

Stage 1

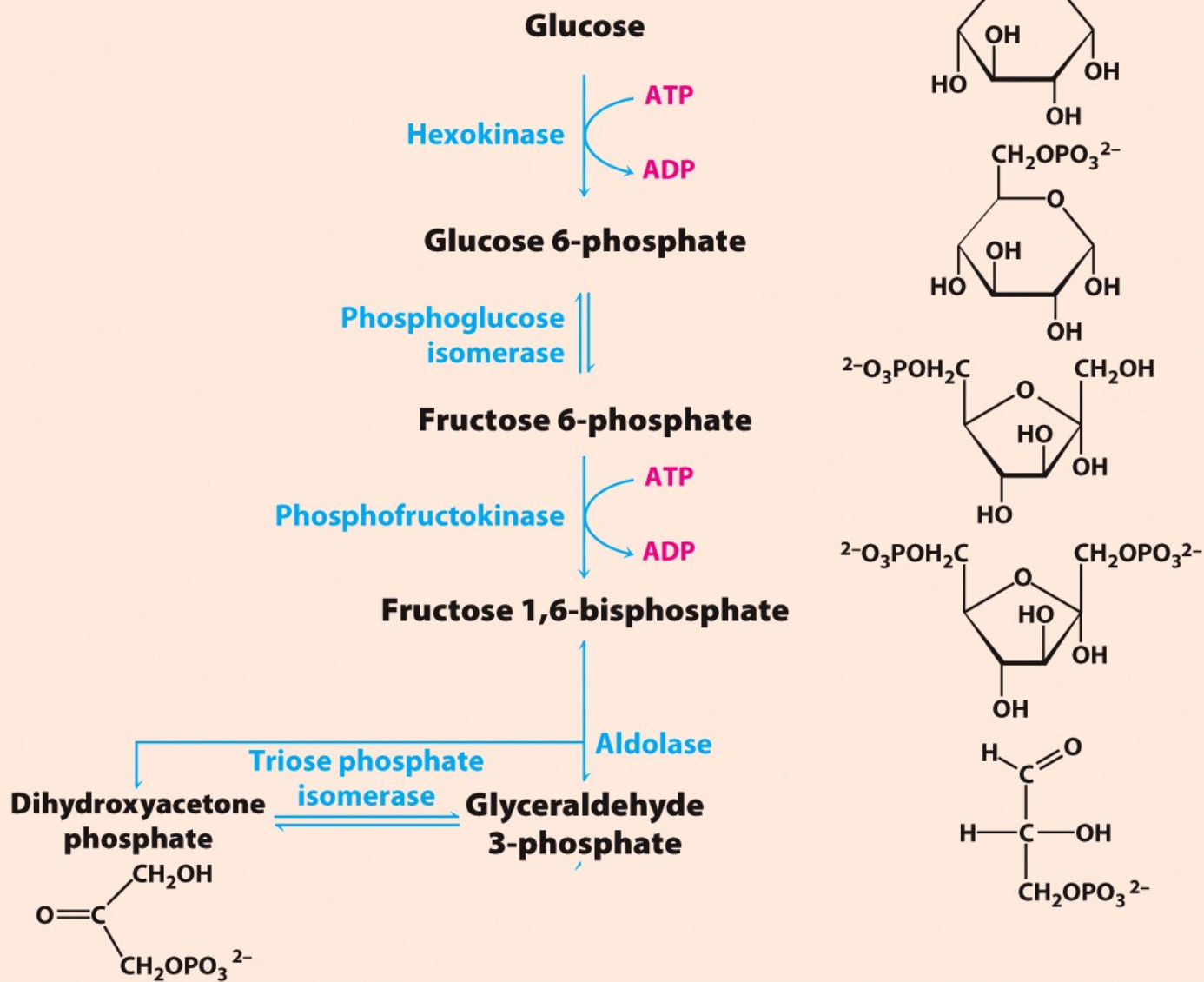


Figure 16.1 part 1

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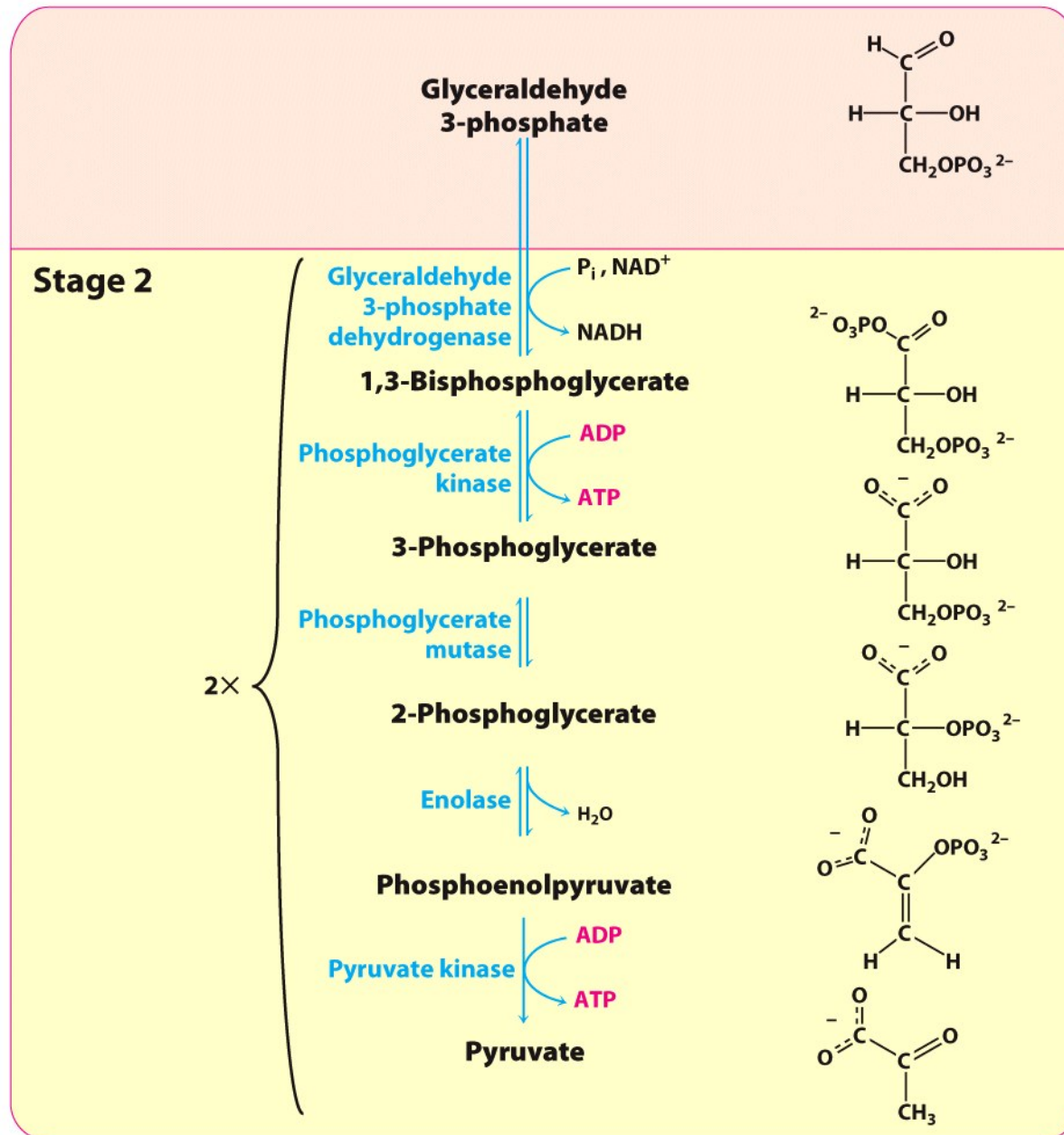
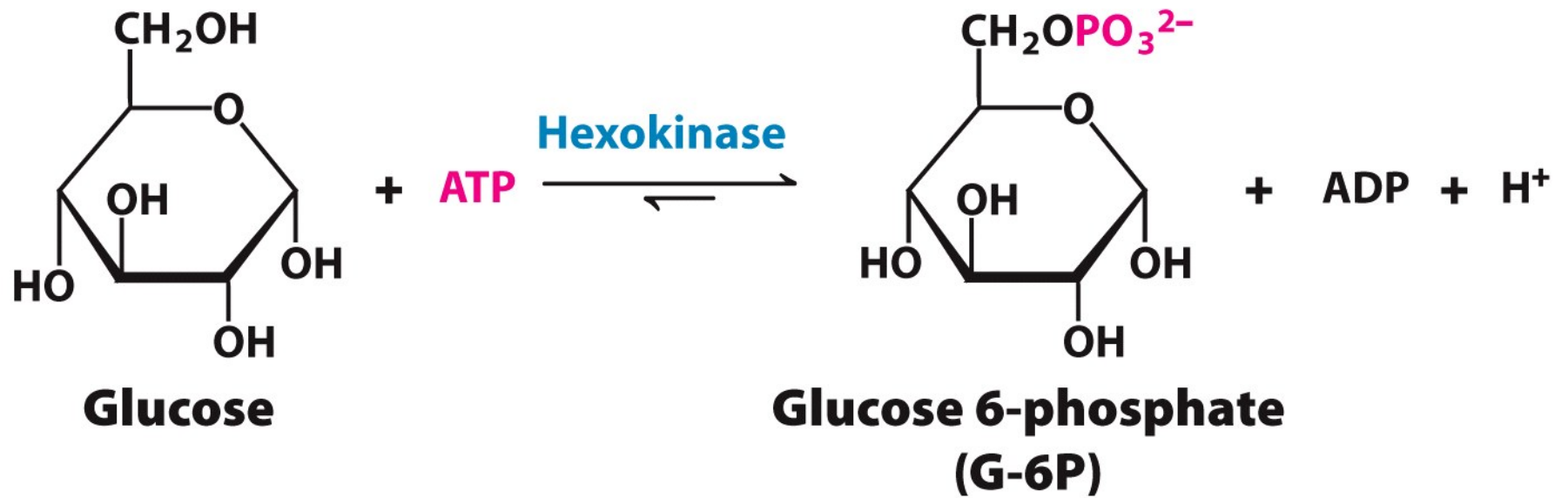


