CYANIDE INSENSITIVE RESPIRATION

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- **Cyanide-insensitive respiration(or resistant respiration)** was discovered at the beginning of 20th century in thermogenic plants during anthesis and was later found to be a typical feature of plant respiration . It is a respiratory pathway, occuring only in mitochondira of some plants, yeast , and bacteria , that is unaffected by cyanide.

- Cyanide-resistant respiration is not found in animals

- The phenomenon of respiration resistant to cyanide is connected with the presence of an additional terminal oxidase-alternative oxidase (AOX)

- AOX is an approximately 32-kDa homo dimeric integral mitochondrial inner membrane protein with a non heam di **Fe** centre and two membrane spanning protein.

MECHANISM

- The flow of electrons from reduced coenzymes to Ubiquinone is the same as in usual mitochondrial electron transport chain.

- The electrons pass from UQ to a flavoprotein Fpma and direct to a cyanide resistant alternative oxidase and finally to O_2

- In between UQ and oxygen a free energy released as heat

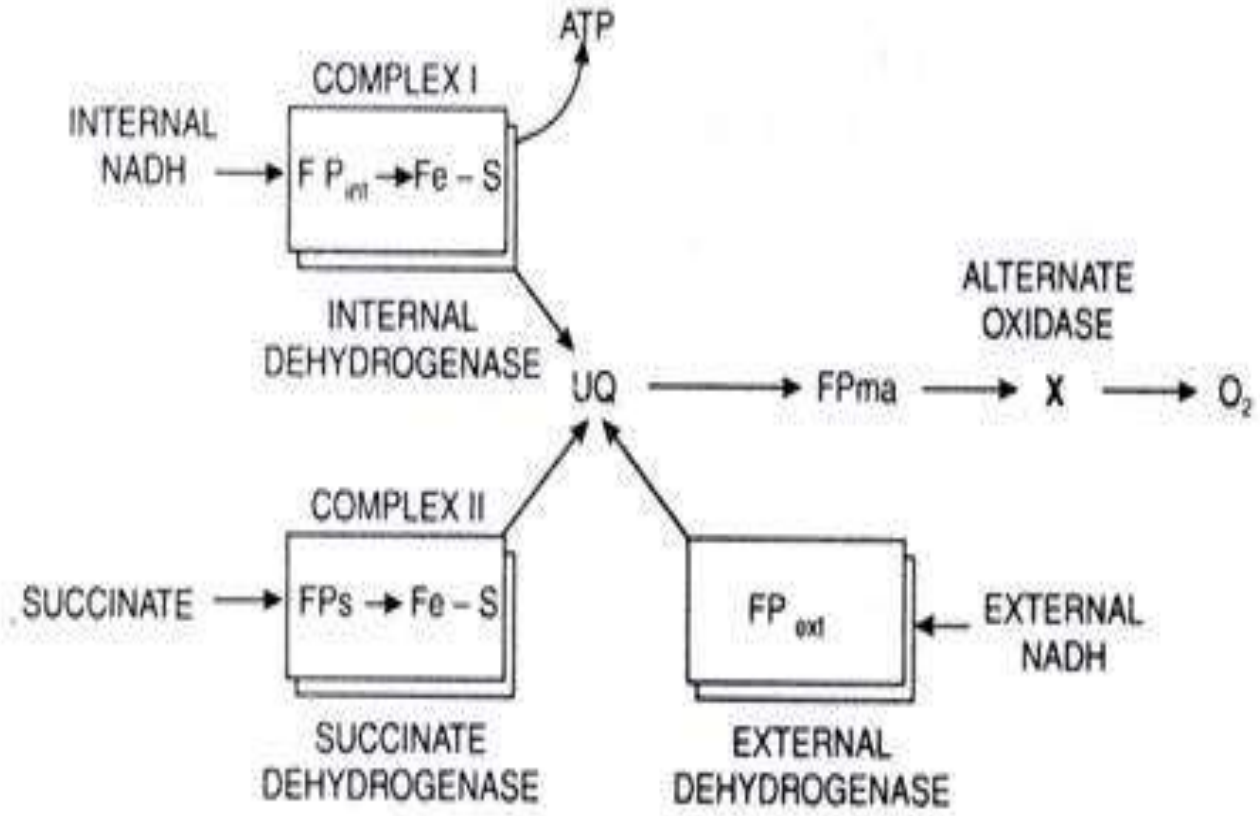

Fig.16.17. Electron transport chain in cyanide resistant respiration (only in plants). See text for abbreviations.

REFERENCE

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THANK YOU