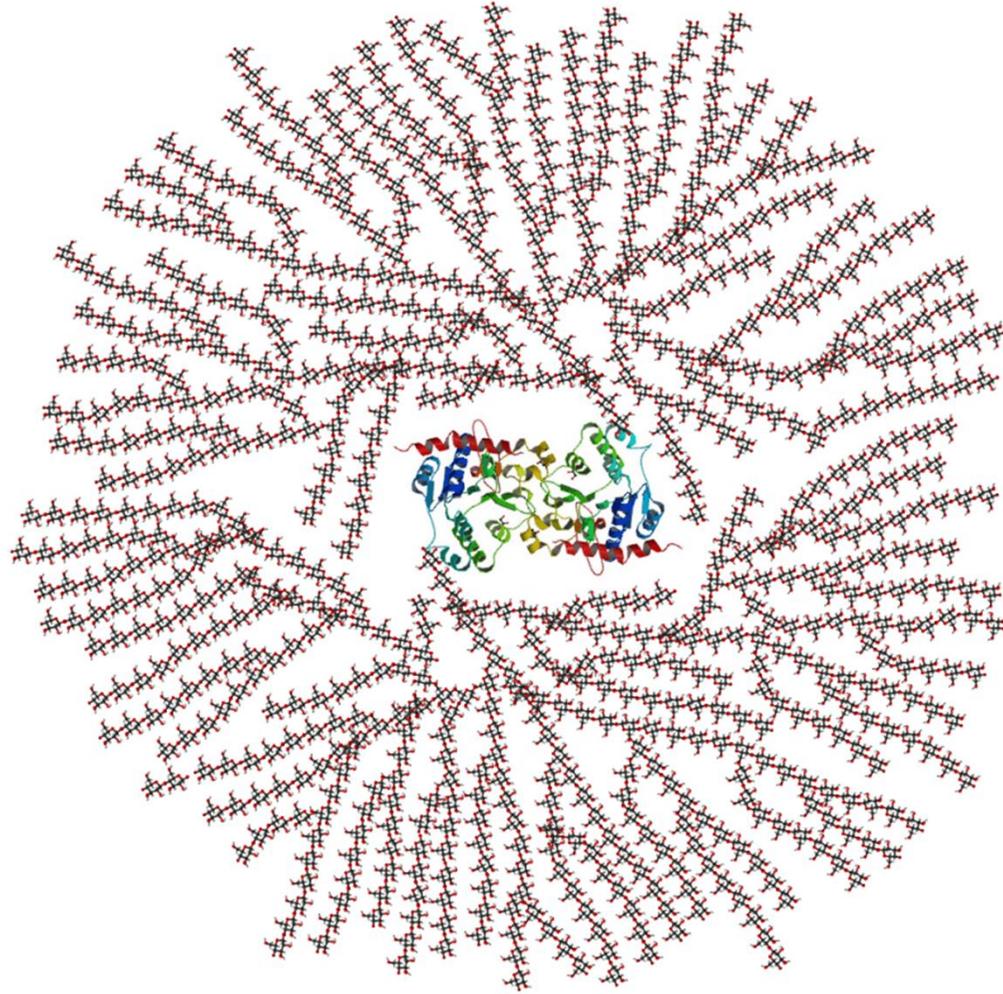


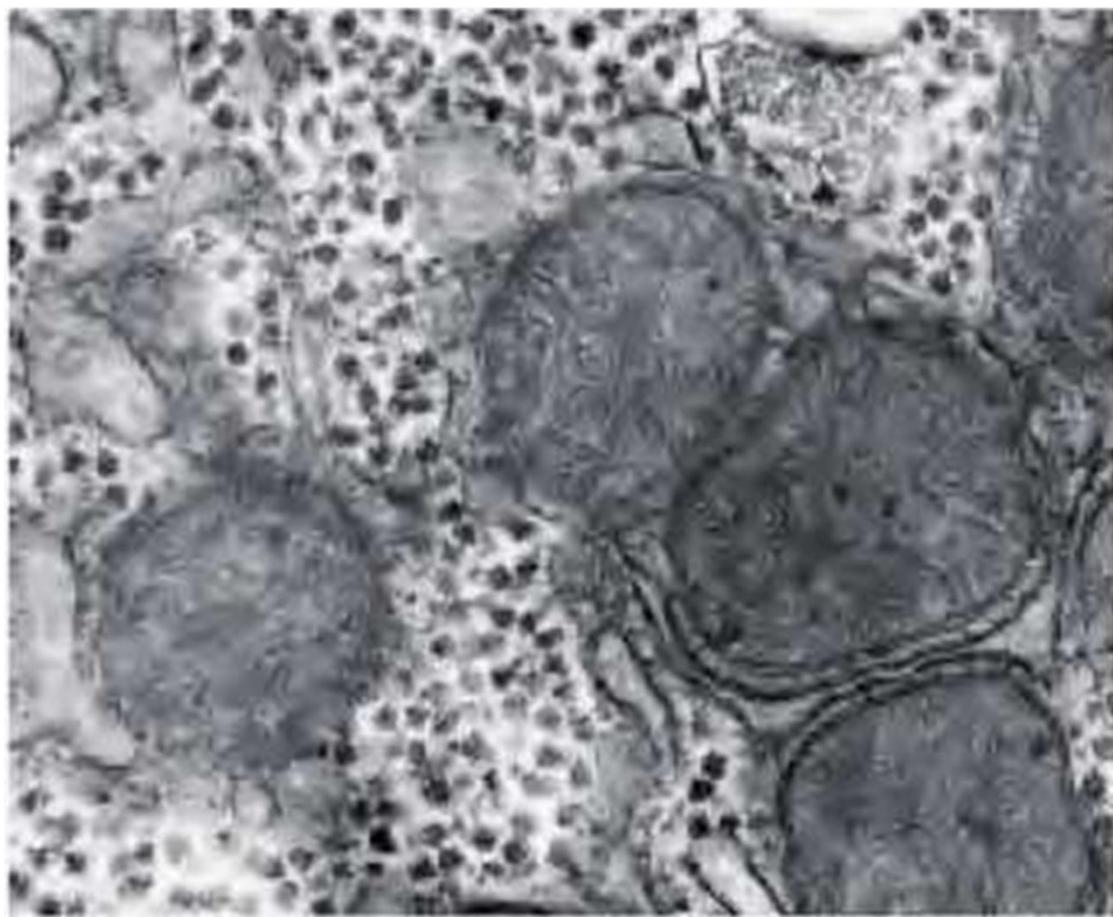
# Metabolismo do Glicogênio

## Síntese e Degradação

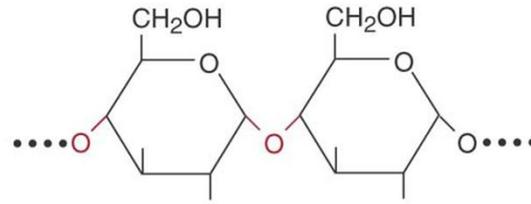


Ronaldo Bento Quaggio



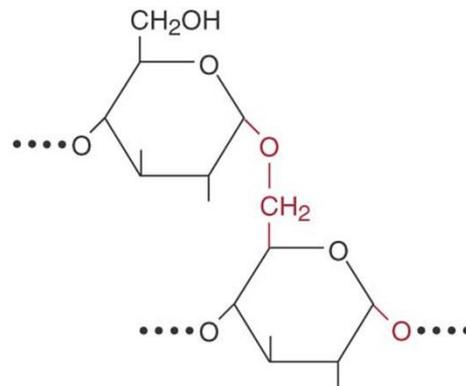






$\alpha$ -1,4-Glycosidic linkage

(a)