Figure 16.1 part 2
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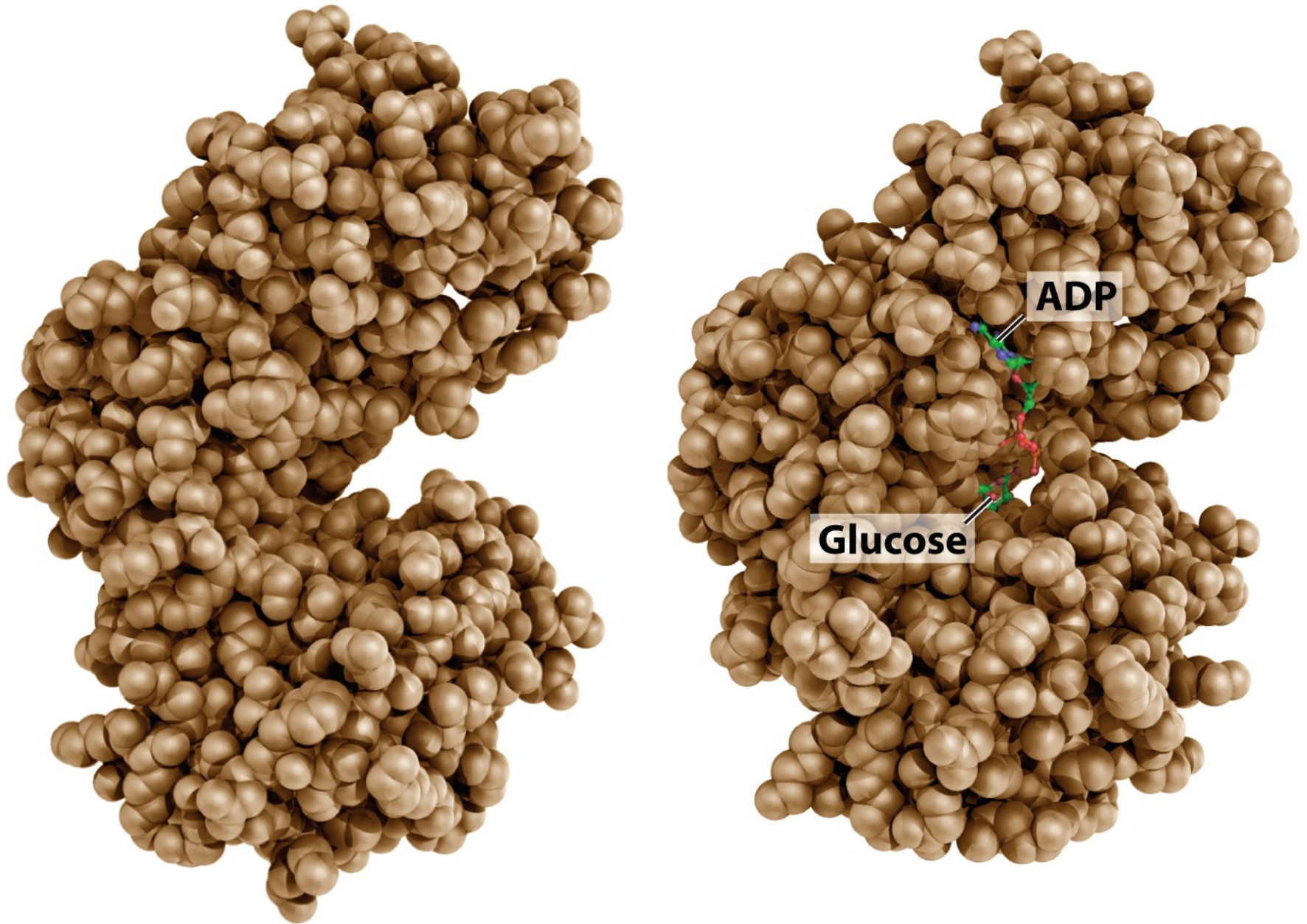
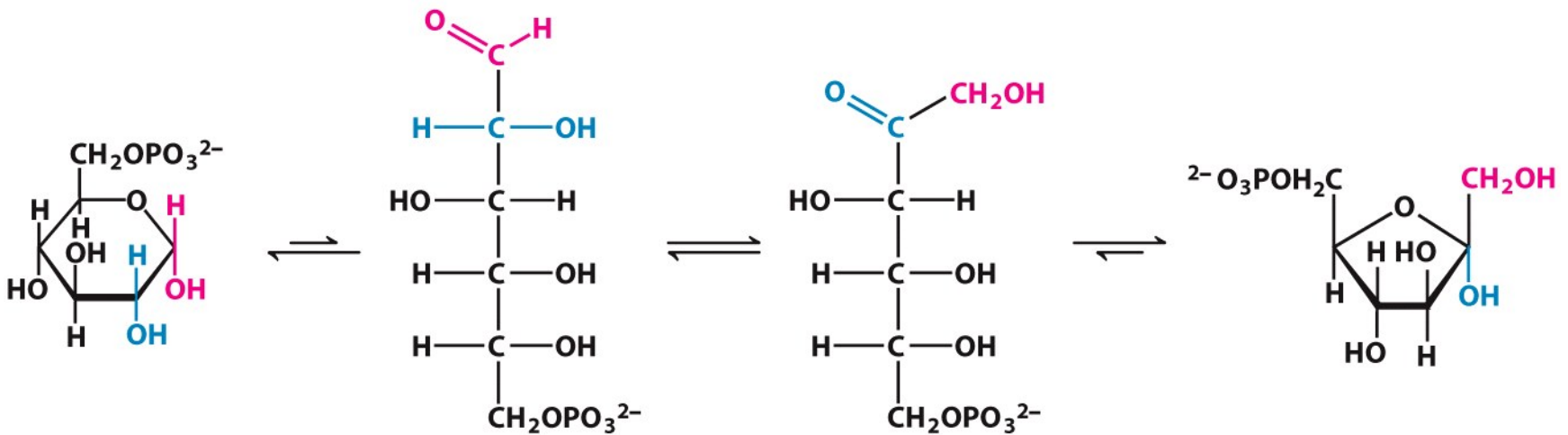


