

Unnumbered 28 p484a
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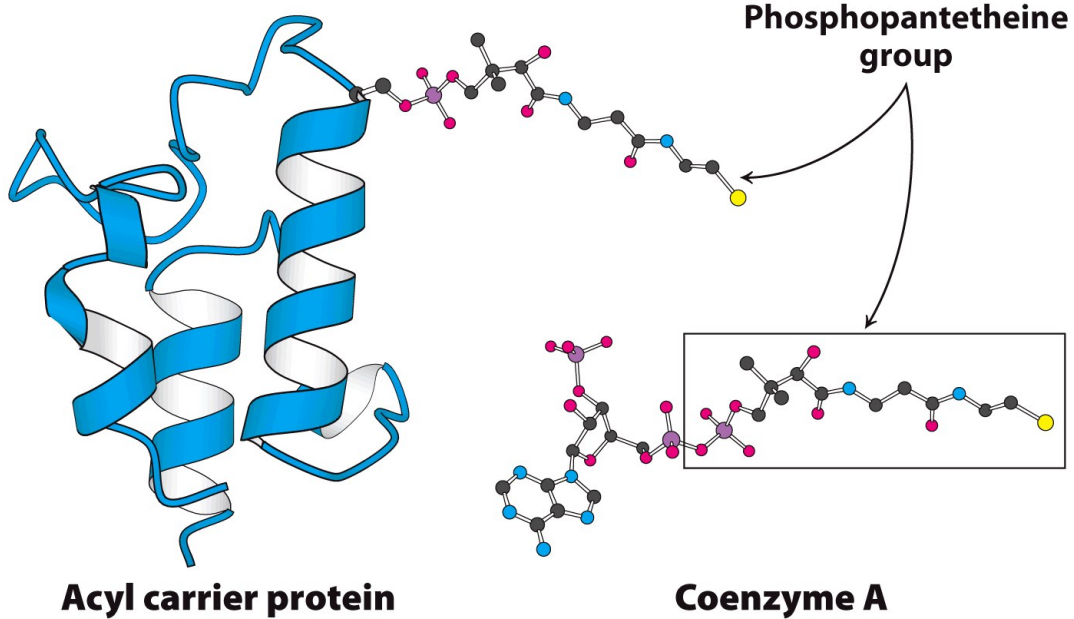


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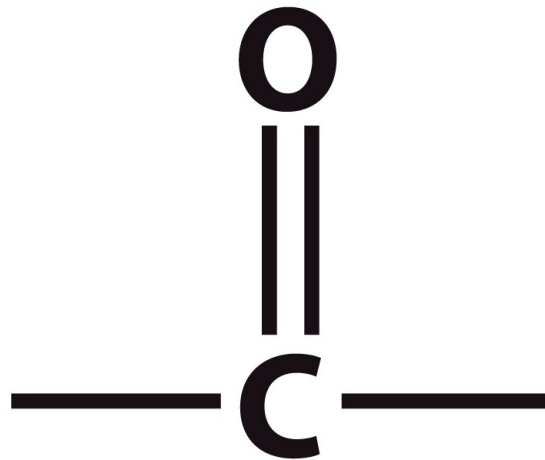
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Table 28.1 Principal reactions in fatty acid synthesis in bacteria

Step	Reaction	Enzyme
1	$\text{Acetyl CoA} + \text{HCO}_3^- + \text{ATP} \rightarrow \text{malonyl CoA} + \text{ADP} + \text{P}_i + \text{H}^+$	Acetyl CoA carboxylase
2	$\text{Acetyl CoA} + \text{ACP} \rightleftharpoons \text{acetyl ACP} + \text{CoA}$	Acetyl transacylase
3	$\text{Malonyl CoA} + \text{ACP} \rightleftharpoons \text{malonyl ACP} + \text{CoA}$	Malonyl transacylase
4	$\text{Acetyl ACP} + \text{malonyl ACP} \rightarrow \text{acetoacetyl ACP} + \text{ACP} + \text{CO}_2$	β -Ketoacyl synthase
5	$\text{Acetoacetyl ACP} + \text{NADPH} + \text{H}^+ \rightleftharpoons \text{D-3-hydroxybutyryl ACP} + \text{NADP}^+$	β -Ketoacyl reductase
6	$\text{D-3-Hydroxybutyryl ACP} \rightleftharpoons \text{crotonyl ACP} + \text{H}_2\text{O}$	3-Hydroxyacyl dehydratase
7	$\text{Crotonyl ACP} + \text{NADPH} + \text{H}^+ \rightarrow \text{butyryl ACP} + \text{NADP}^+$	Enoyl reductase

