

TCA Cycle

(Aerobic Metabolism)

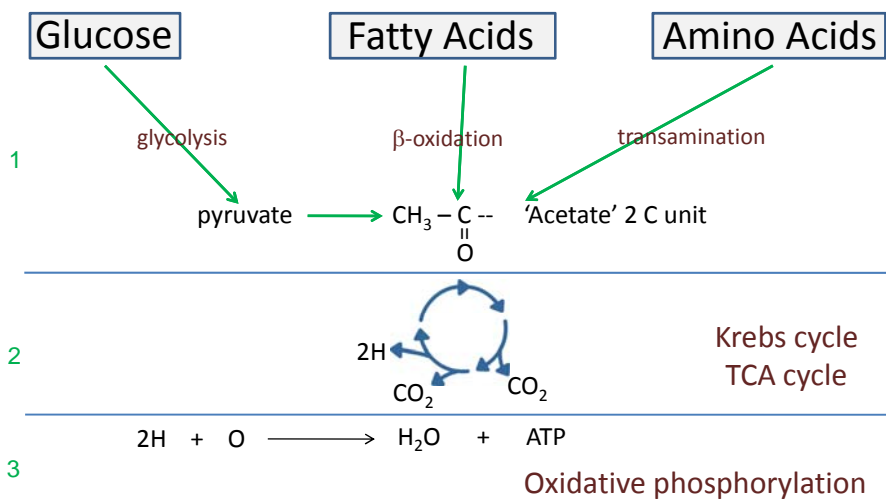
Barbara Moreland

KING'S
College
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Alternative names for pathway:

- Krebs cycle
- Citric acid cycle
- Tricarboxylic acid cycle
- Common terminal pathway

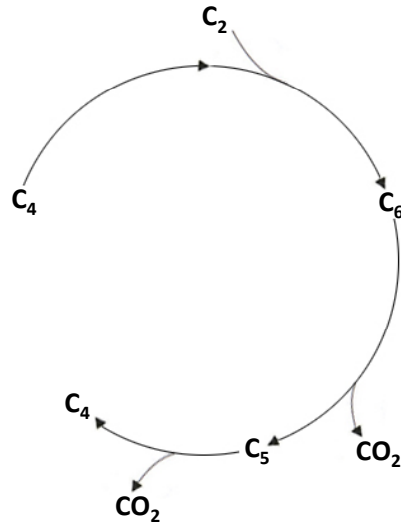
Catabolism of sugars, fats & amino acids occurs in 3 stages



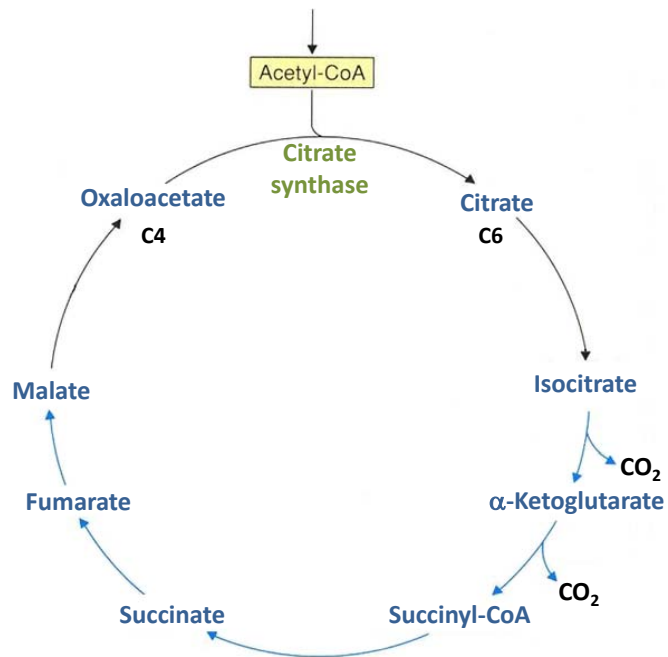
Key Points

- **Definition:** oxidation of acetyl CoA to CO_2 and water
- **Location:** mitochondrial matrix
- **Tissues:** all tissues with mitochondria (not red blood cells or white muscle fibres)
- **Functions:** energy trapping, biosynthesis of intermediates