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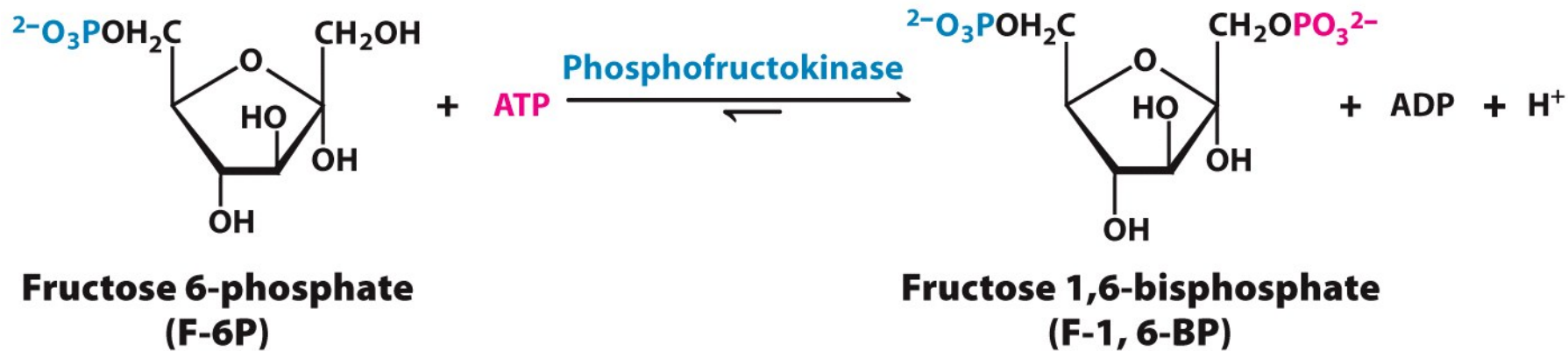
**Glucose 6-phosphate
(G-6P)**

**Glucose 6-phosphate
(open-chain form)**

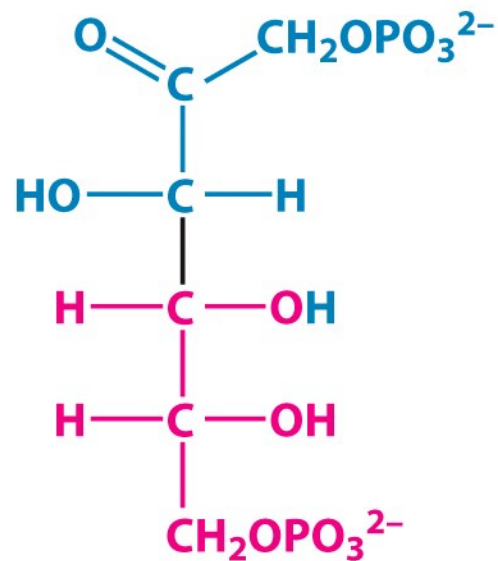
**Fructose 6-phosphate
(open-chain form)**

**Fructose 6-phosphate
(F-6P)**

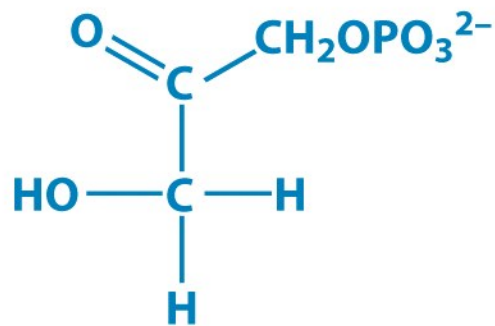
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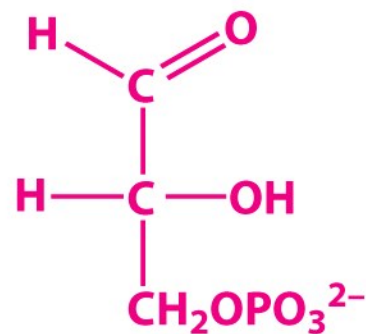


**Fructose
1,6-bisphosphate
(F-1, 6-BP)**

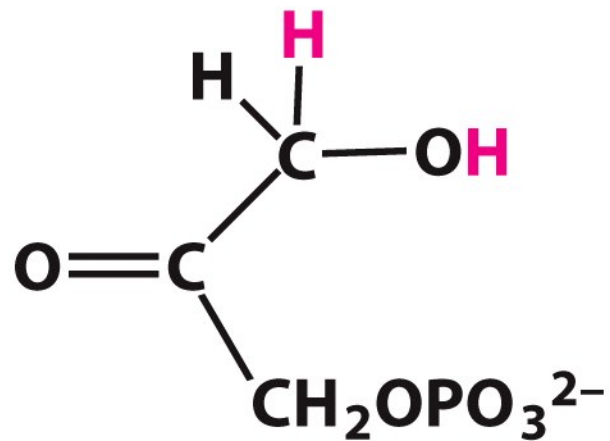


**Dihydroxyacetone
phosphate
(DHAP)**

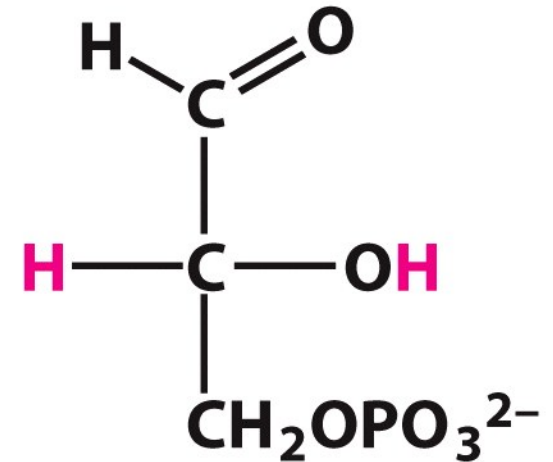
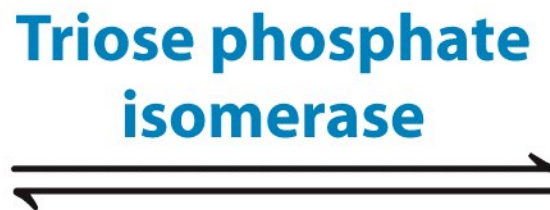
+



