



Medical Committee
The University of Jordan



SLIDE



SHEET

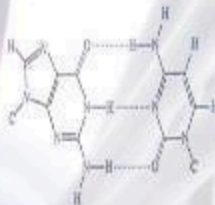


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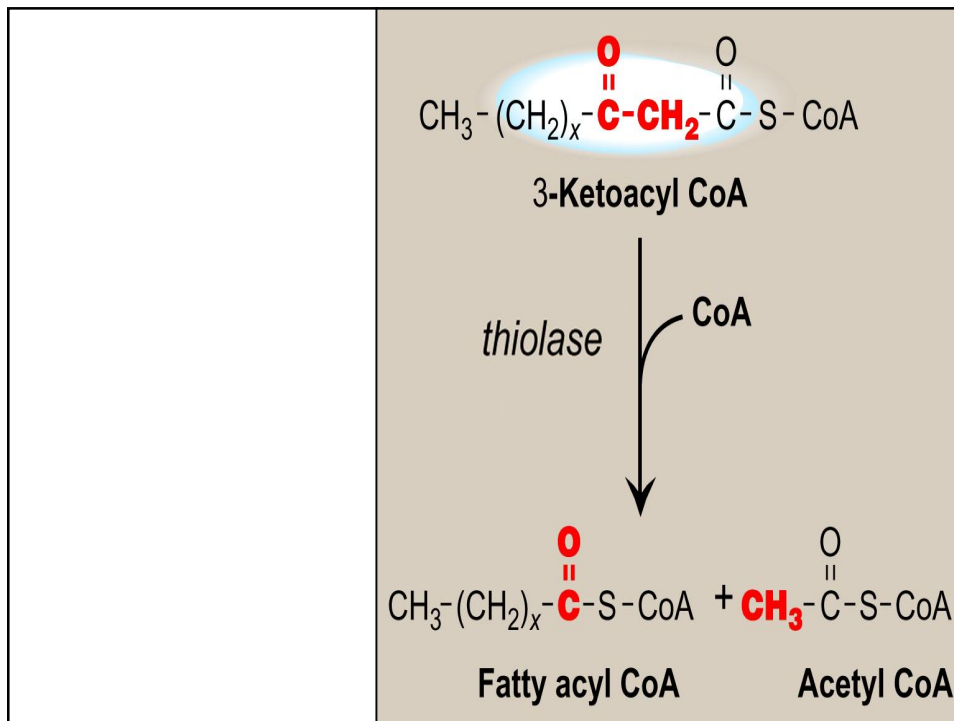
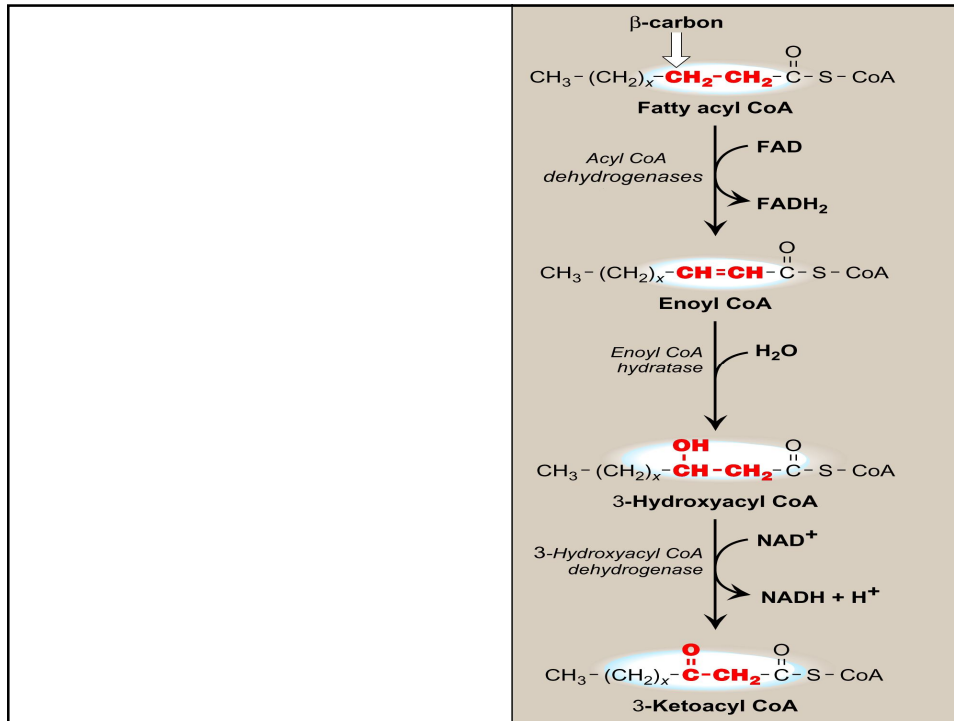