Table 28.1
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A keto group

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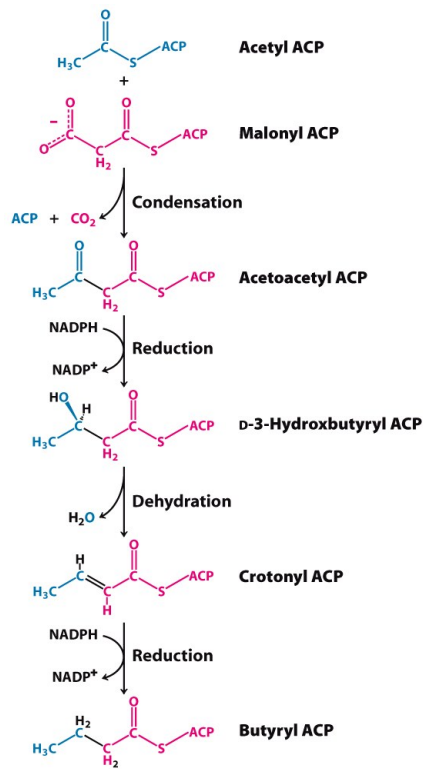


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(A)



(B)

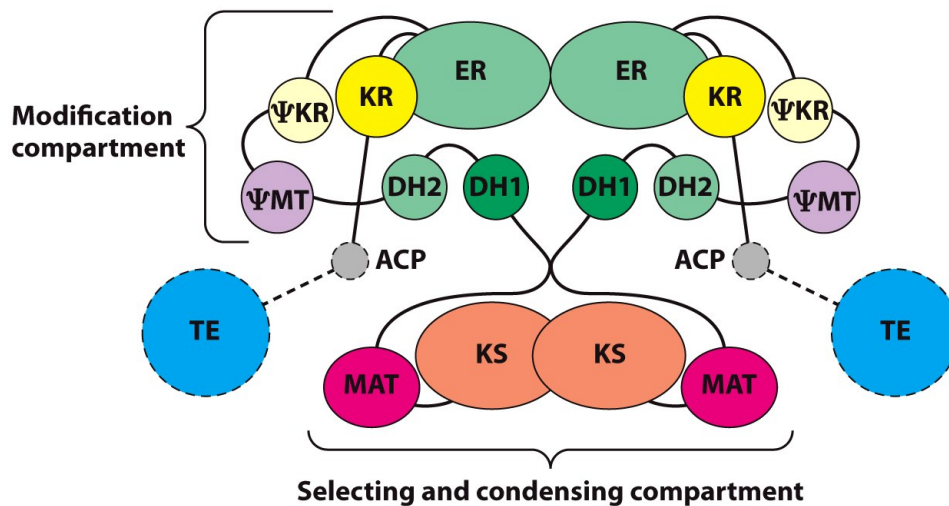


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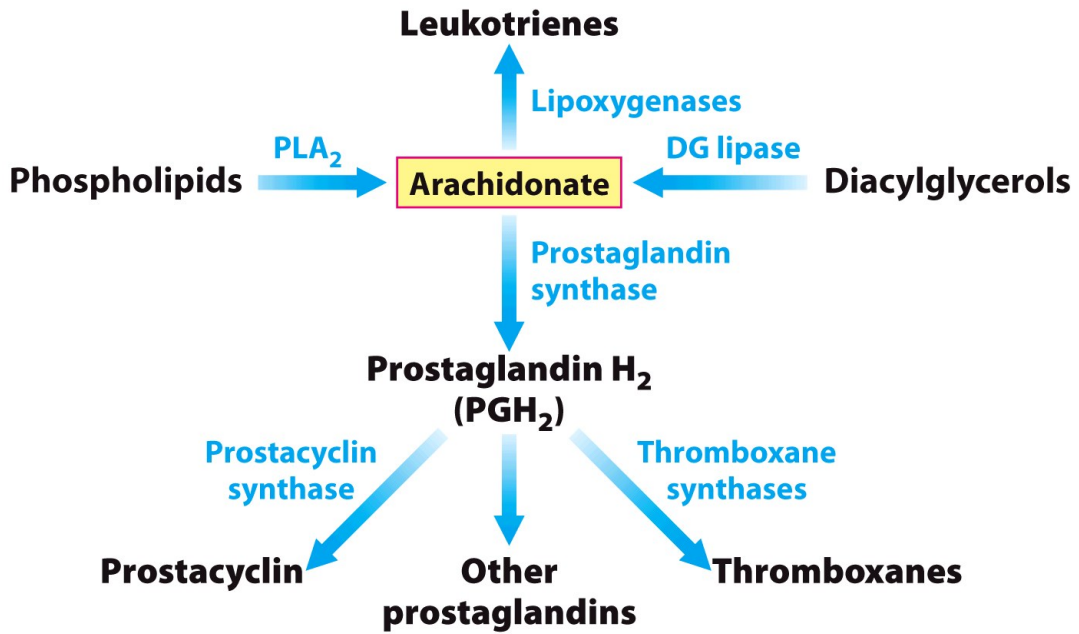