**Glyceraldehyde
3-phosphate
(GAP)**

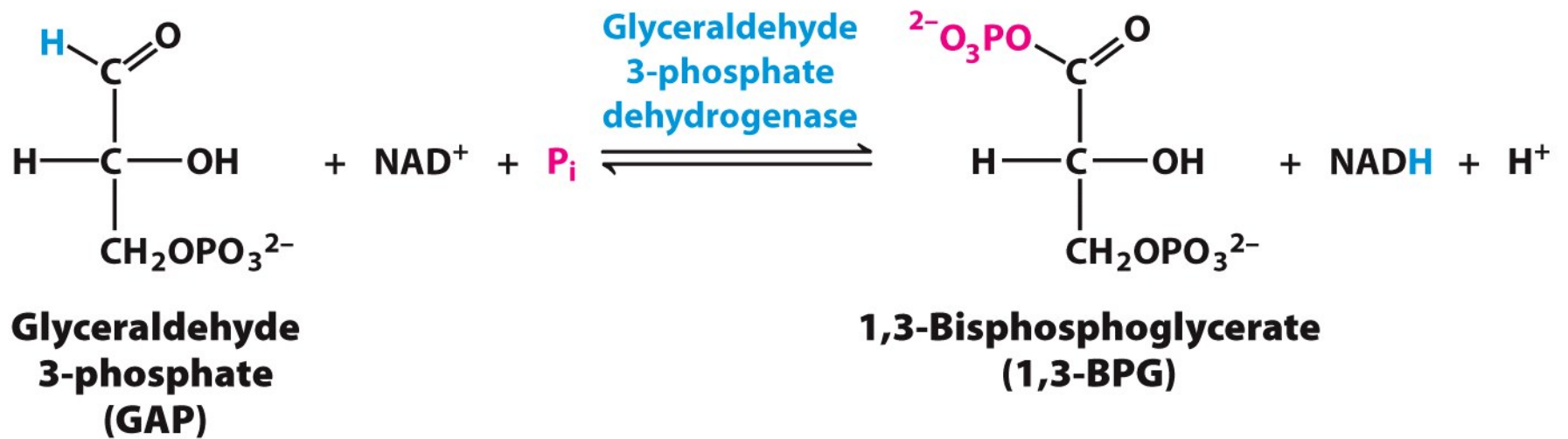


**Dihydroxyacetone
phosphate**

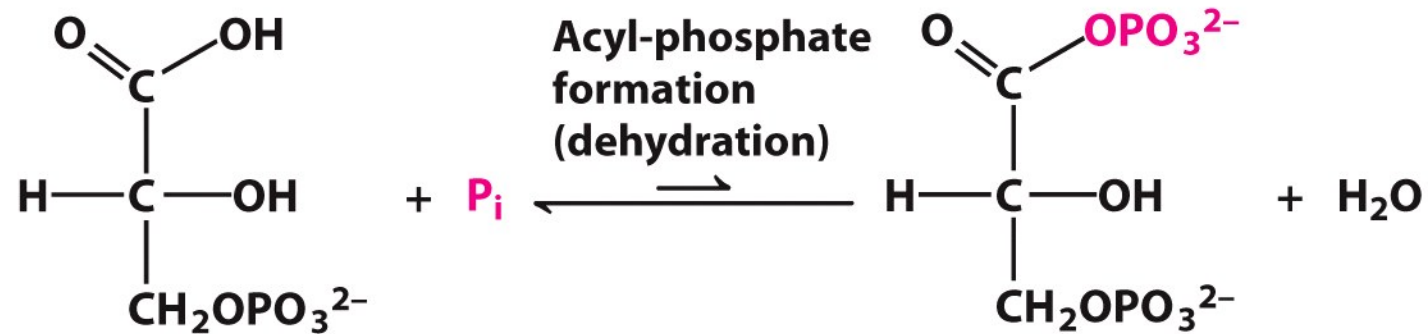
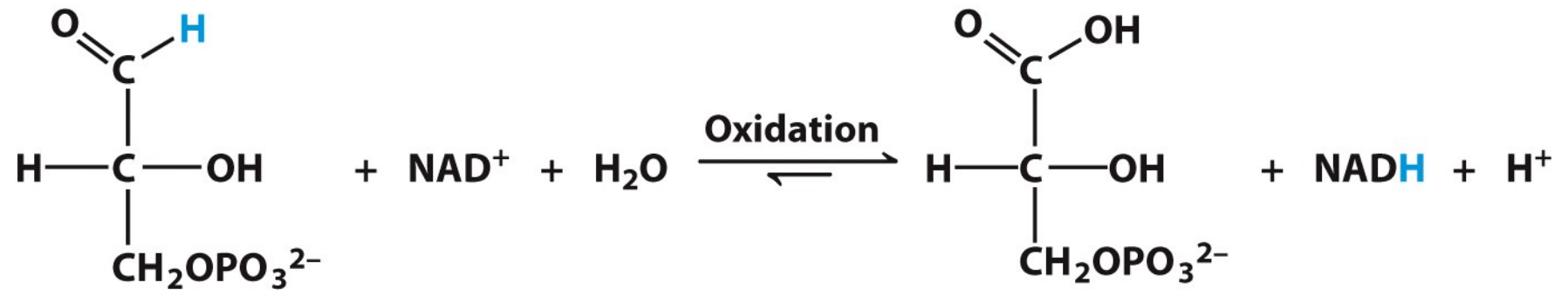


**Glyceraldehyde
3-phosphate**

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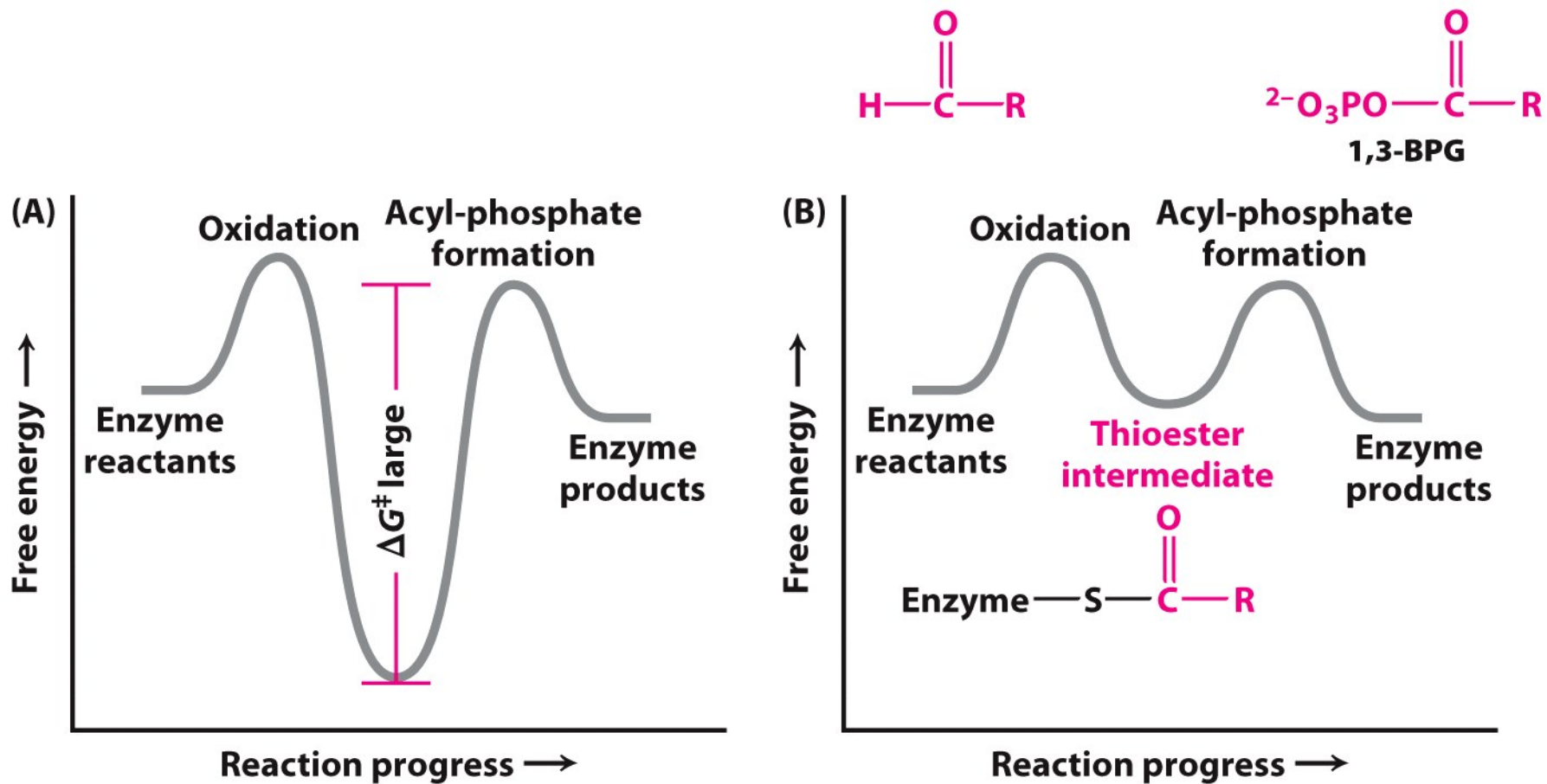
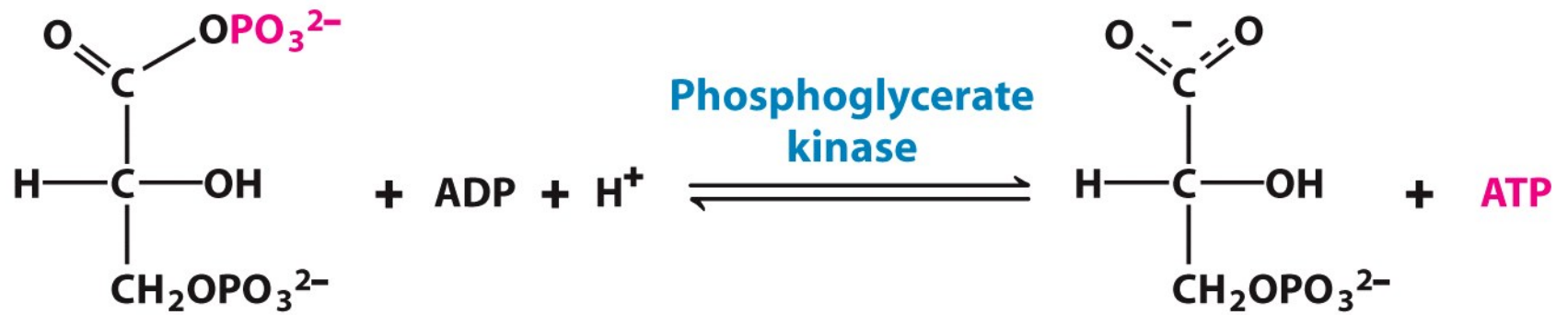