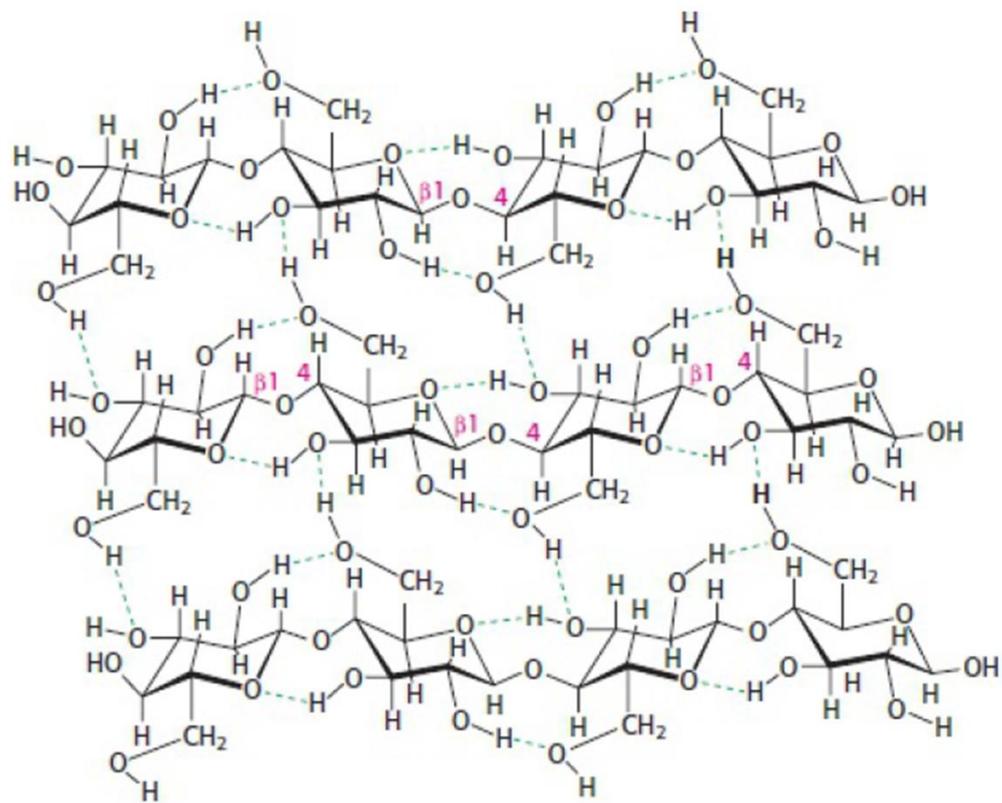


$\alpha$ -1,6-Glycosidic linkage

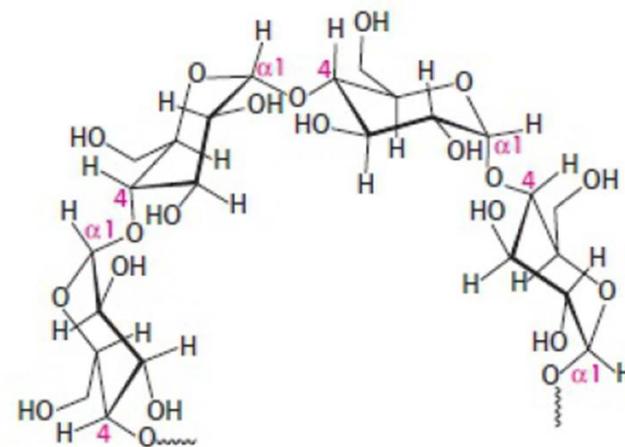
(b)

**Figure 15.47. Two types of linkage between glucose molecules are present in glycogen.**

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**Celulose**  
(ligações  $\beta$ -1,4)



**Amido e glicôgeno**  
(ligações  $\alpha$ -1,4)

# Metabolismo de Glicogênio

**Principal polissacarídeo de reserva em animais**

**Polímero com estrutura ramificada, resíduos de glicose unidos por ligações glicosídicas  $\alpha$ -1,4 e ramificações  $\alpha$ -1,6.**

**Regula níveis glicêmicos (fígado, cerca de 12-24 horas)**

**Reserva de glicose para atividade muscular intensa**

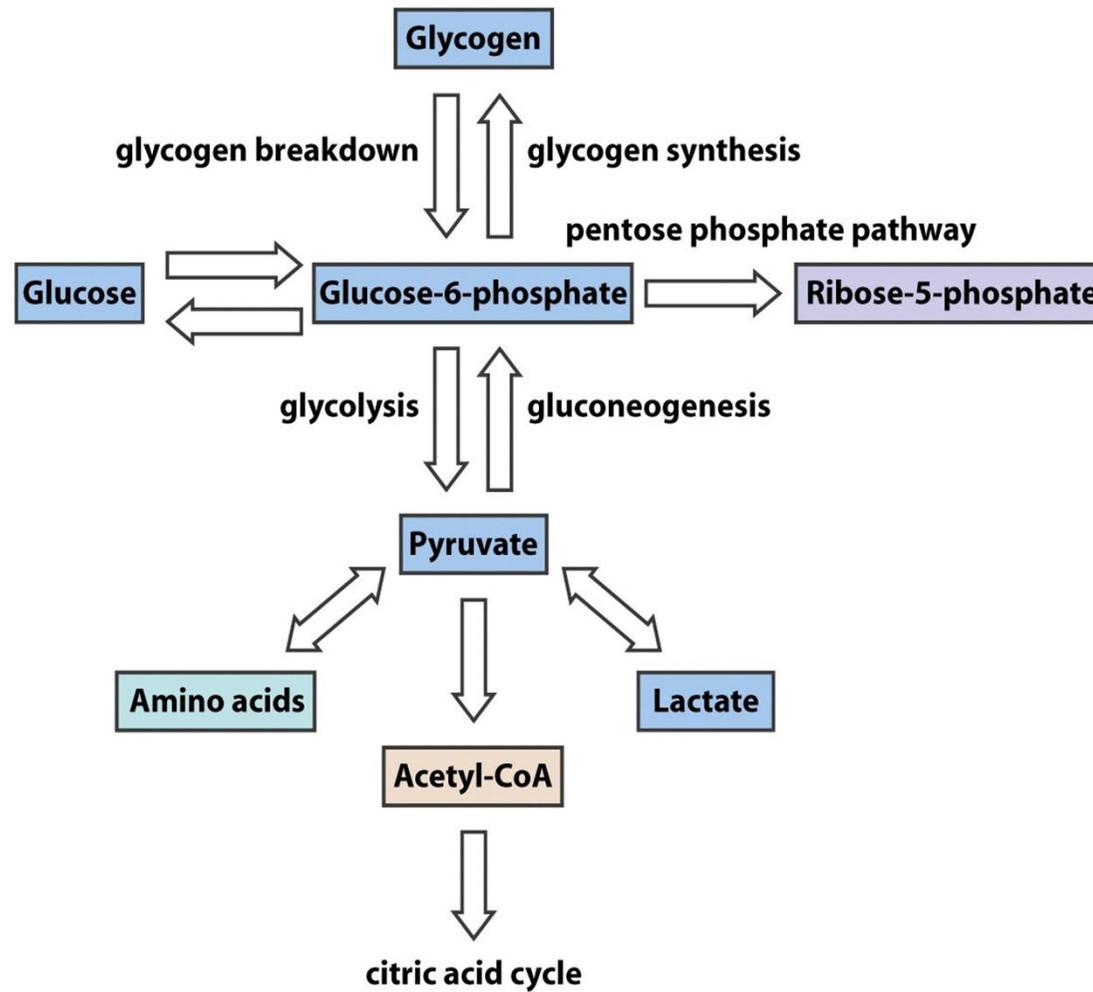
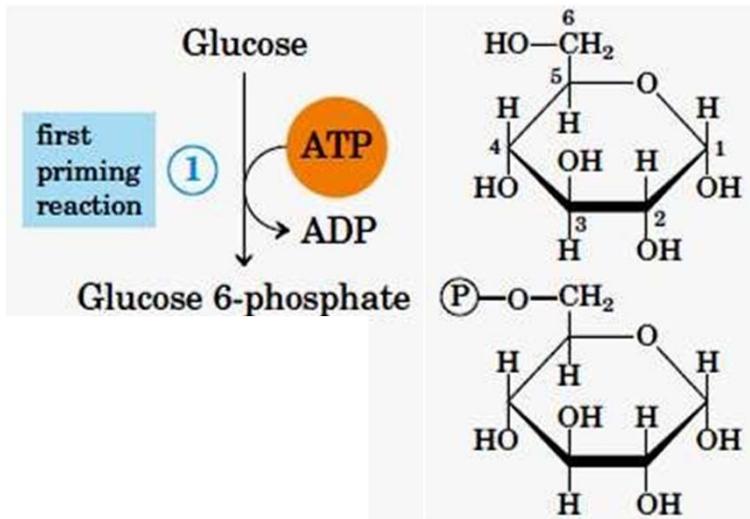
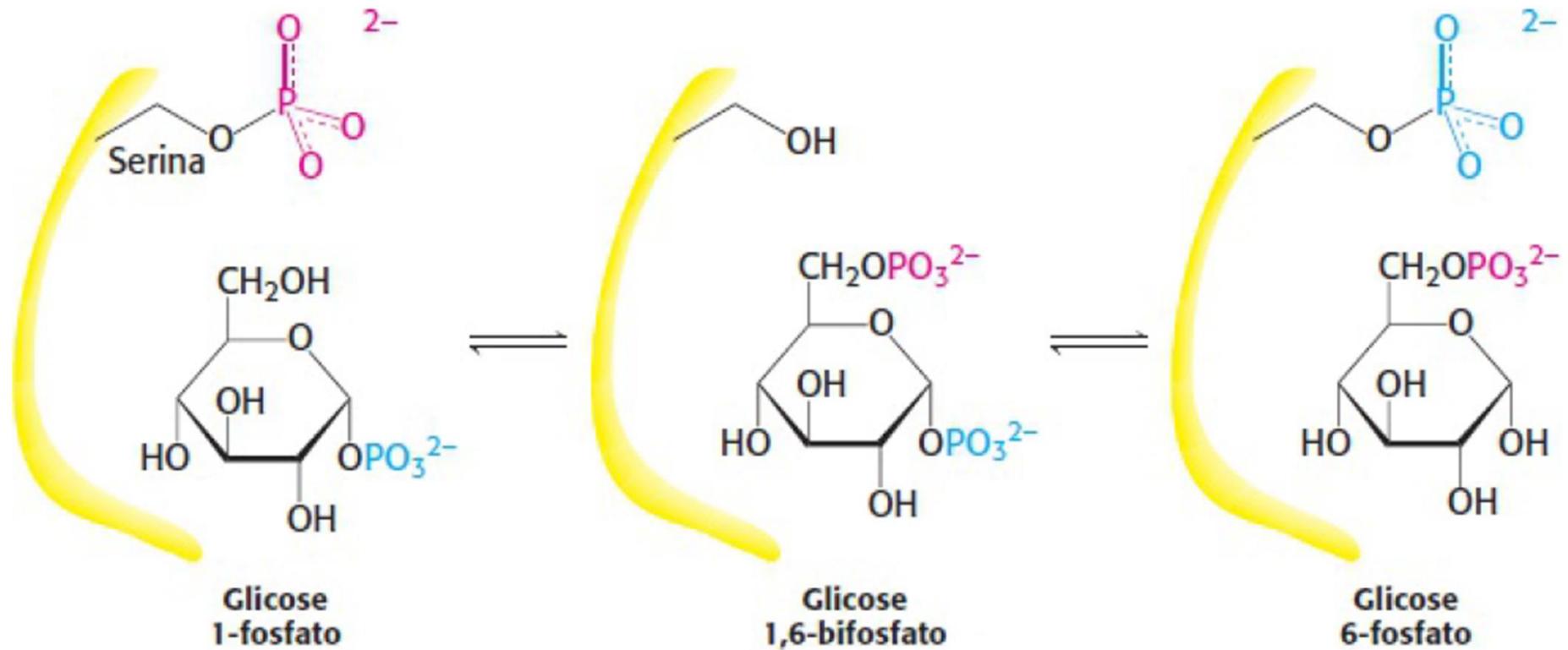