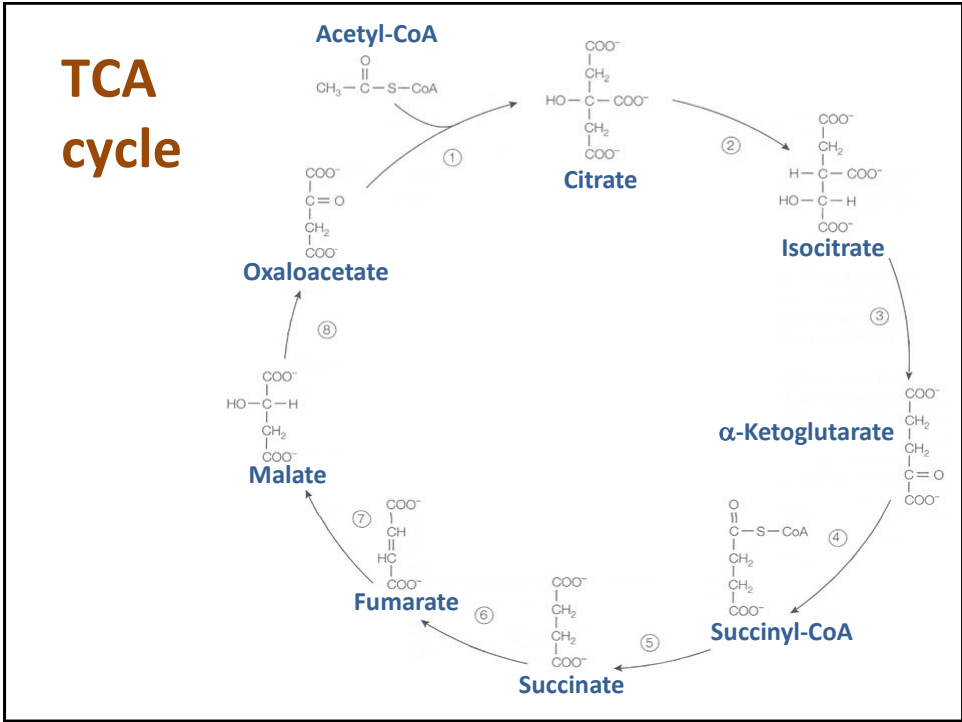
Summary of TCA cycle events



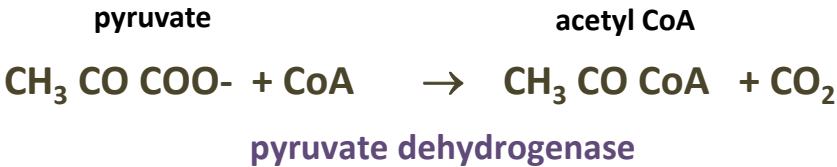
TCA cycle



TCA cycle



Conversion of Pyruvate to Acetyl CoA (the link reaction)

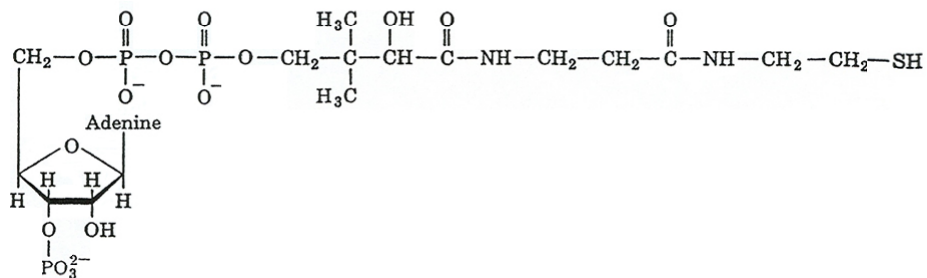


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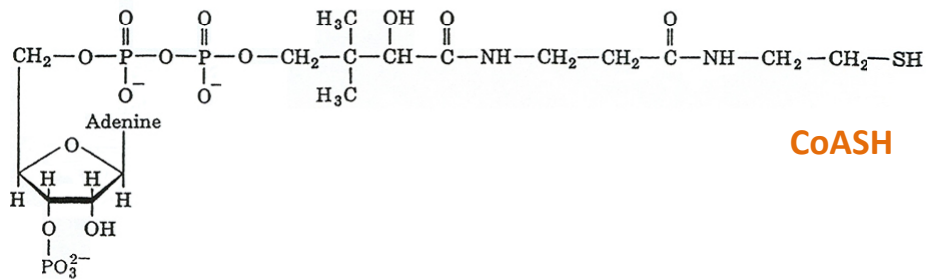


Other cofactors: **thiamine pyrophosphate, lipoic acid
FAD, Coenzyme A**

Coenzyme A forms thioester bonds with carboxylic acids



Coenzyme A forms thioester bonds with carboxylic acids



Conversion of Pyruvate to Acetyl CoA (the link reaction)