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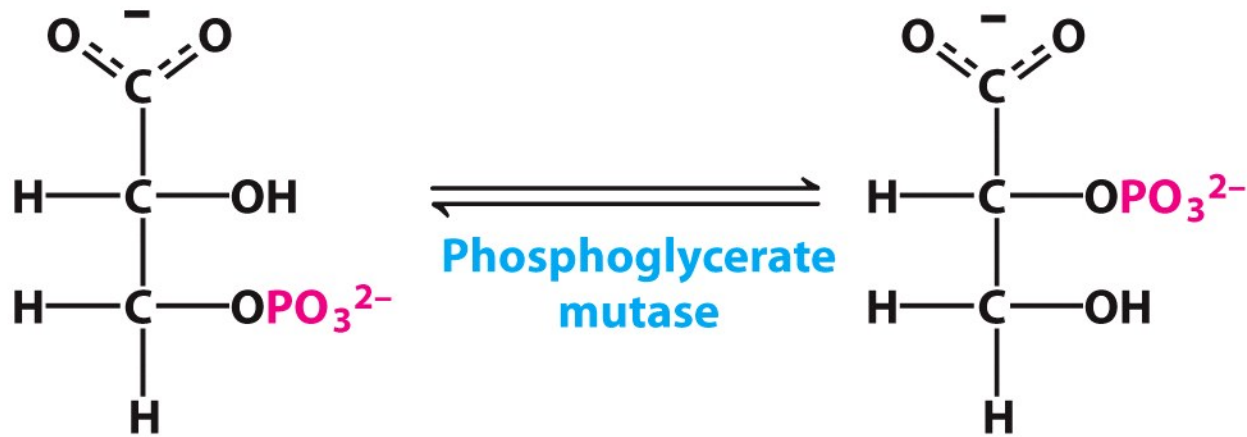
1,3-Bisphosphoglycerate

3-Phosphoglycerate

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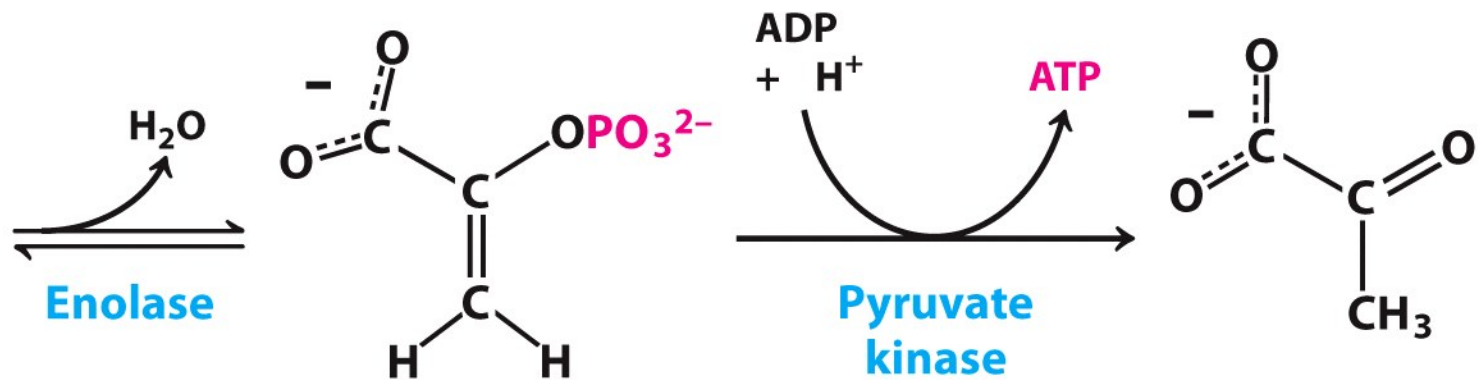
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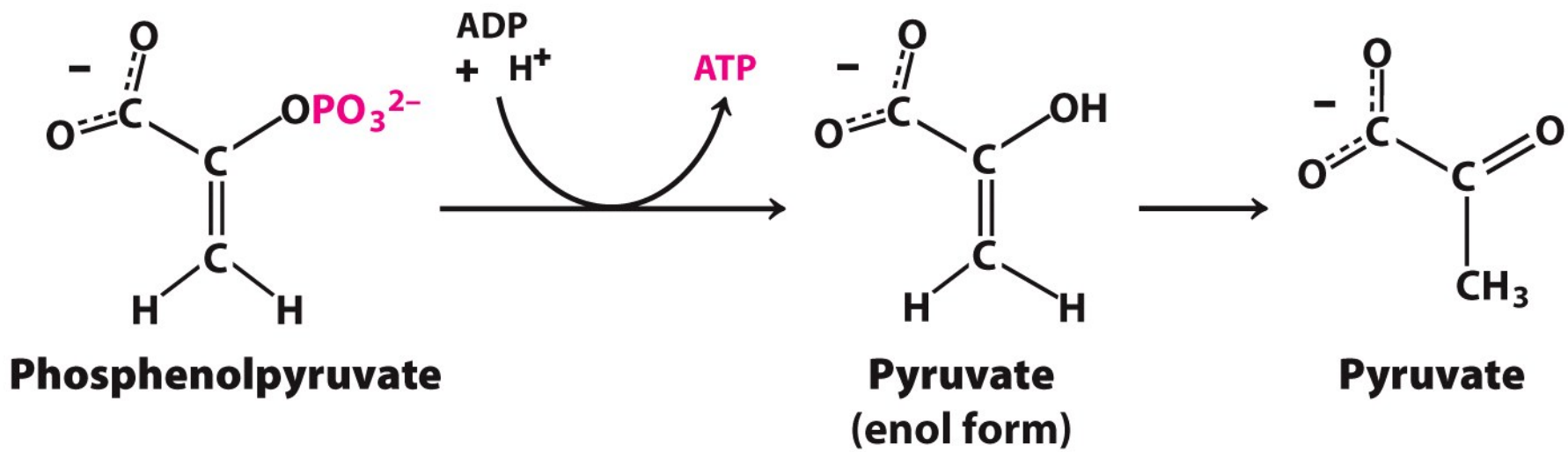
3-Phosphoglycerate