Figure 15-1 Fundamentals of Biochemistry, 2/e  
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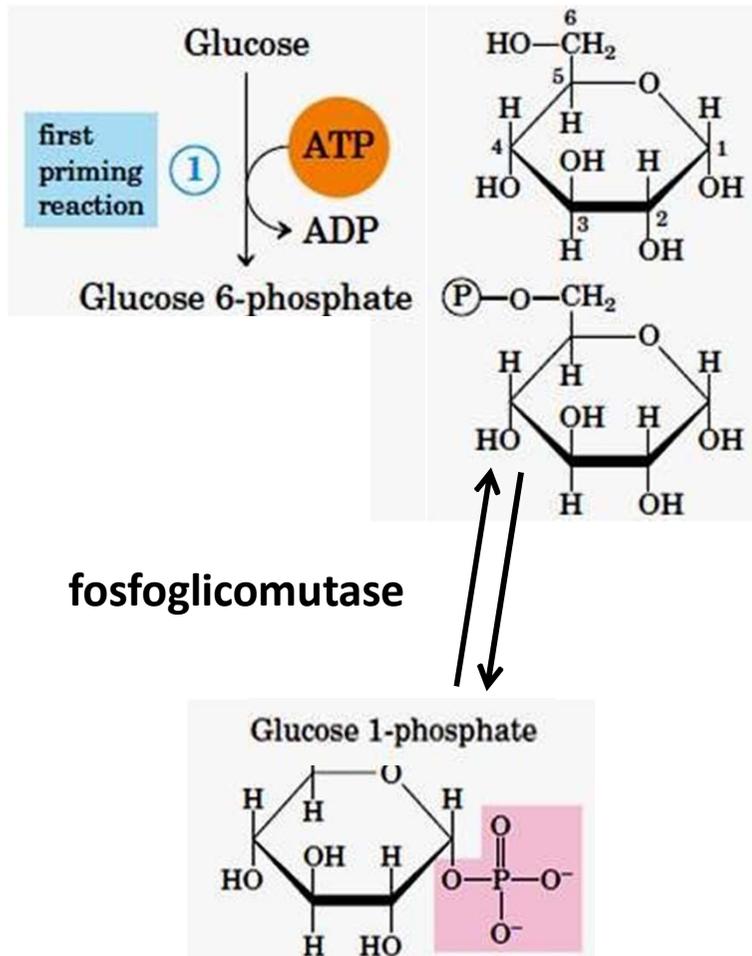


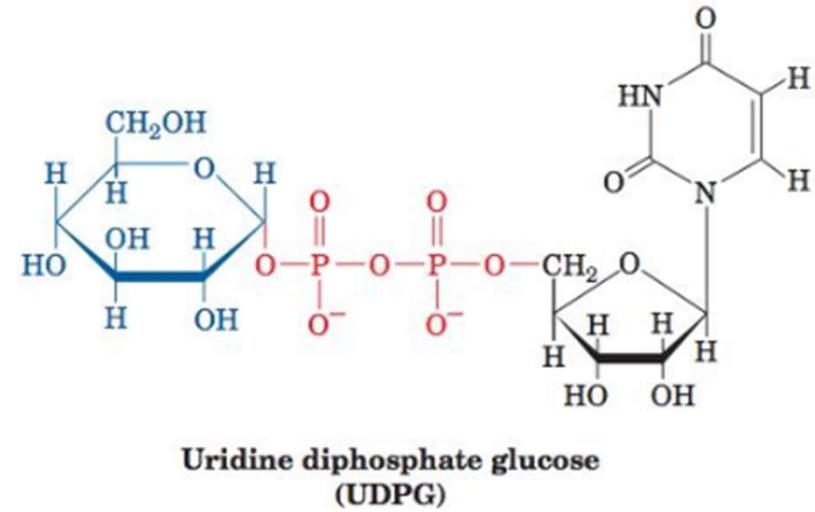
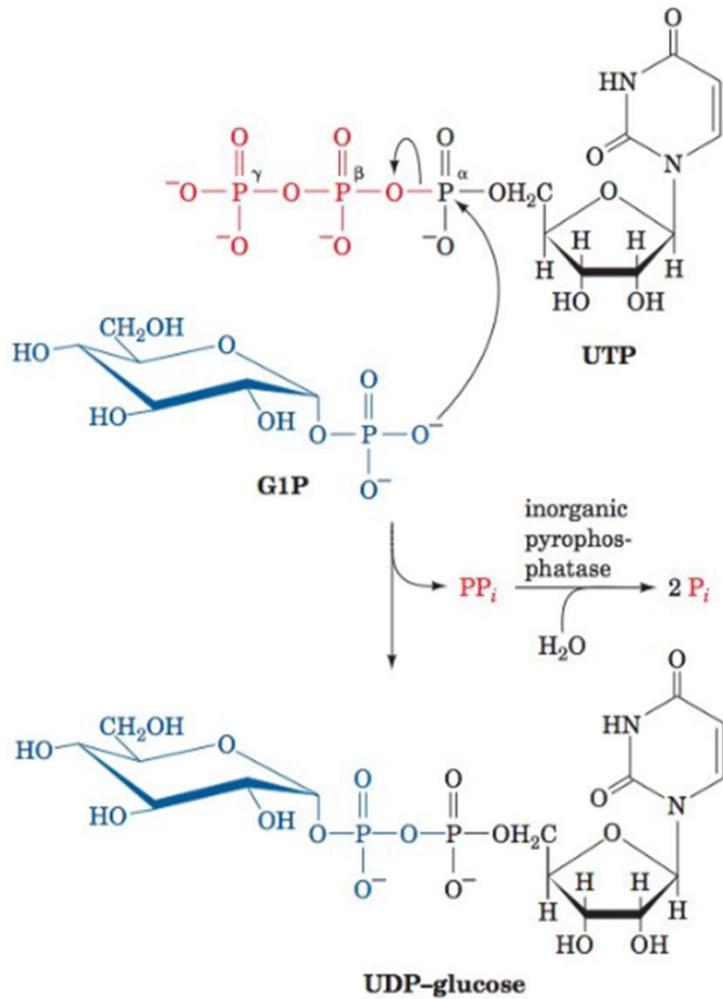
## Síntese do Glicogênio

# fosfoglicomutase



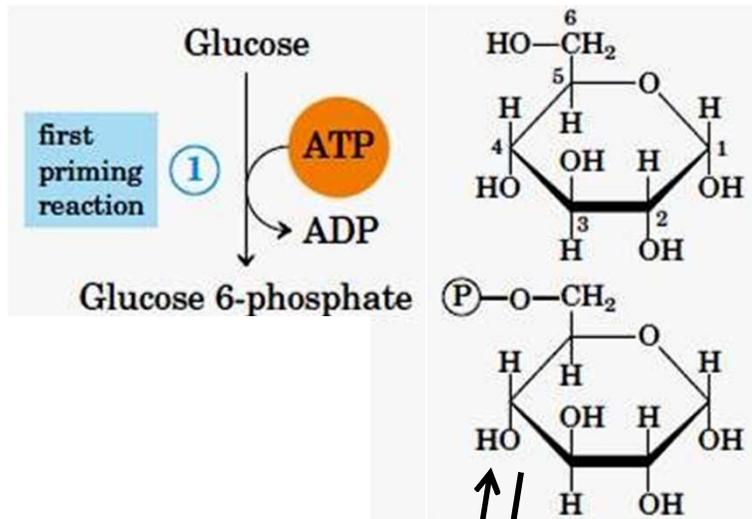
# Síntese do Glicogênio



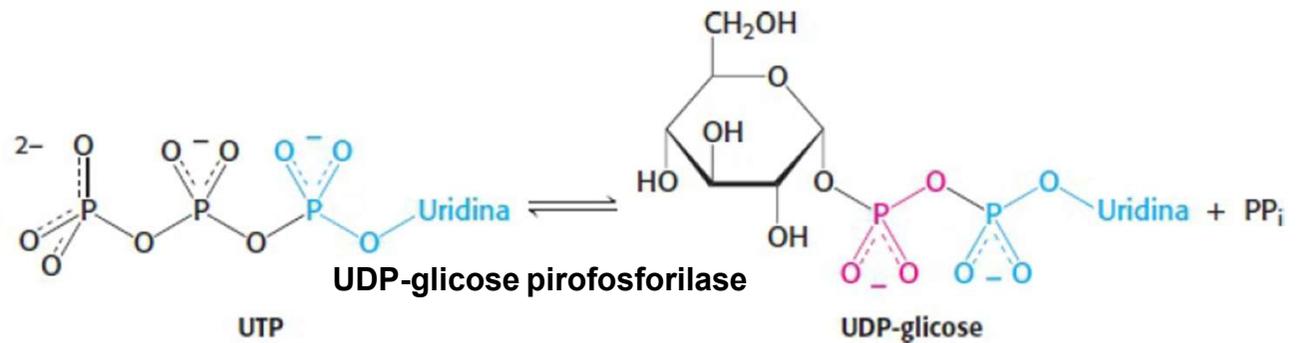
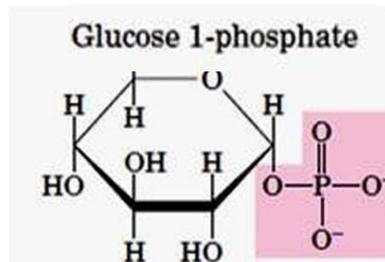


