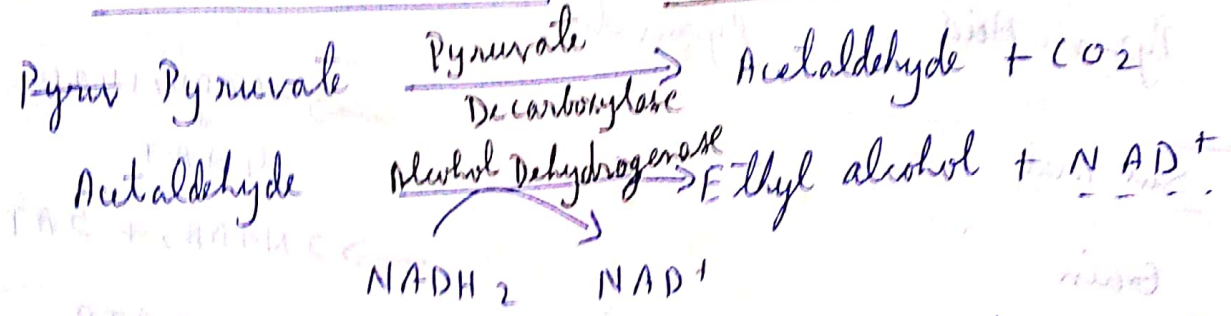


(A) Anaerobic Respiration

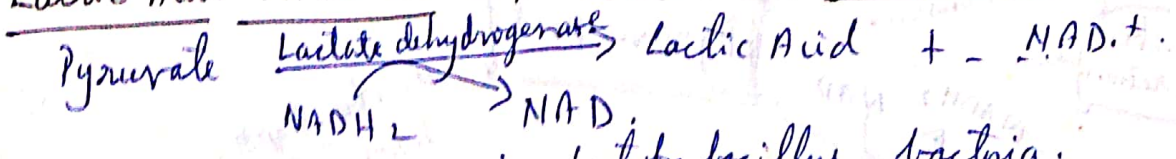
- 1. No free oxygen is required.
- 2. No ATP is produced.
- 3. The 2 ATP are found ~~we have~~ have been the product of Glycolysis.
- 4. The ultimate Hydrogen acceptor (From $NADH_2$) is organic compound.
- 5. It is of various types.

(a) Alcoholic Fermentation : $C_2H_5OH \rightarrow$ Ethylalcohol.



- It is very common in yeast cells and many plant tissues.
- It stops when the concentration of alcohol exceeds 12-15% even if ~~the~~ in the presence of substrate. as this percentage of alcohol is toxic for the growth of yeast.
- It is a type of anaerobic respiration, but differs from other types of anaerobic respiration as — i) It is extracellular.
- (ii) It takes place in presence of an enzyme Zymase.
- (ii) It takes place with the help of micro-organisms.

(b) Lactic Acid Formation $\rightarrow C_3H_6O_6 \rightarrow$ Lactic acid.



- It is very common in Lactobacillus bacteria.
- It is not so familiar in higher plants.
- But common in animal tissues viz. muscles.

(c) Acid Formation \rightarrow (i) Pyruvate \rightarrow Acetic acid + NAD^+
(ii) Pyruvate \rightarrow Butyric Acid + NAD^+

B AEROBIC RESPIRATION :- It takes place in presence of oxygen.

It needs Mitochondria.

Pyruvate is degraded upto CO₂ and H₂O through Krebs cycle and Electron Transport System (E.T.S.) / chain (E.T.C.) or Respiratory chain

Mitochondria.

Krebs cycle and E.T.S. both are present in Mitochondria. The enzymes of Krebs cycle are found on the surface of Oxysomes (Primary / Elementary particles) whereas Respiratory chain are in the base of Oxysomes.

But only Acetyl Co.A. a 2-carbon compound can enter into Krebs cycle. Hence Pyruvate ~~has to~~ loses one carbon and changes into Acetyl Co.A. It is a complex reaction and takes place in presence of five co-factors and a complex enzyme. ~~It is known~~ This reaction is known as Link Reaction.