2-Phosphoglycerate



Phosphoenolpyruvate

Pyruvate



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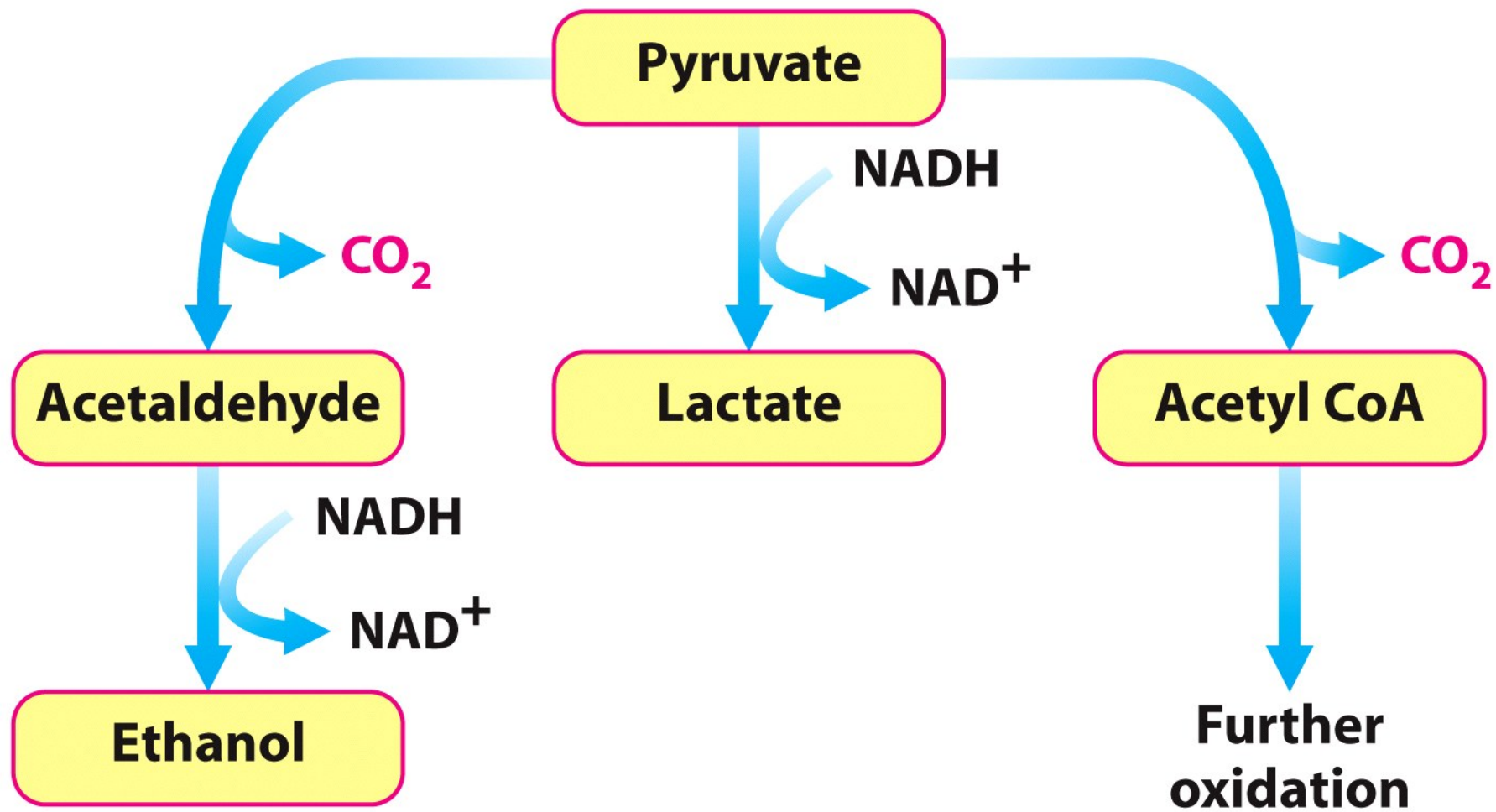
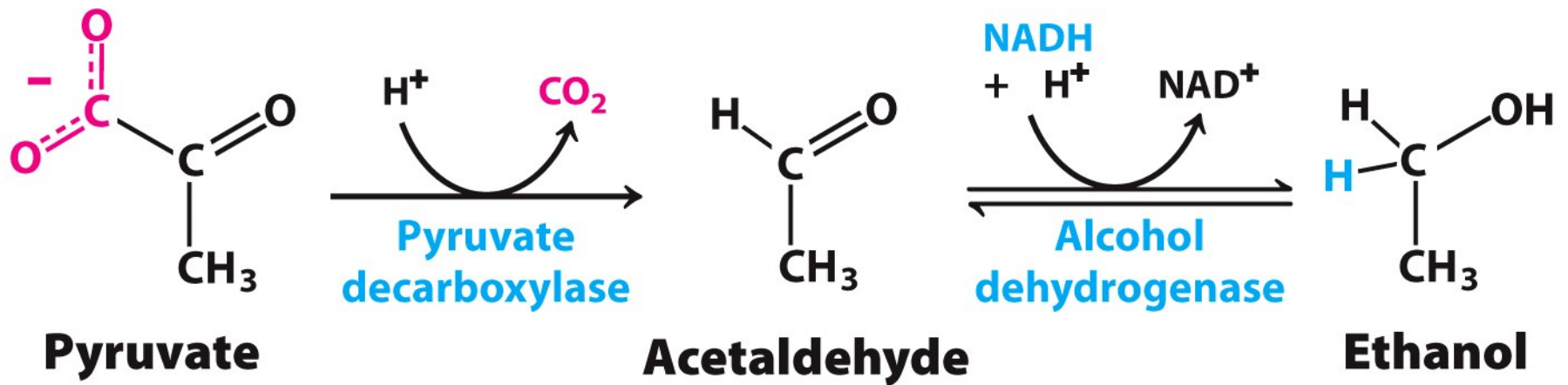


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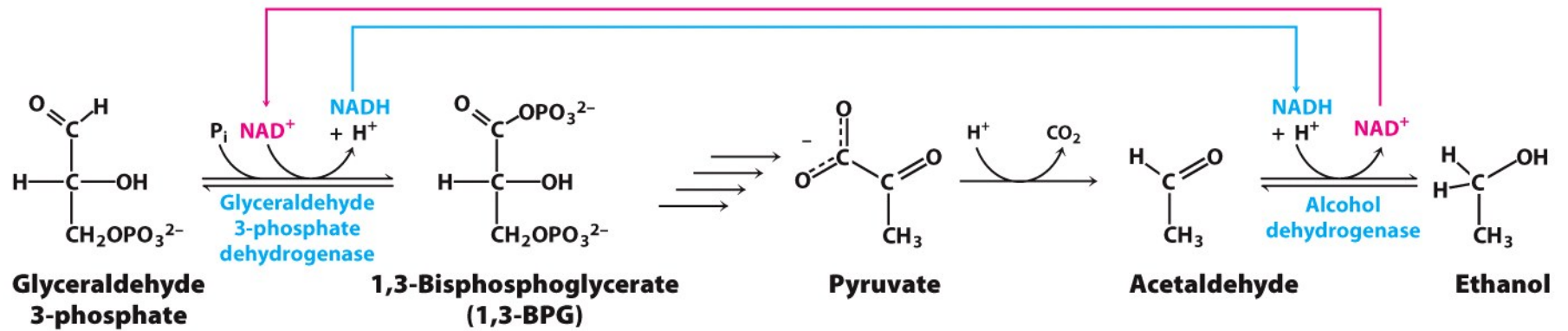
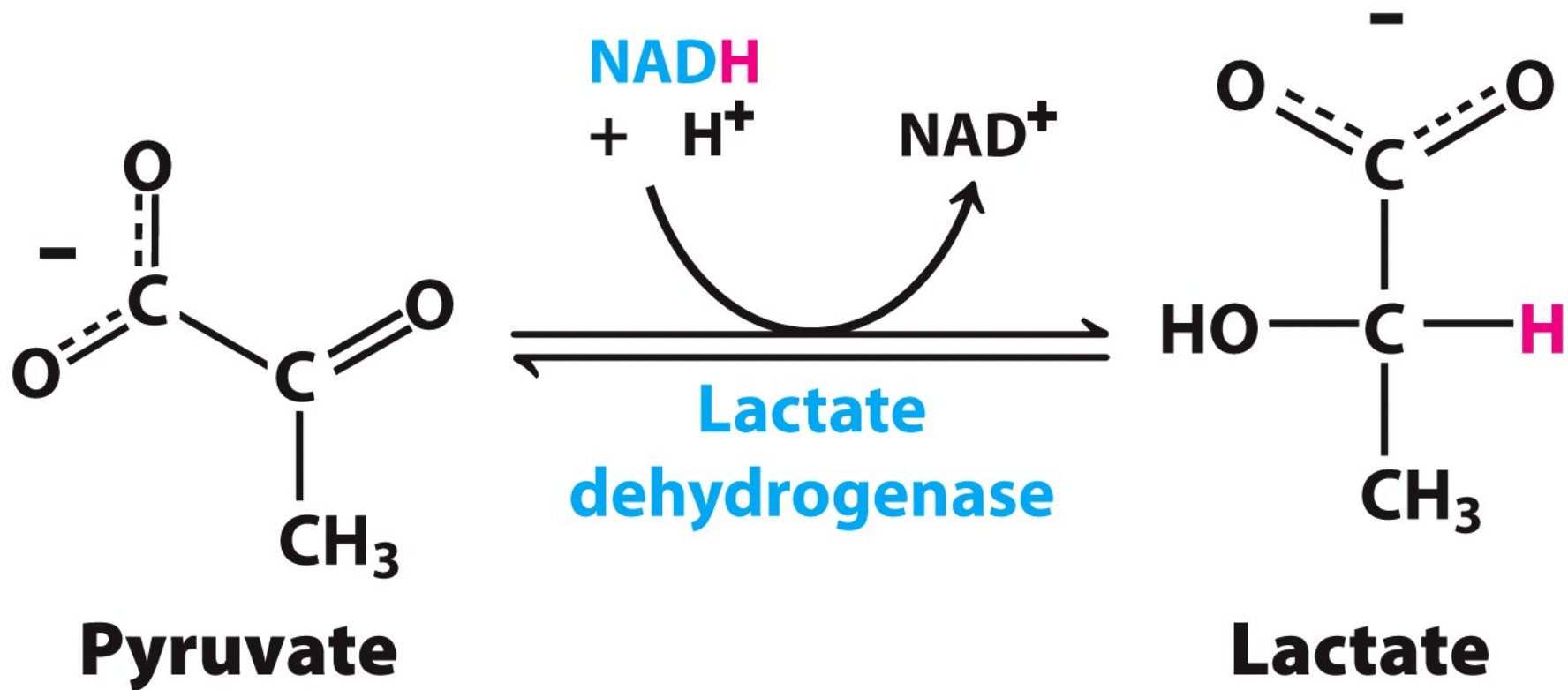
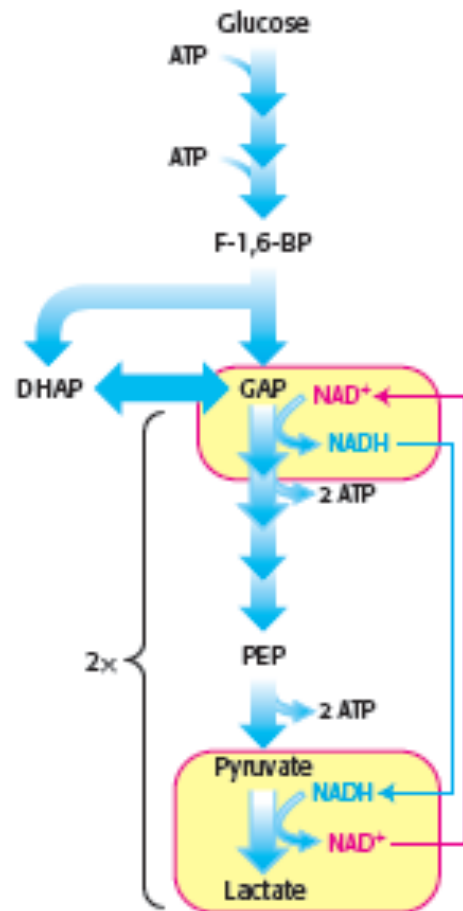


