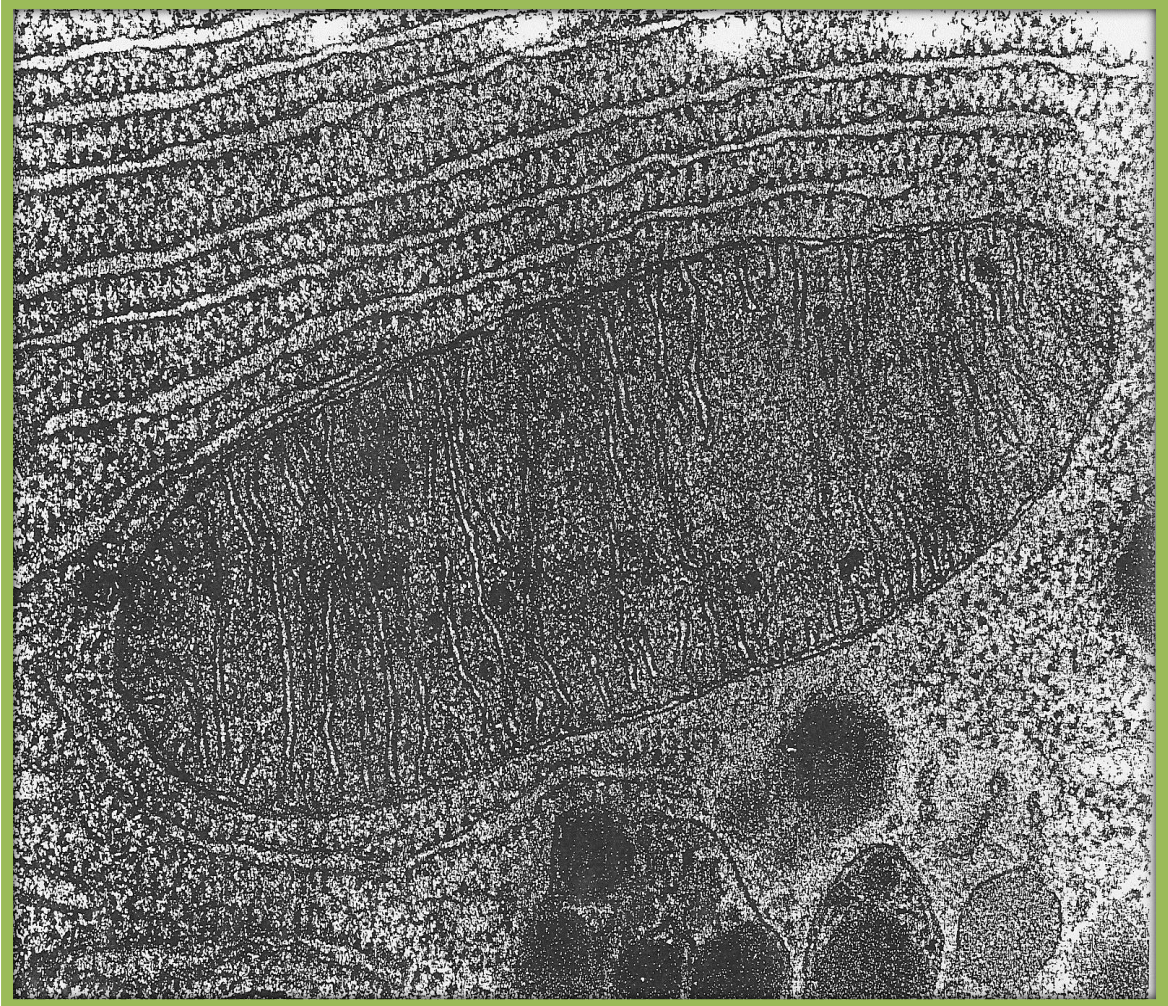
- **Functions.**
- **Site (in tissues).**
- **Features.**
- **Type of cells found in tissue.**

**3) An important question that comes in all images is “*identify/indicate/mention type of tissue or what is the type of this tissue*”.**

