

Living component (cell organelles)

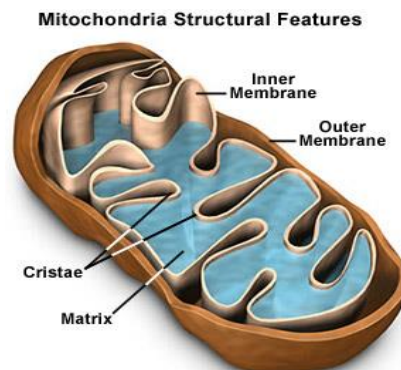
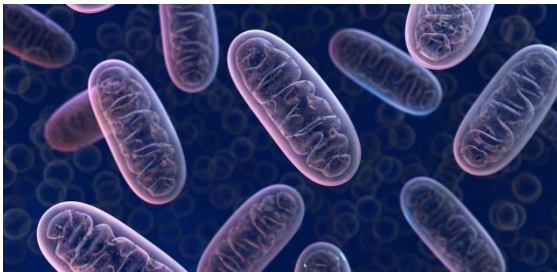
Lab:3

Living component include :

- 1_ Mitochondria
- 2_ Golgi complex
- 3_ The plastids

1: Mitochondria

A Vesicle _like organelle often called the power house of the cell **Because** they involved in many energy _ transforming and other metabolic function within the cell . Mitochondria are surrounded by tow membranes, the inner membrane folds inward to form cristae, which carry(covered with) particles that have ATPase activity . some DNA also occurs in mitochondria (mtDNA).



Examine mitochondria in onion cells :

Procedure :

1_ on a clean glass slide mix tow or three drops of stain **janus green** (**Vital stain**).

2_ prepare a thin piece of onion epidermis and mount it in the staining solution .the preparation should be 1 cell thick .for mitochondria to stain well,

*the onion cell must be healthy and metabolically active .add cover slip.

3_ search the periphery of cell to locate stained mitochondria .they are small blue spheres about 1 mm in diameter . the color will fade in 5_10 min because of reducing the vital stain by mitochondrial electron.

4- repeat the procedure using IKI stain and compared the result with janus green (**vital stain**) : special group stain which are capable to penetration the cell membrane of living cells \organisms since the possess a lipophilic property).

5_ also examine slides for mitochondria in onion root tips and liver cells , the mitochondria will appeared as a black points around the nucleus.