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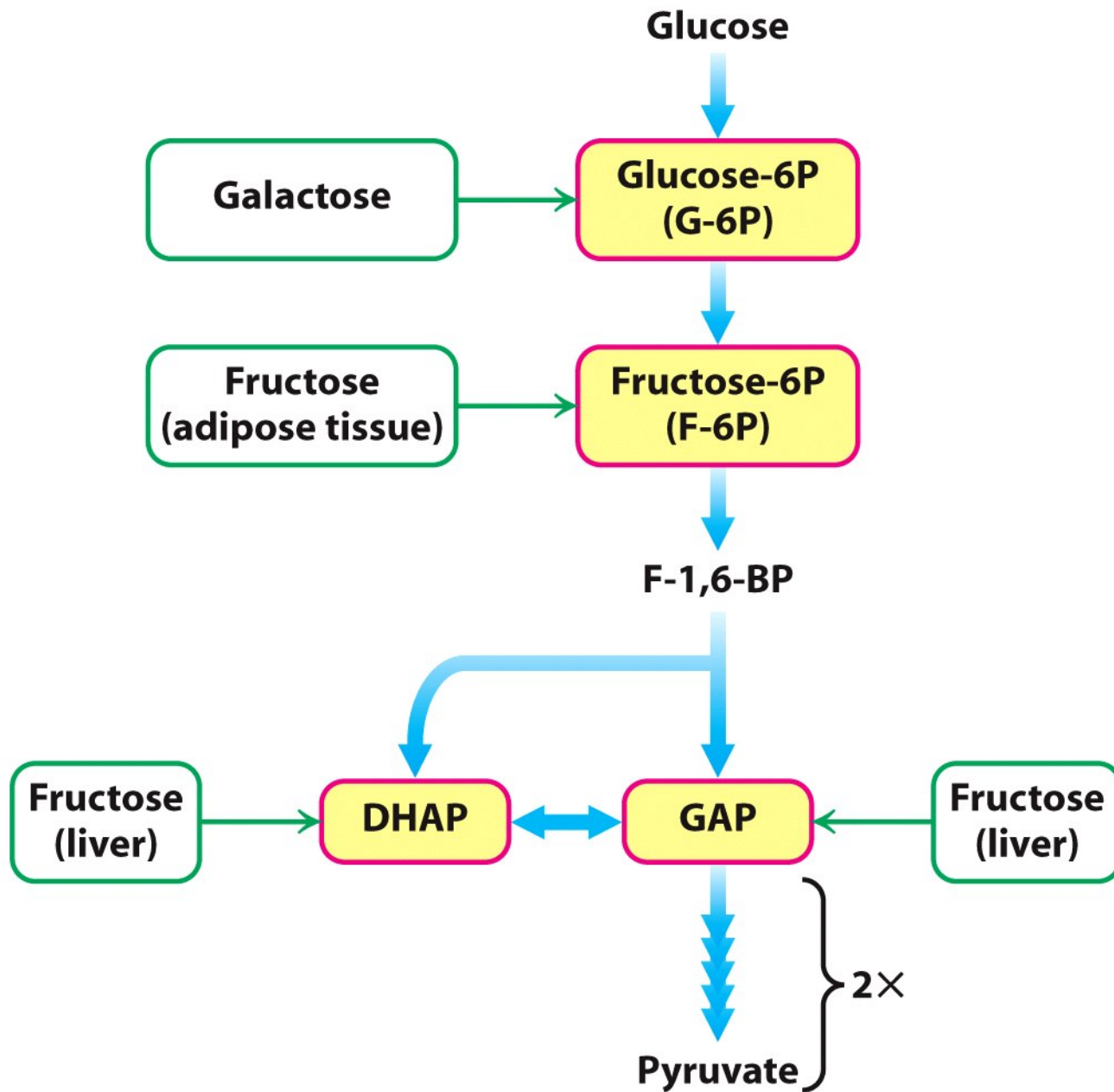