**4) SPELLING is also important.**



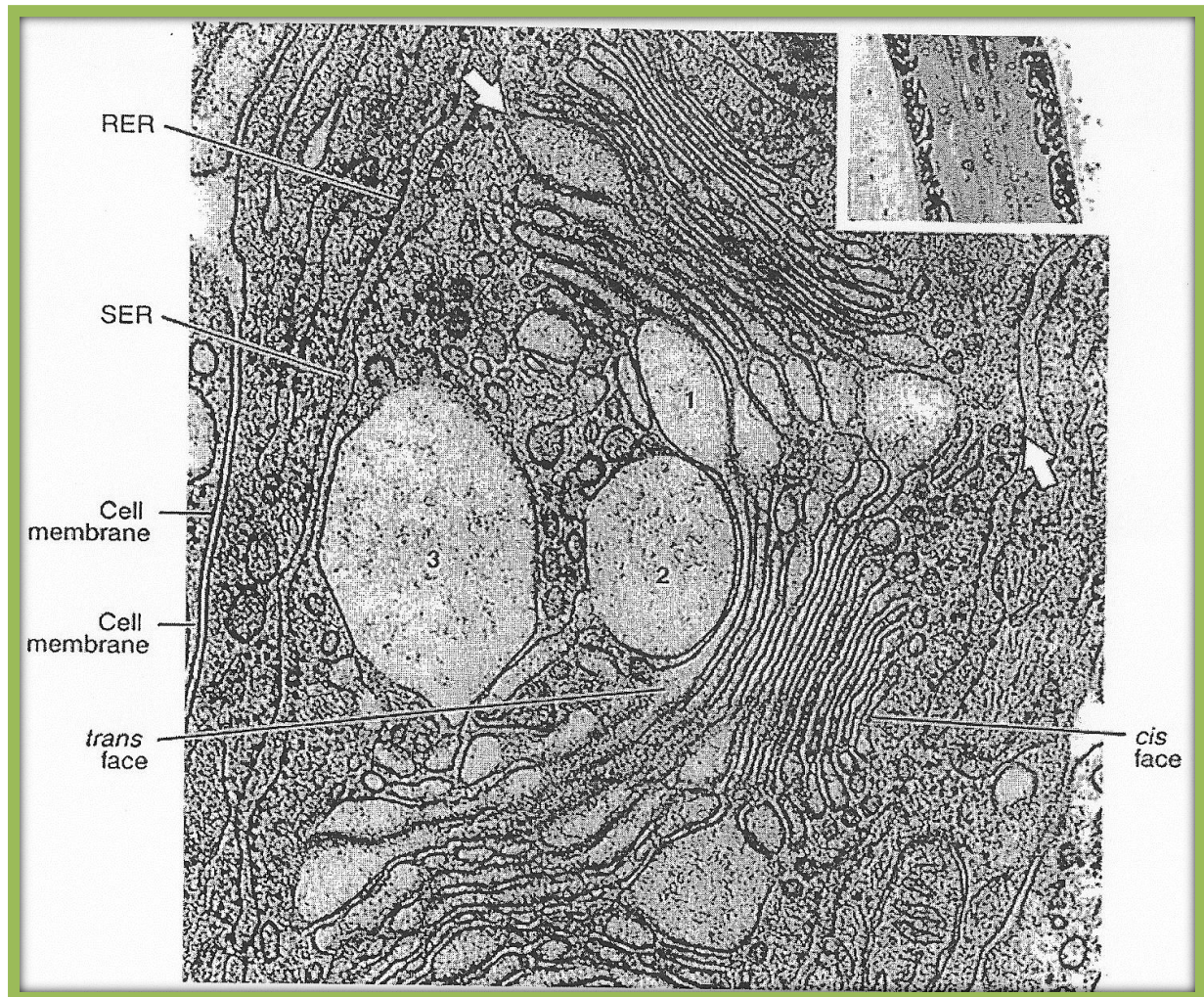
# MITOCHONDRIA



## Main Function:

Generation of energy (ATP)