## UDP-glucose pyrophosphorylase

# Síntese do Glicogênio

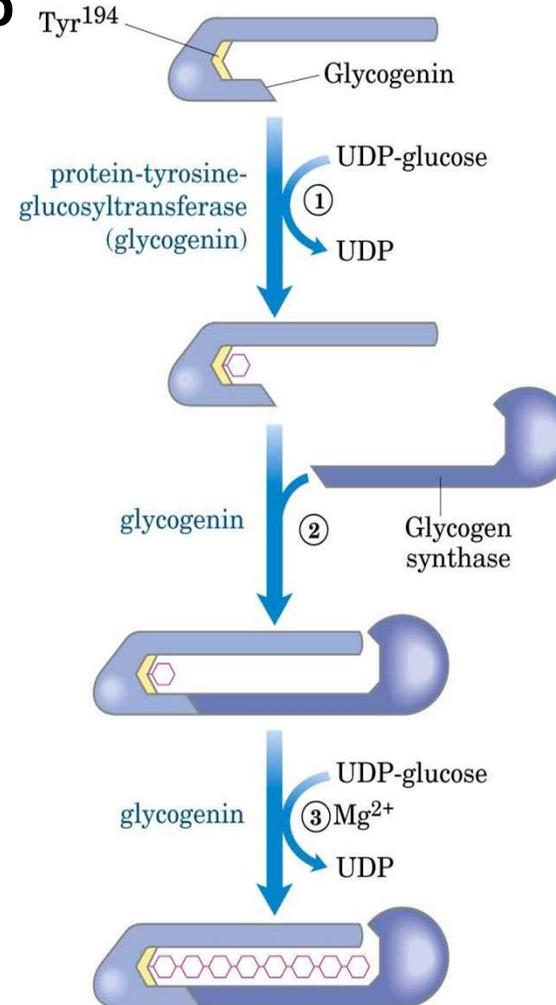
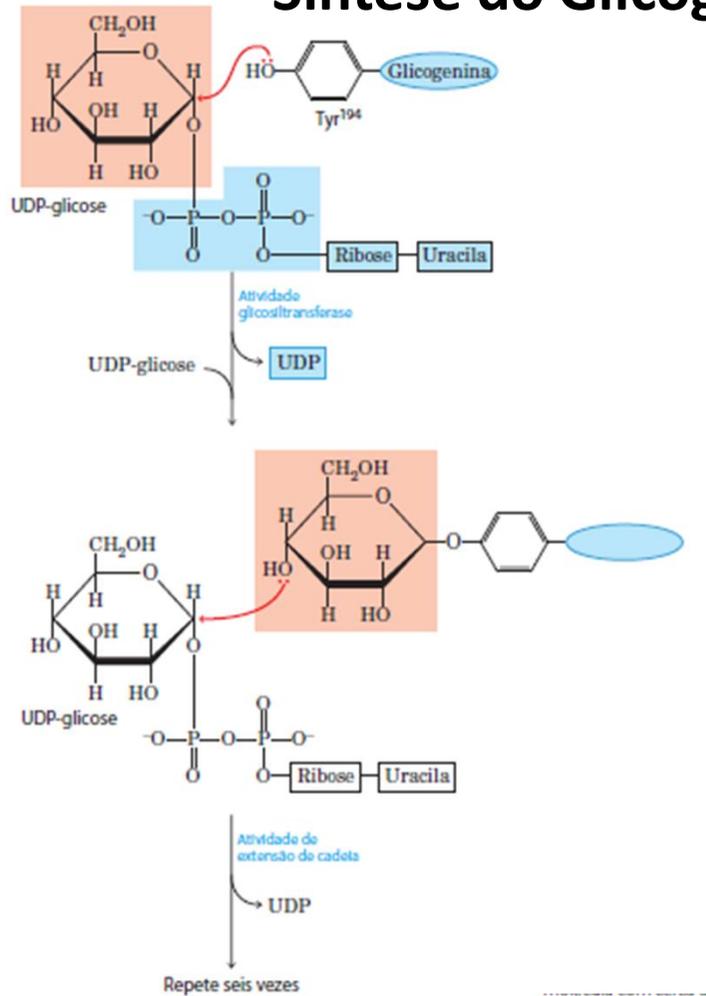