DR.NAME: Faisal Al-khateib

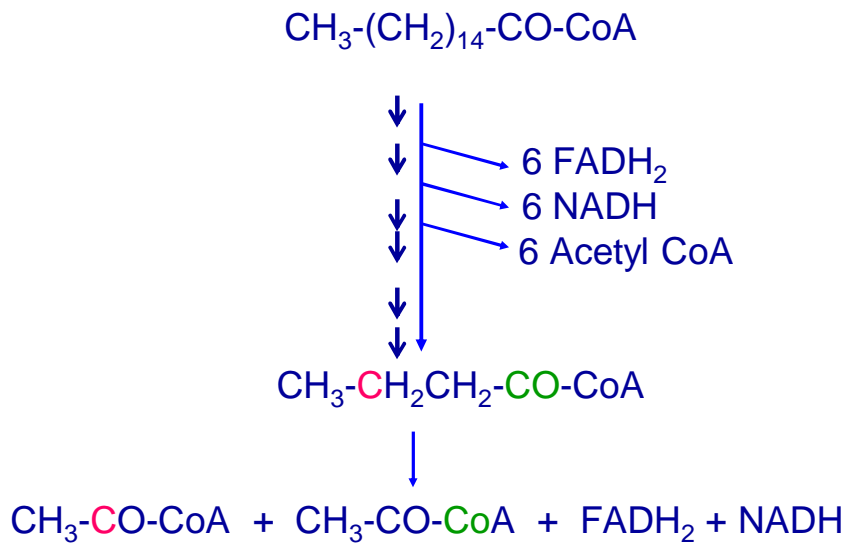
Biochemistry



Majida Al-Foqaraa'



Energy Yield from FA Oxidation



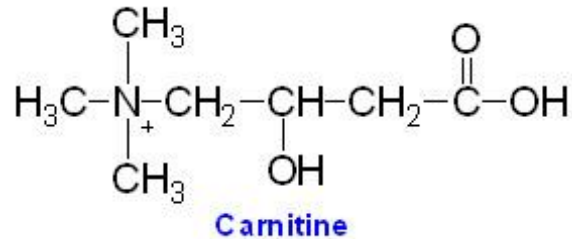
Energy Yield from FA Oxidation (cont.)

- Oxidation of C 16 FATTY ACID

- 7 FADH_2 → 14 ATP
 - 7 NADH → 21 ATP
 - 8 Acetyl CoA → 96 ATP

- Activation of the Acid consumes 2 ATP
- Net 129 ATP mole per mole of C16 Fatty Acid

Carnitine



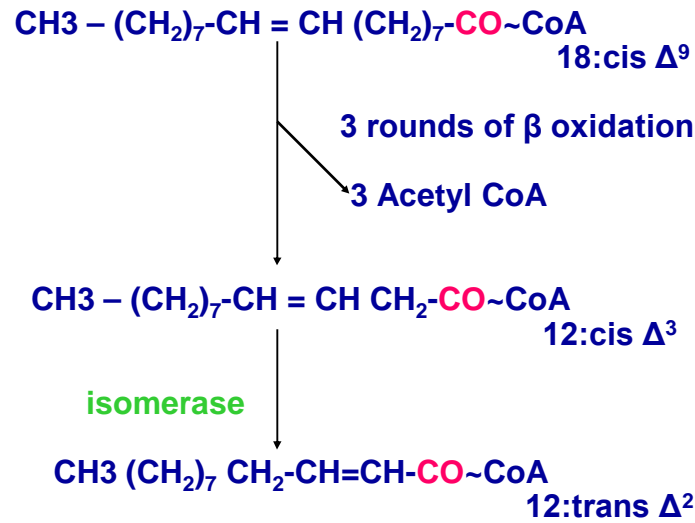
* Other functions:

- Export of branched chain acyl groups from mitochondria
- Excretion of acyl groups that cannot be metabolized in the body

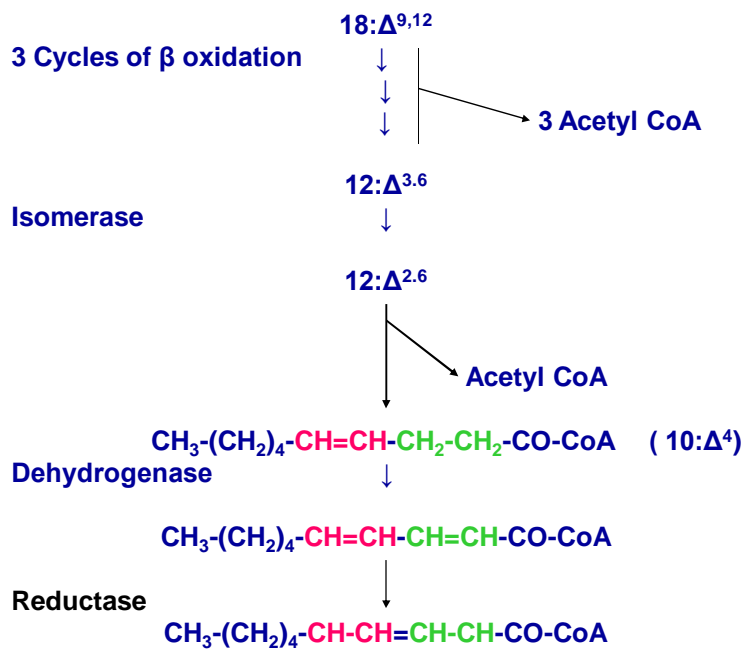
Carnitine Deficiencies

- **Secondary deficiencies:**
Liver disease, malnutrition, ↑ requirements
- **Congenital Deficiencies:**
↓ Enzyme, ↓ uptake, ↓ tubular reabsorption
- ↓ Ability to use FA as a fuel
- Accumulation of F.A and branched Acyl groups in cells

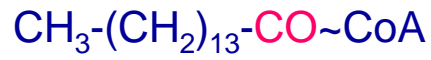
Oxidation of unsaturated F.A: Oleic Acid



Oxidation of Unsaturated F.A: Linoleic Acid



Oxidation of FA with odd number of carbons



Six Cycles of β oxidation ↓