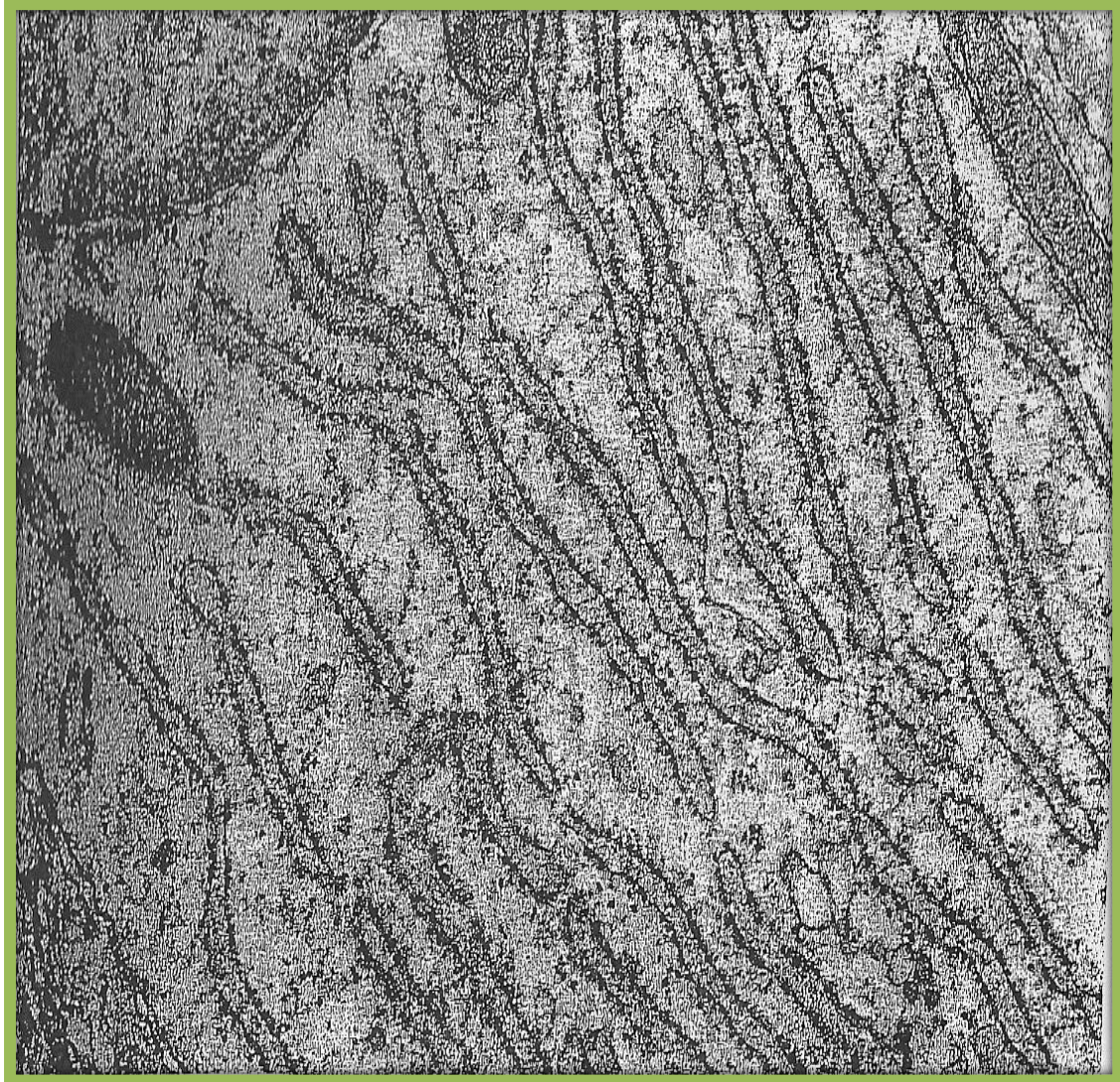
# GOLGI APPARATUS



## Functions:

- 1) Sorting, modification & packing of proteins.
- 2) Secretory vesicle formation.
- 3) Formation of lysosomes.

# ROUGH ENDOPLASMIC RETICULUM



## Functions:

Synthesis of proteins due to the presence of ribosomes on its outer surface.

# CENTRIOLES

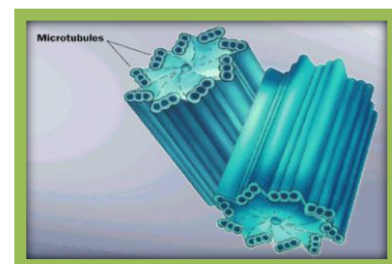


## Features:

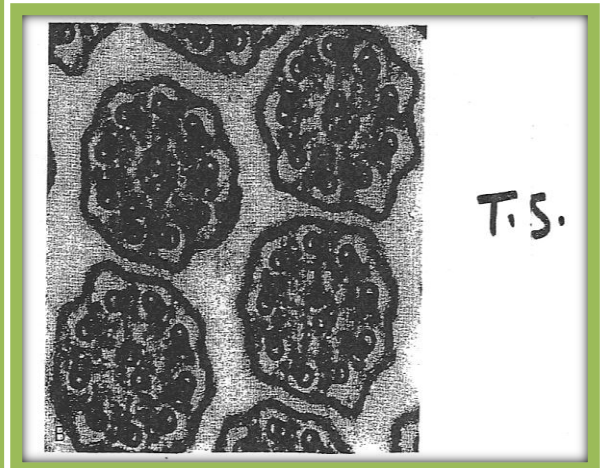
- 1) **Non-membranous structure** (meaning it is not an organelle of the cell it is just a modification to the cell)
- 2) **Made of 2 cylinders that are perpendicular to each other.**  
Their walls (not membranes) are made of 9 triplets of microtubules  
(27 microtubules)

