

## Chapter 16 – The Citric Acid Cycle

### 16.1 Production of Acetyl-CoA

The following sub-sections are important:

- The Introduction
- Pyruvate is Oxidized to Acetyl-CoA and CO<sub>2</sub>
- The Pyruvate Dehydrogenase Complex Employs Five Coenzymes
- The Pyruvate Dehydrogenase Complex Consists of Three Distinct Enzymes
- The Substrate Channeling, Intermediates Never Leave the Enzyme Surface

### 16.2 Reactions of the Citric Acid Cycle

The following sub-sections are important:

- The Introduction
- The Sequence of Reactions in the Citric Acid Cycle Makes Chemical Sense
- The Citric Acid Cycle Had Eight Steps
- The Energy of Oxidation in the Cycle is Efficiently Conserved
- Citric Acid Cycle Components are Important Biosynthetic Intermediates
- Anaplerotic Reactions Replenish Citric Acid Cycle Intermediates
- Biotin in Pyruvate Carboxylase Carries CO<sub>2</sub> Groups

### 16.3 Regulation of the Citric Acid Cycle

The following sub-sections are important:

- The Introduction
- Production of Acetyl-Coa by the Pyruvate Dehydrogenase Complex is Regulated by Allosteric and Covalent Mechanisms
- The Citric Acid Cycle is Regulated at its Three Exergonic Steps