fosfoglicomutase

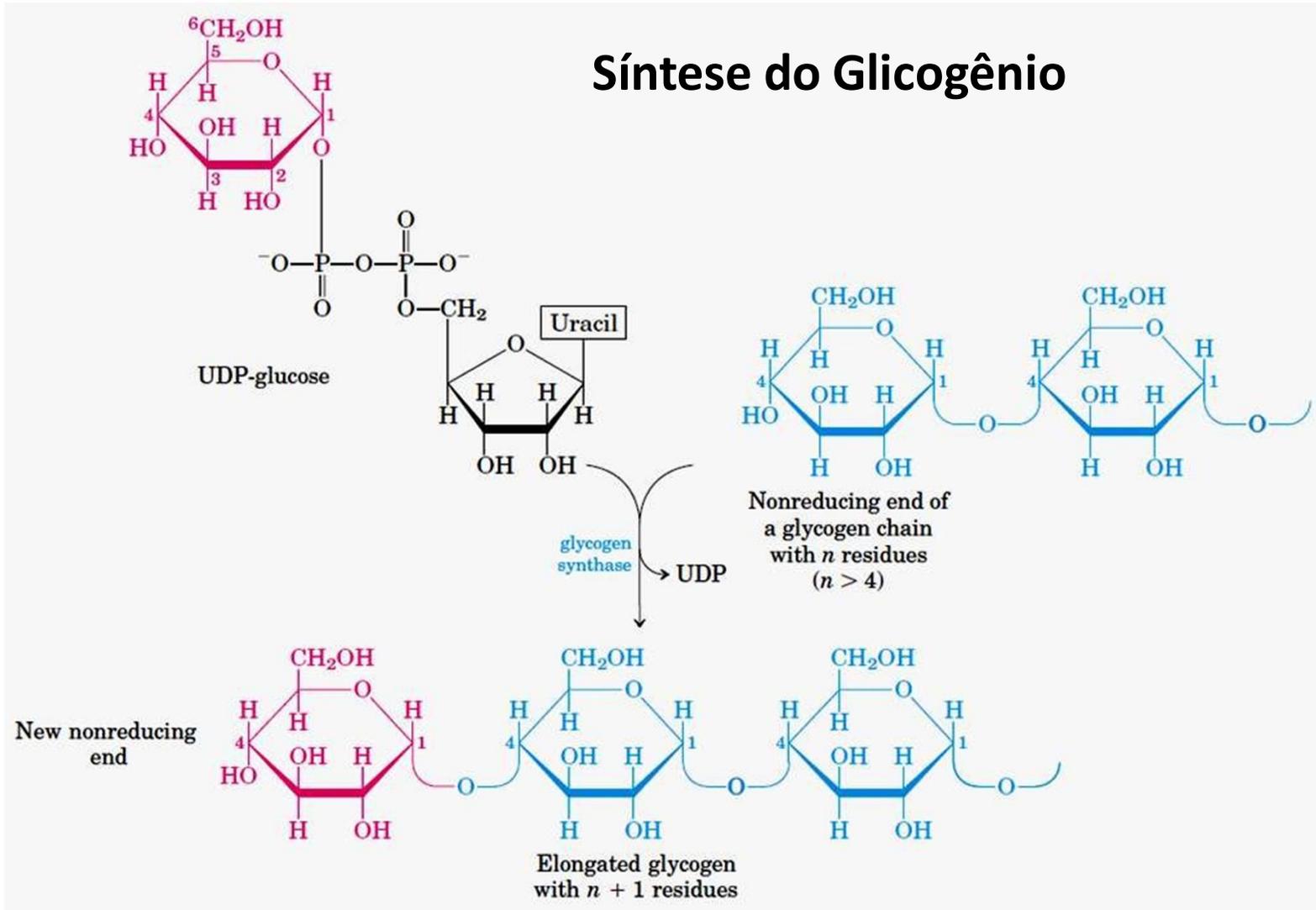


# Síntese do Glicogênio

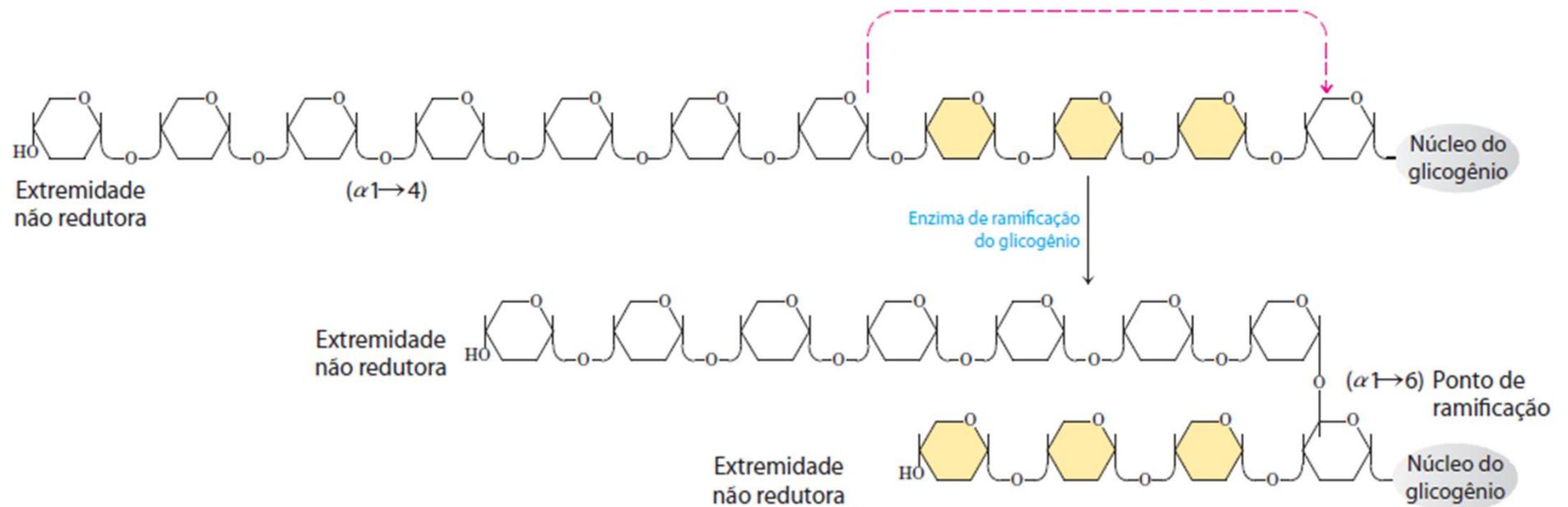
(a)



# Síntese do Glicogênio



## Síntese do Glicogênio - Ramificação