## Functions:

- 1) **Essential for cell division**
- 2) **Formation of cilia and flagella**



# CILIA



## Features:

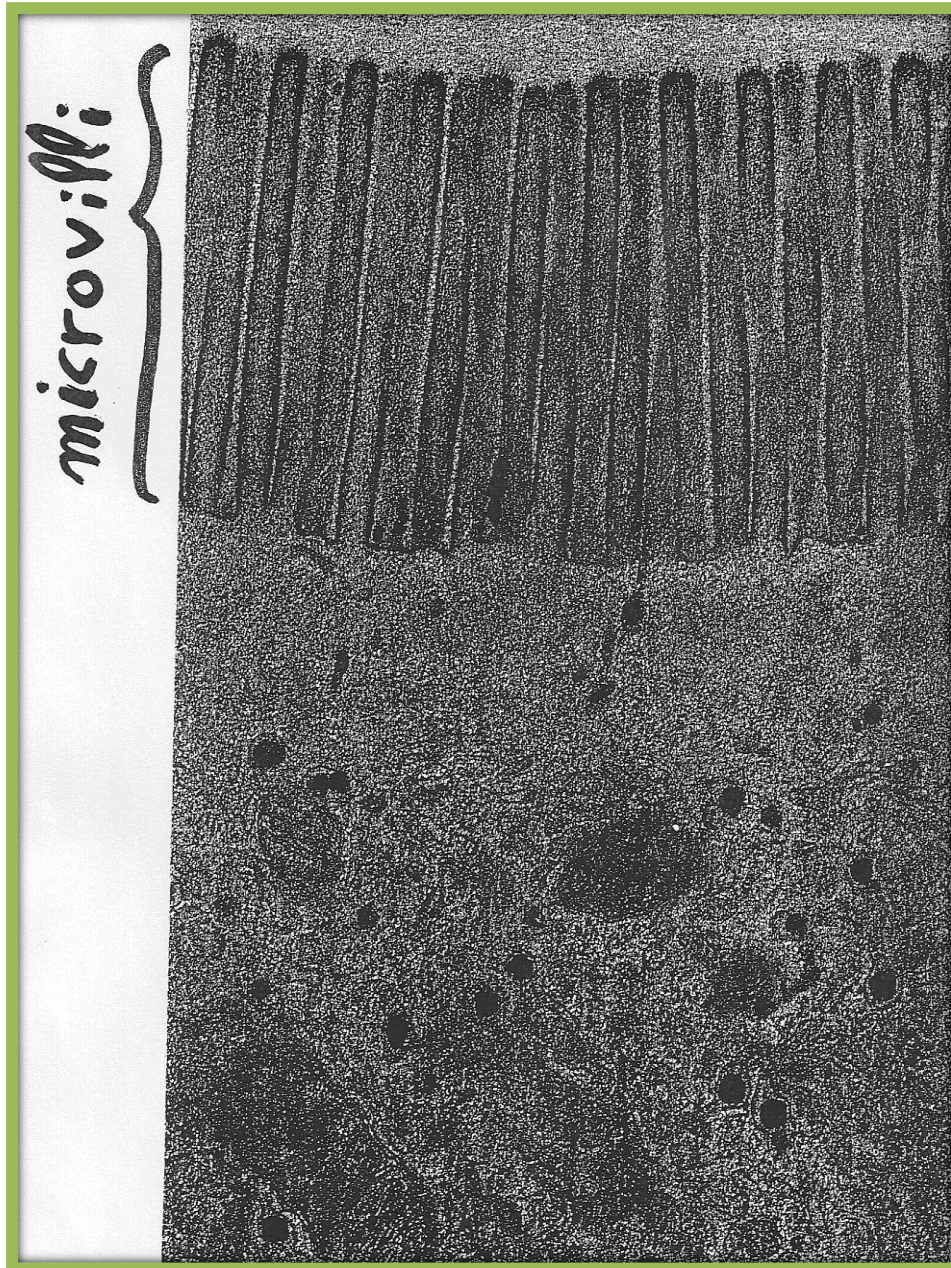
- 1) **Non-membranous structure** (meaning it is not an organelle of the cell it is just a modification to the cell)
- 2) **Long motile hair-like structures surrounded by cell membrane.**
- 3) **Their core is formed of microtubules, 9 doublets and 2 singles in the middle (20 microtubules in total).**

## Functions:

- 1) **It helps in the movement of particles or fluid on the free surface of the cell in one direction**



# MICROVILLI



## Features:

- 1) Their core is made of actin (micro) filaments (not microtubules )

## Functions:

- 1) To increase surface area for more absorption.