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Kreb's Cycle

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INTRODUCTION

- It was named after the Hans Adolf Krebs who discovered it in 1937.
- It is also known by several other names:
 - Citric Acid Cycle .
 - Tricarboxylic Acid Cycle (TCA)

- TCA cycle supplies energy & also provides many intermediates required for the synthesis of amino acids, glucose, heme etc.
- TCA cycle is the most important central pathway connecting almost all the individual metabolic pathways.

- This cycle occurs in the mitochondrial matrix.
- It is the series of biochemical reactions in which the acetyl portion of acetyl CoA is oxidized to carbon dioxide and the reduced coenzymes FADH₂ and NADH are produced.
- The Krebs cycle is what is known as Amphibolic, in that it is both catabolic (breaks down molecules) and anabolic (builds molecules).
- It is a series of chemical reactions used by all aerobic organisms to generate energy through the oxidization of acetate derived from carbohydrates, fats, and proteins into carbon dioxide

Reactions of TCA Cycle

- Step:1 Formation of citrate .
- Oxaloacetate condenses with acetyl CoA to form Citrate, catalysed by the enzyme citrate synthase [?]
Inhibited by:
- ATP, NADH, Citrate - competitive inhibitor of oxaloacetate.