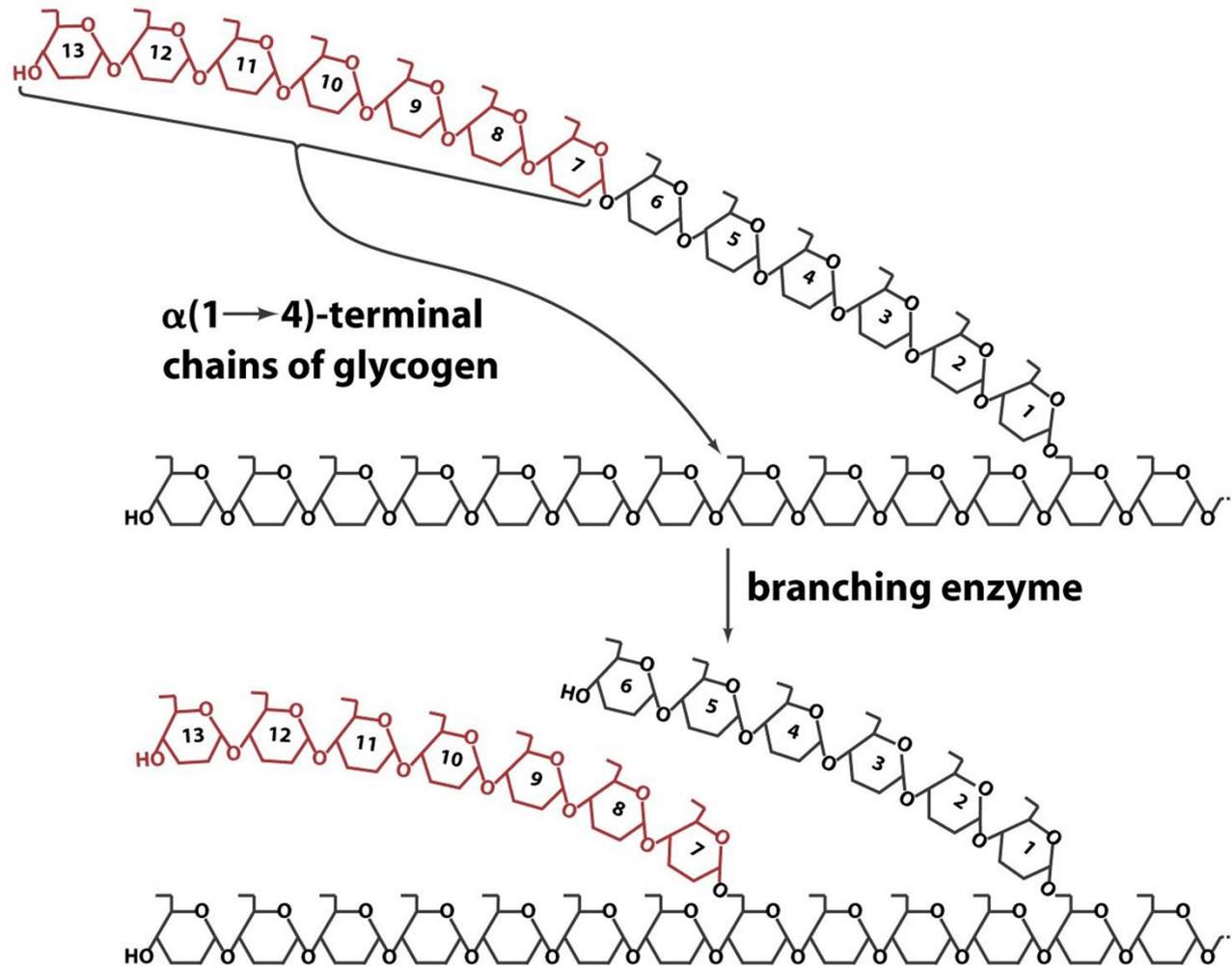
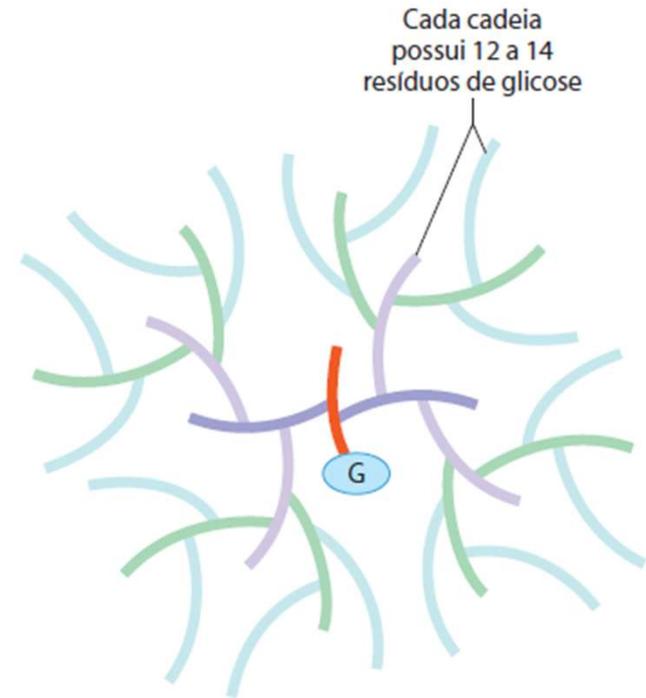
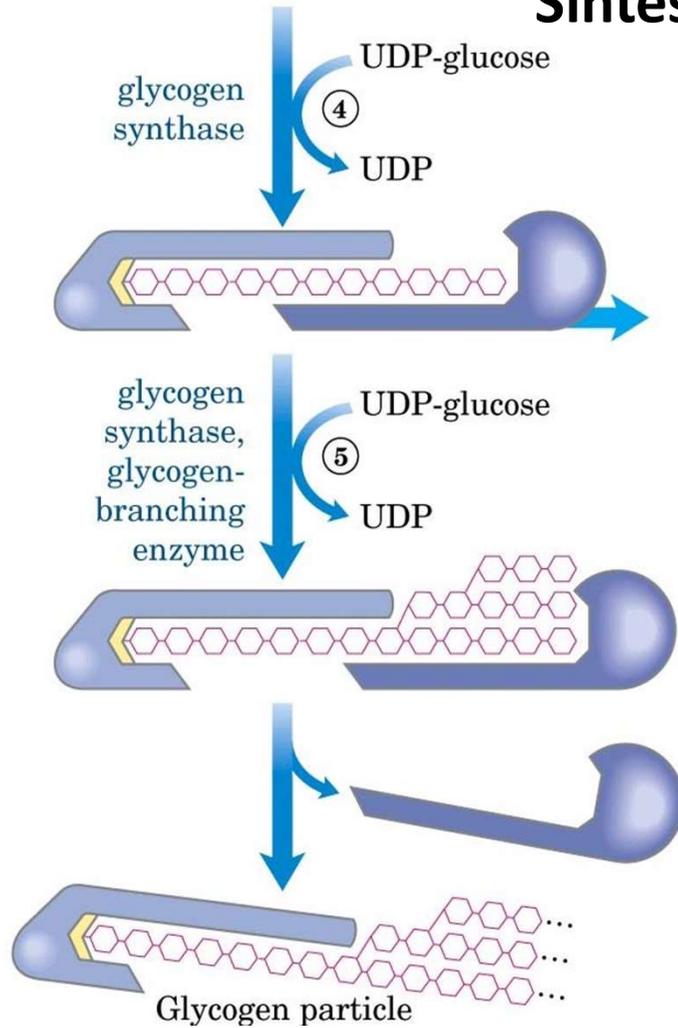
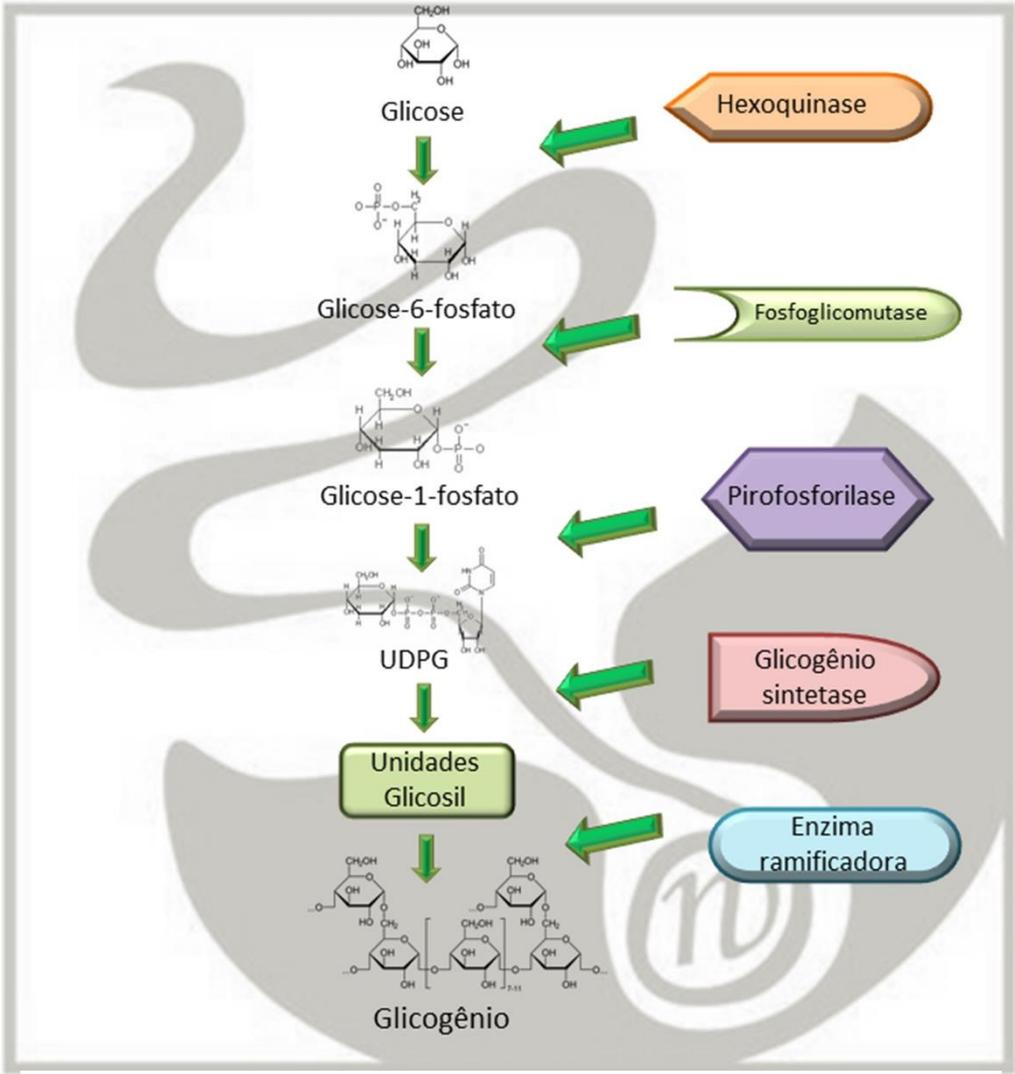
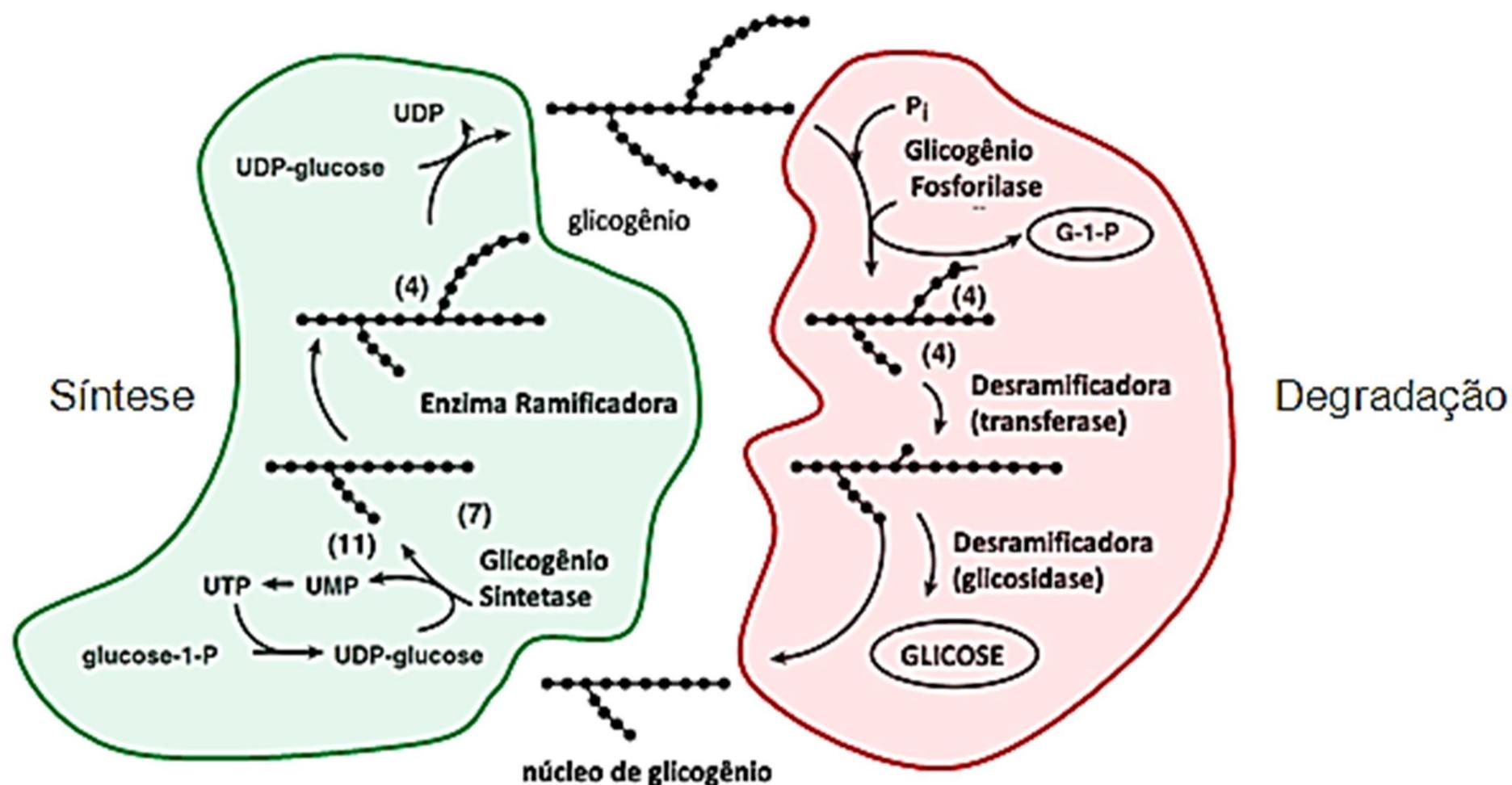


