

## Cellular Respiration

**Cellular respiration** occurs within cells and plays a vital role in the breakdown of organic molecules, typically glucose, to generate energy from adenosine triphosphate (ATP).

The second stage of cellular respiration is the **Krebs cycle**, also known as the tricarboxylic acid cycle (TCA). This is a series of enzymatic reactions that occur within the mitochondria of eukaryotic cells.

The Krebs cycle starts with the oxidation of acetyl-CoA to form citrate, which will undergo a series of reactions resulting in the production of oxaloacetate and electron carriers (ATP, NADH, and FADH<sub>2</sub>). The electron carriers are vital in the production of ATP in the fourth stage of cellular respiration: oxidative phosphorylation.

In the process, glucose is oxidized to carbon dioxide, and oxygen is reduced to water.

The energy released in the process is stored in the form of ATP.

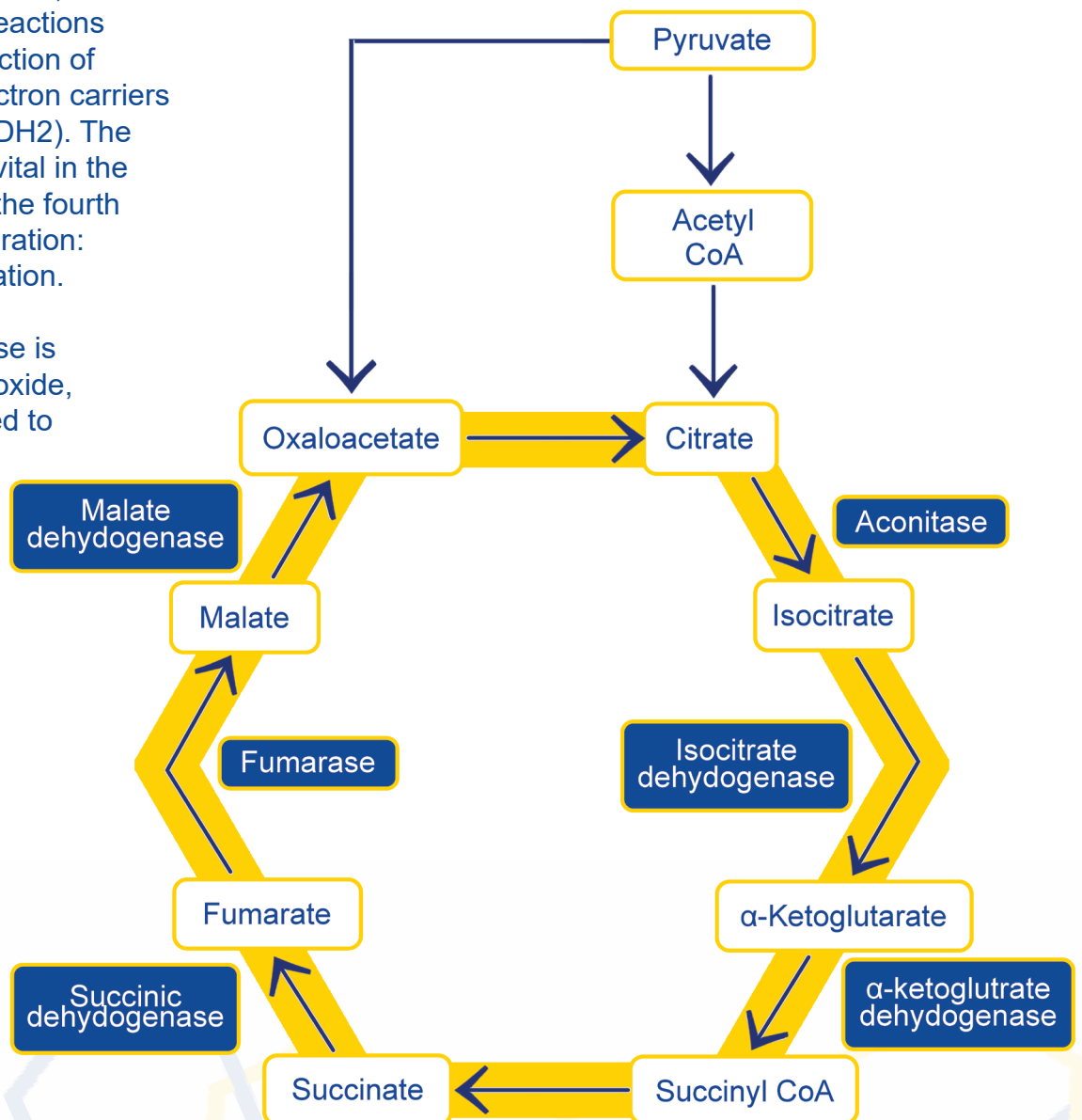
The process of cellular respiration encompasses four distinct stages:

### 1. Glycolysis

### 2. Formation of Acetyl CoA

### 3. Krebs Cycle

### 4. Electron Transport System and Oxidative Phosphorylation



## Separated by Enzyme Products

### Citrate synthase:

- Human Citrate Synthase (CS) ELISA Kit (**abx151075**)

### Aconitase:

- Human Aconitase 1 (ACO1) ELISA Kit (**abx150524**)

### Isocitrate dehydrogenase:

- Human Isocitrate Dehydrogenase 2, mitochondrial (IDH2) ELISA Kit (**abx151899**)

### Alpha-ketoglutarate dehydrogenase:

- Human Oxoglutarate Dehydrogenase (OGDH) ELISA Kit (**abx352381**)

### Succinyl-CoA synthetase:

- Human Succinate-CoA Ligase Alpha Subunit (SUCLG1) ELISA Kit (**abx383555**)
- Human Succinate-CoA Ligase GDP-Forming Beta Subunit (SUCLG2) ELISA Kit (**abx383556**)
- Human Succinate-CoA Ligase ADP-Forming Beta Subunit (SUCLA2) ELISA Kit (**abx383554**)

### Succinate Dehydrogenase:

- Human Succinate Dehydrogenase Complex Subunit A (SDHA) ELISA Kit (**abx253150**)
- Human Succinate Dehydrogenase Complex Subunit B (SDHB) ELISA Kit (**abx383076**)

### Fumarase:

- Human Fumarate Hydratase (FH) ELISA Kit (**abx251329**)

### Malate dehydrogenase:

- Human Malate Dehydrogenase 1 (MDH1) ELISA Kit (**abx152296**)
- Human Malate Dehydrogenase 2 (MDH2) ELISA Kit (**abx152297**)

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