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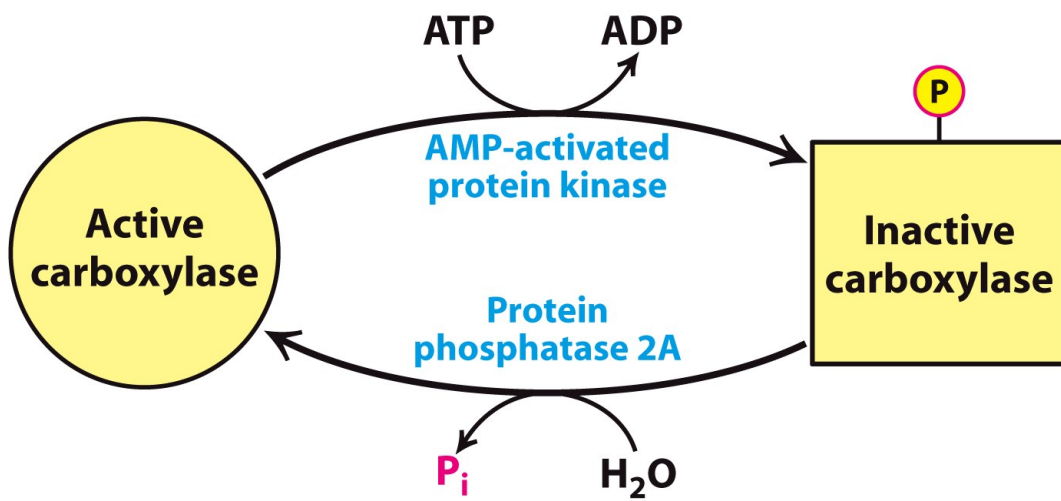


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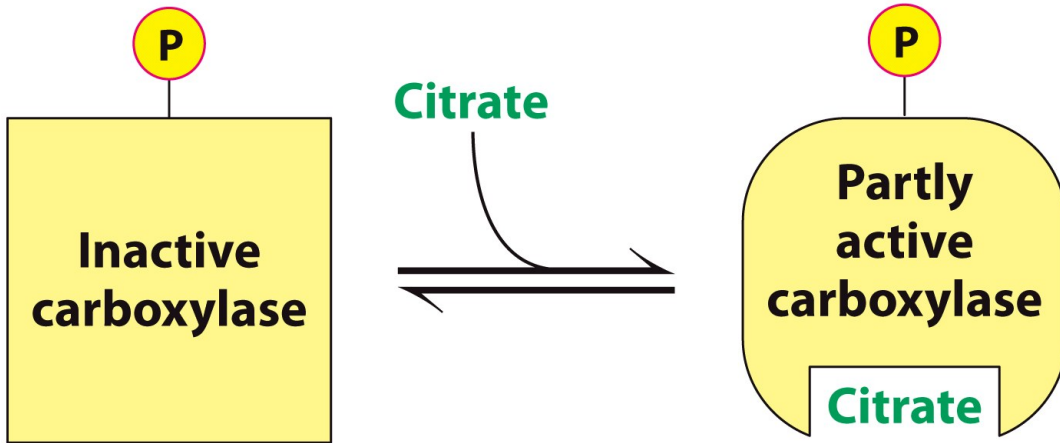


Figure 28.9a
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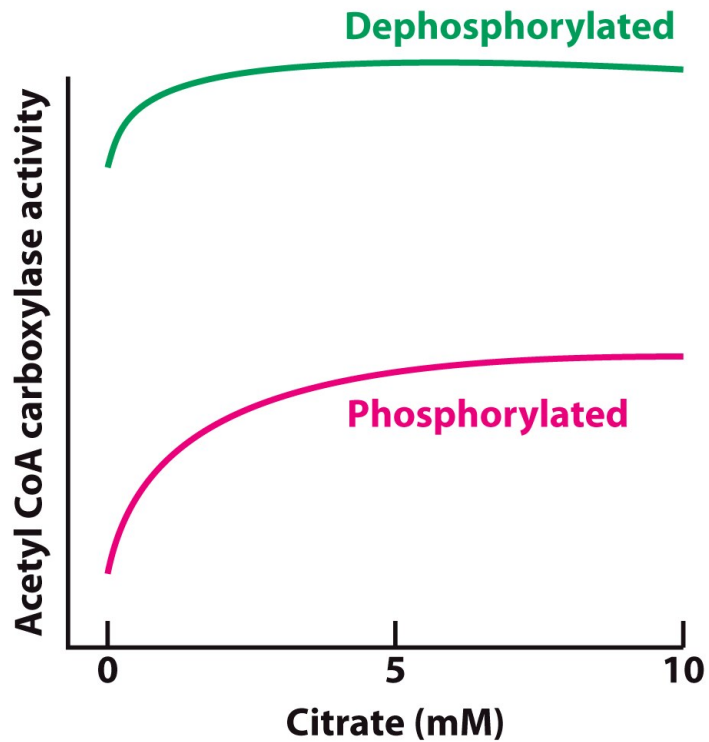


Figure 28.9b
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