Figure 15-11 Fundamentals of Biochemistry, 2/e  
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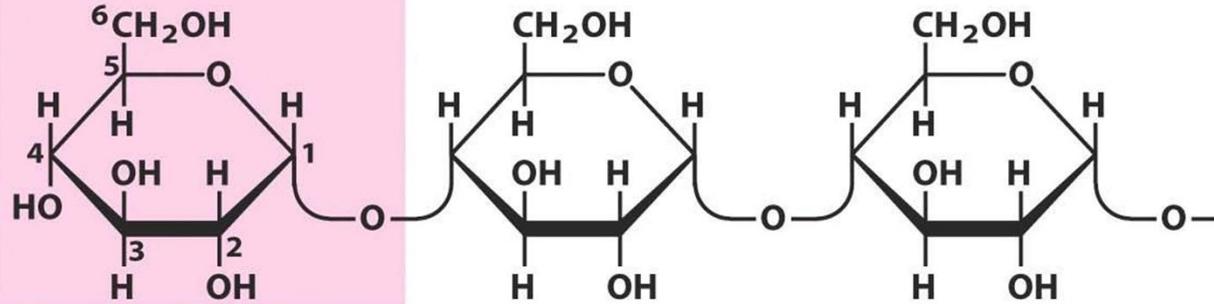
## Síntese do Glicogênio - Ramificação





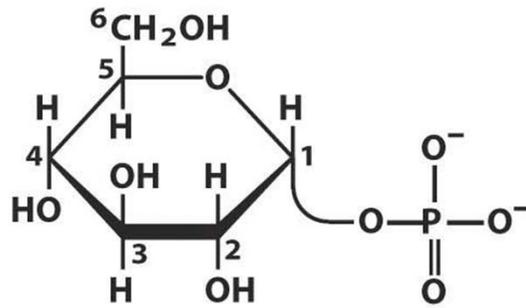


**Nonreducing end**



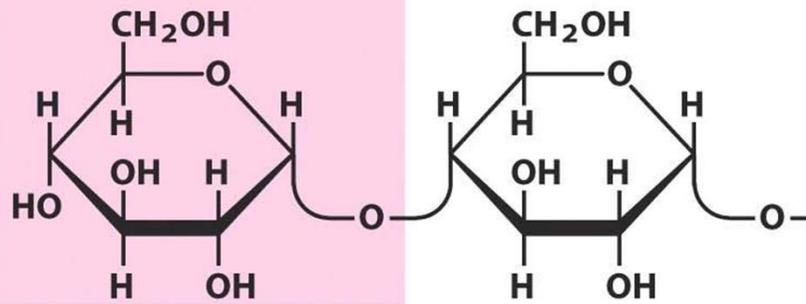
$P_i$  ↓ **glycogen phosphorylase**

**Glycogen chain  
(glucose)<sub>n</sub>**

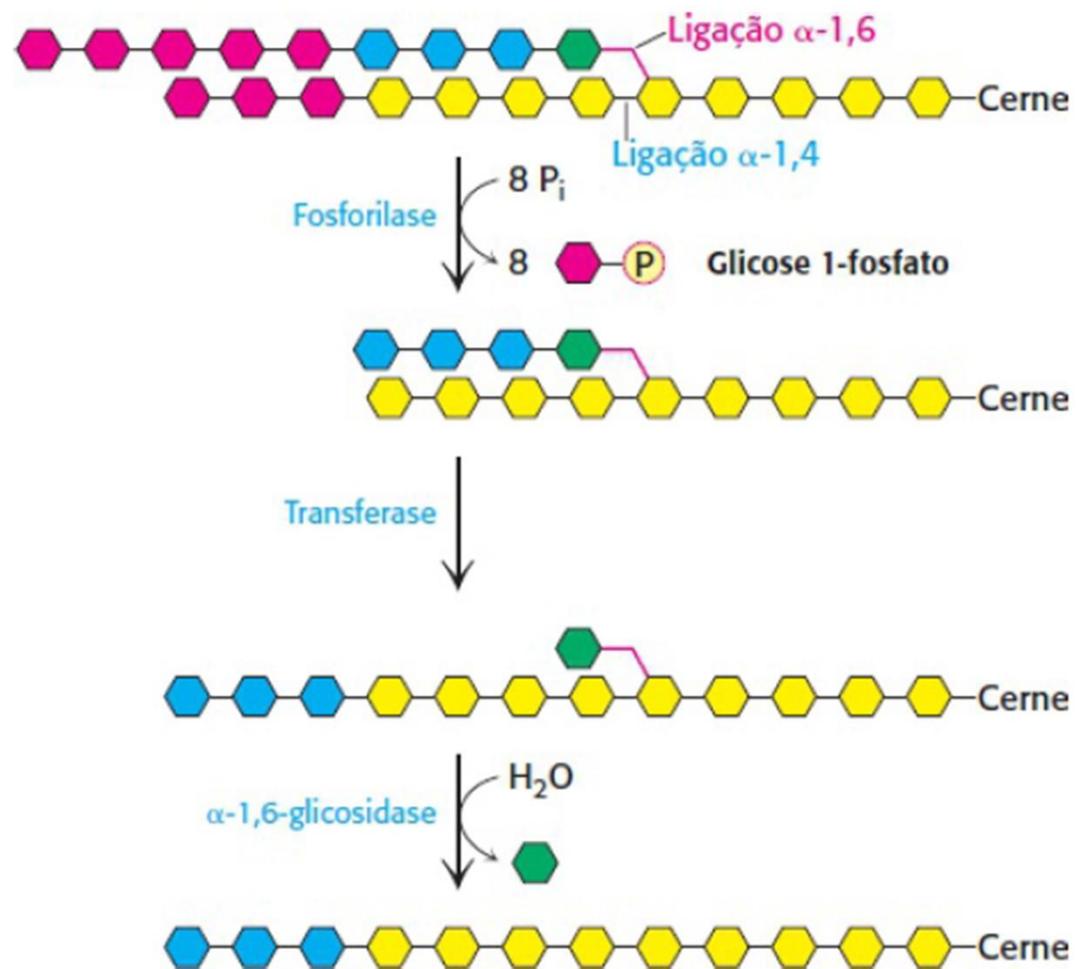


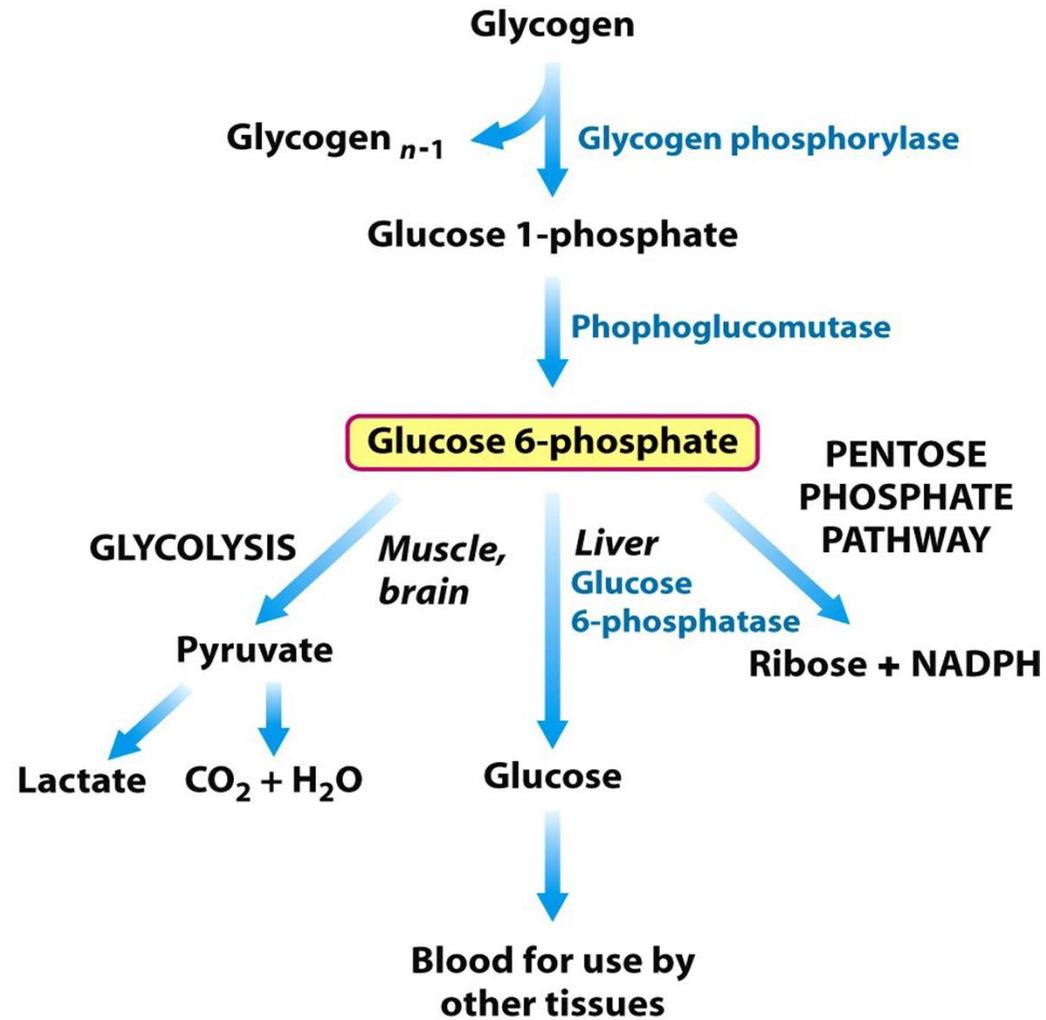
**Glucose 1-phosphate**

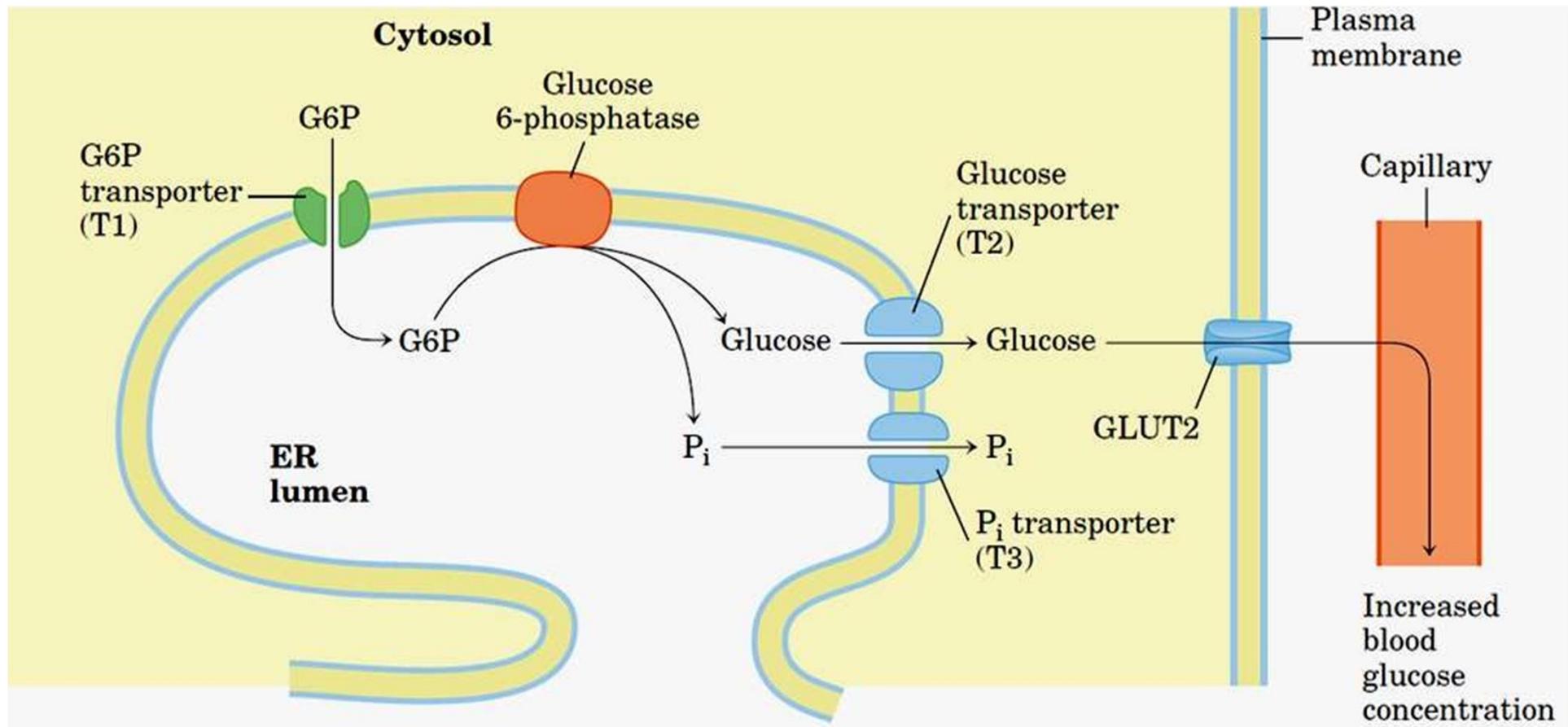
**Nonreducing end**

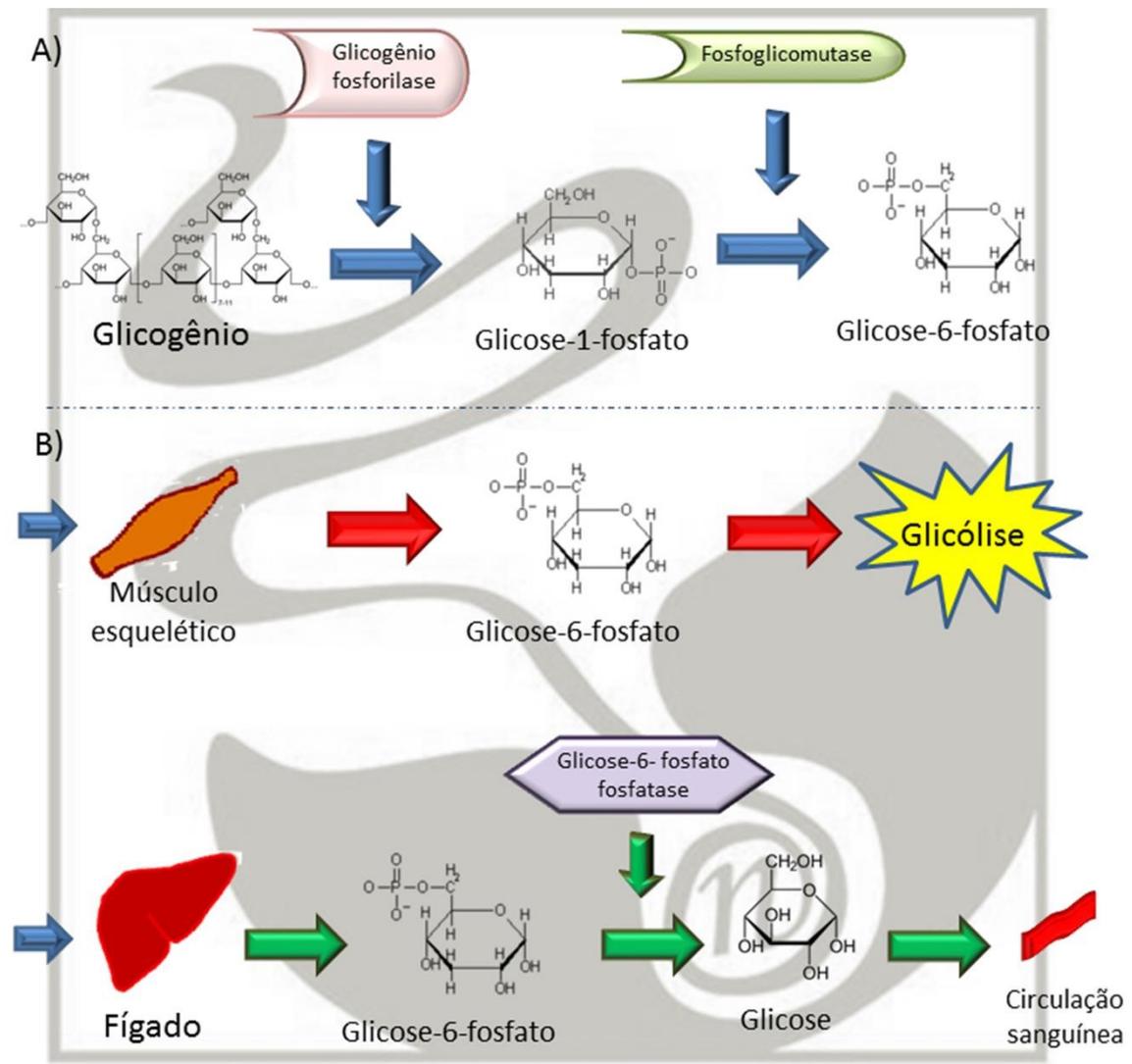


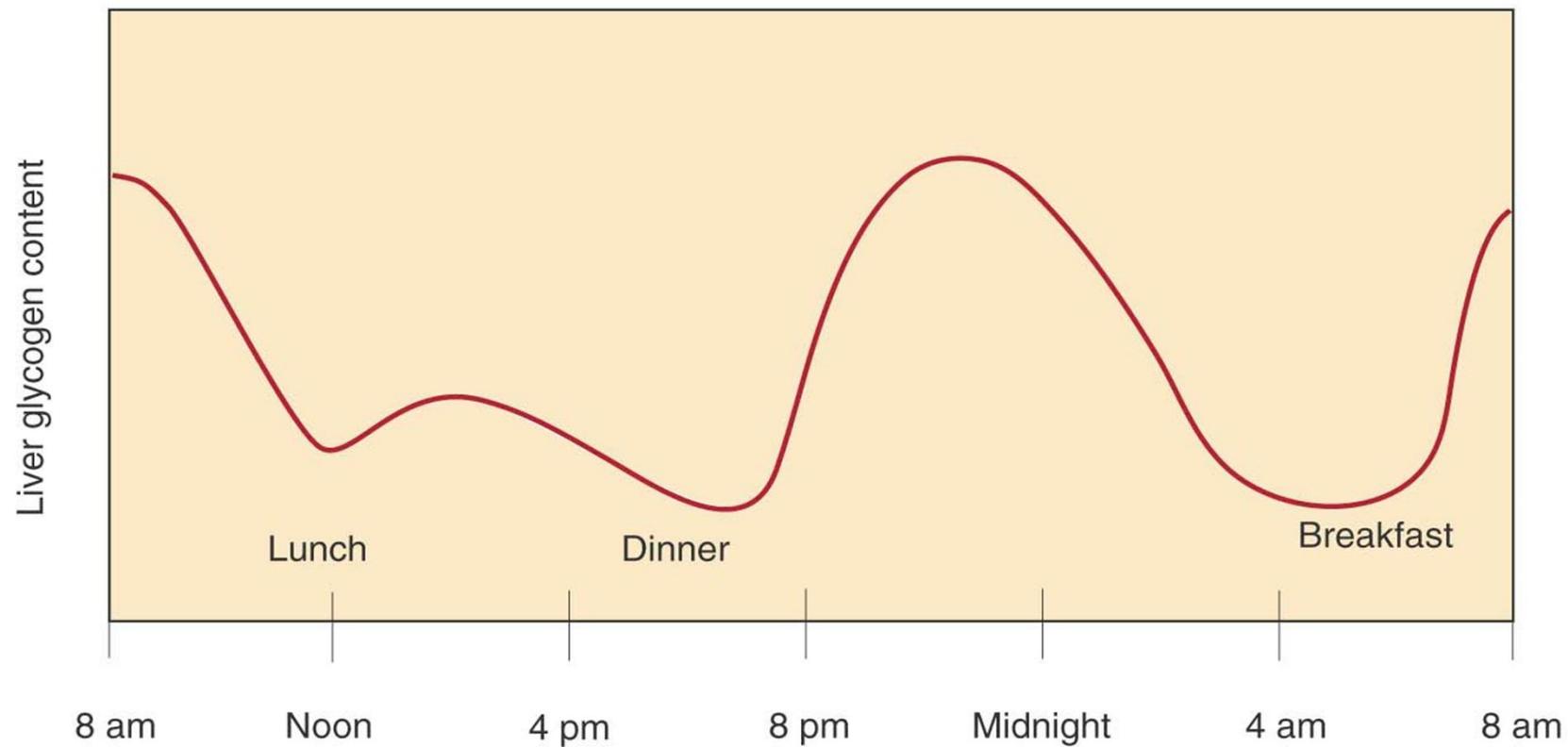
**Glycogen shortened  
by one residue  
(glucose)<sub>n-1</sub>**











**Figure 15.49. Variation of liver glycogen content between meals and during the nocturnal fast.**

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