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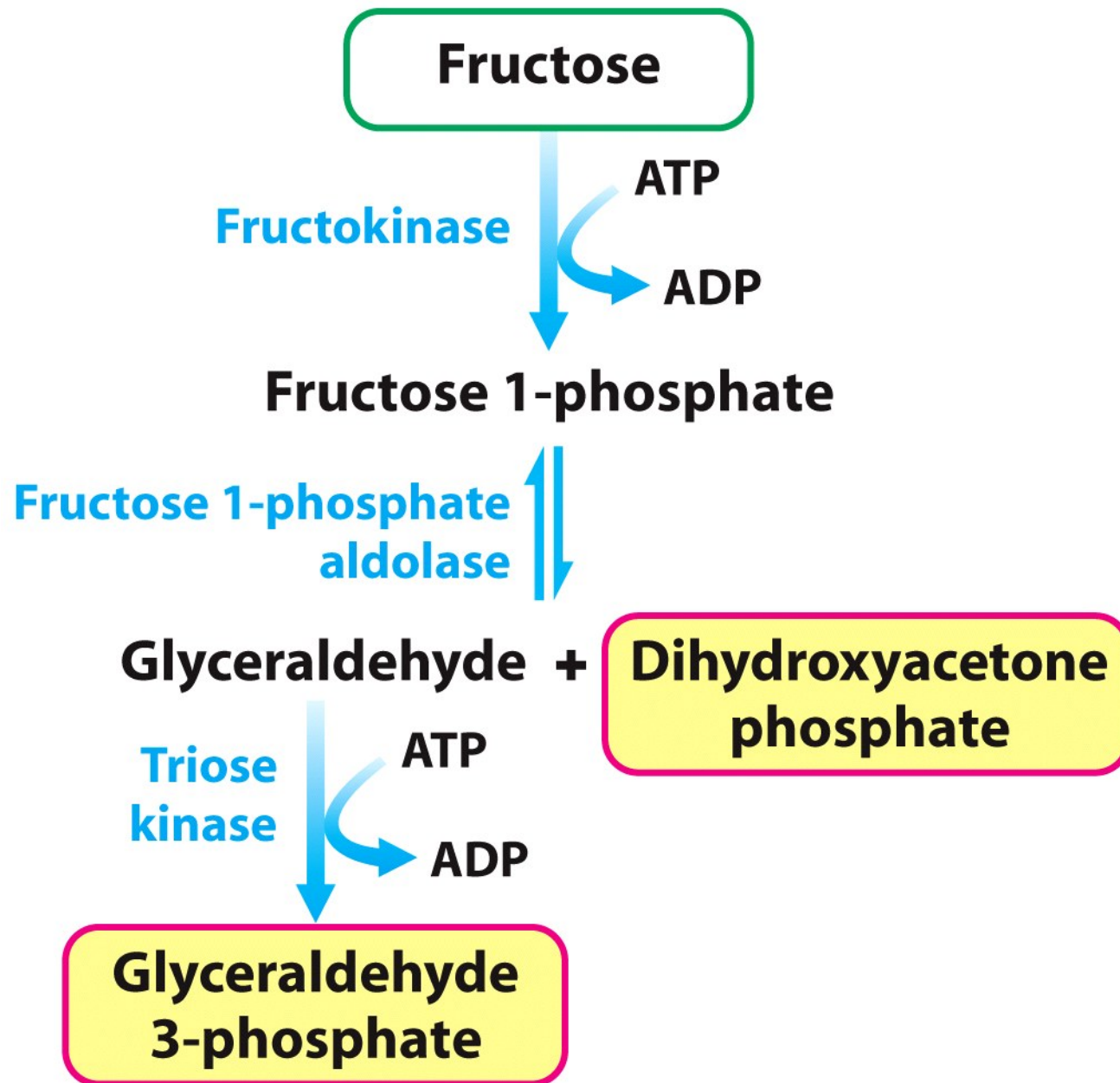
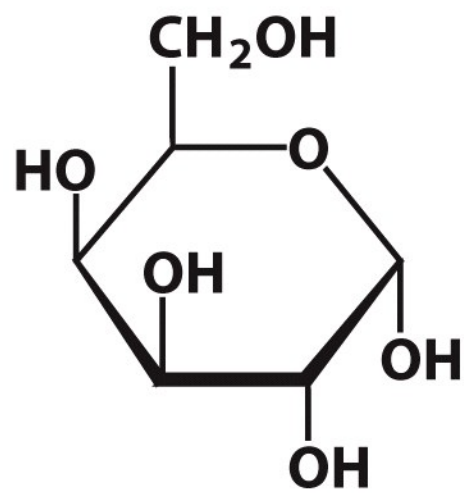
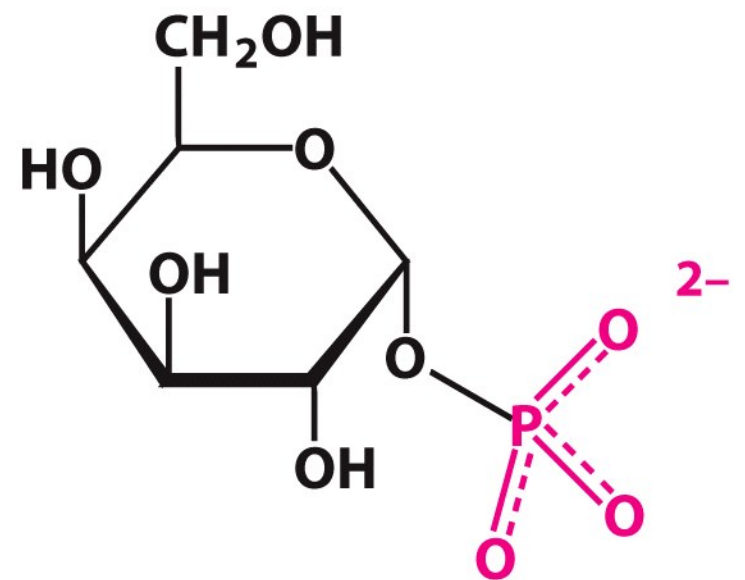
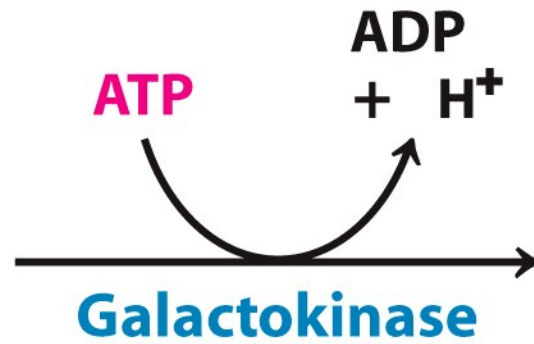


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Galactose



**Galactose
1-phosphate**

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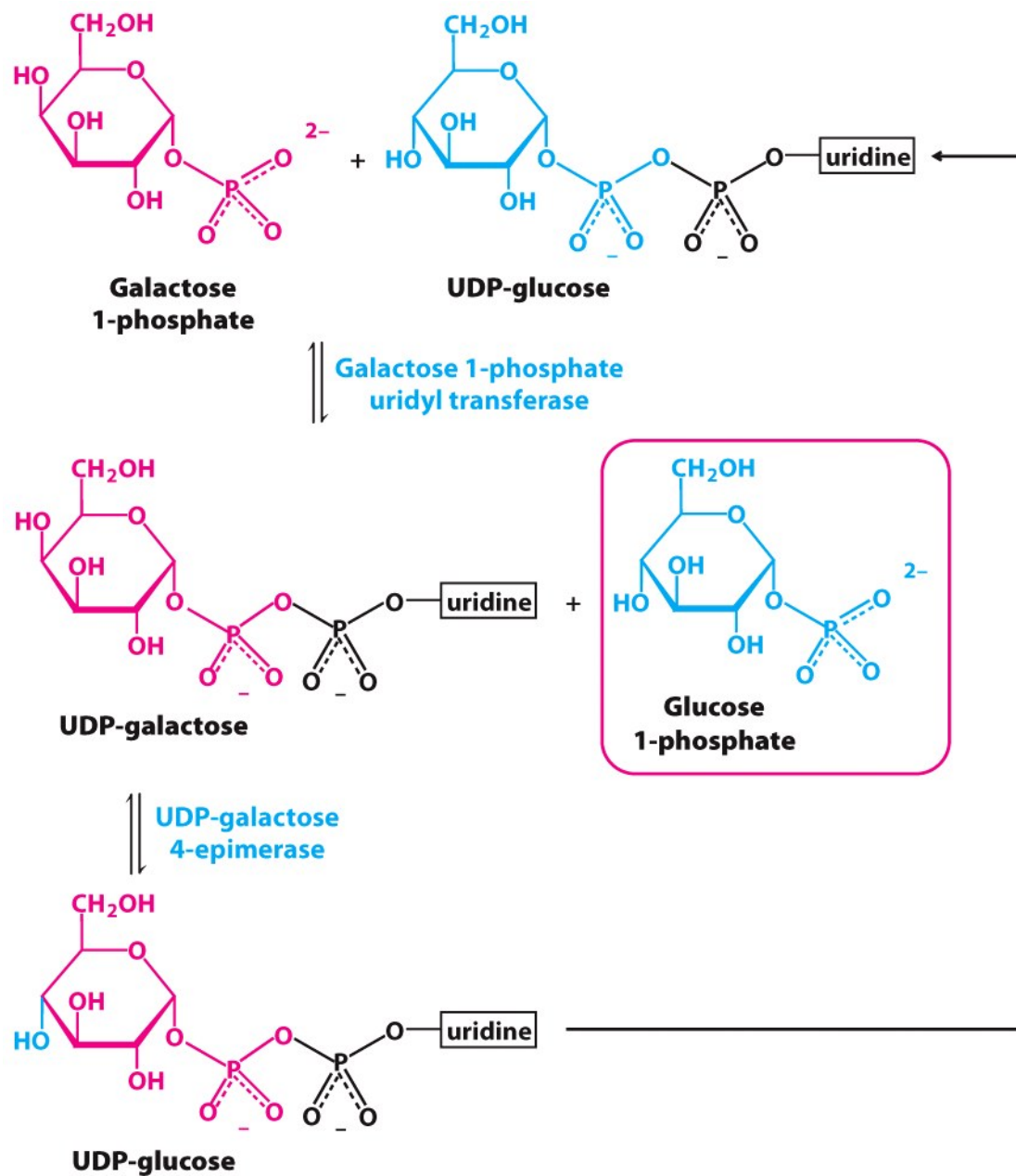


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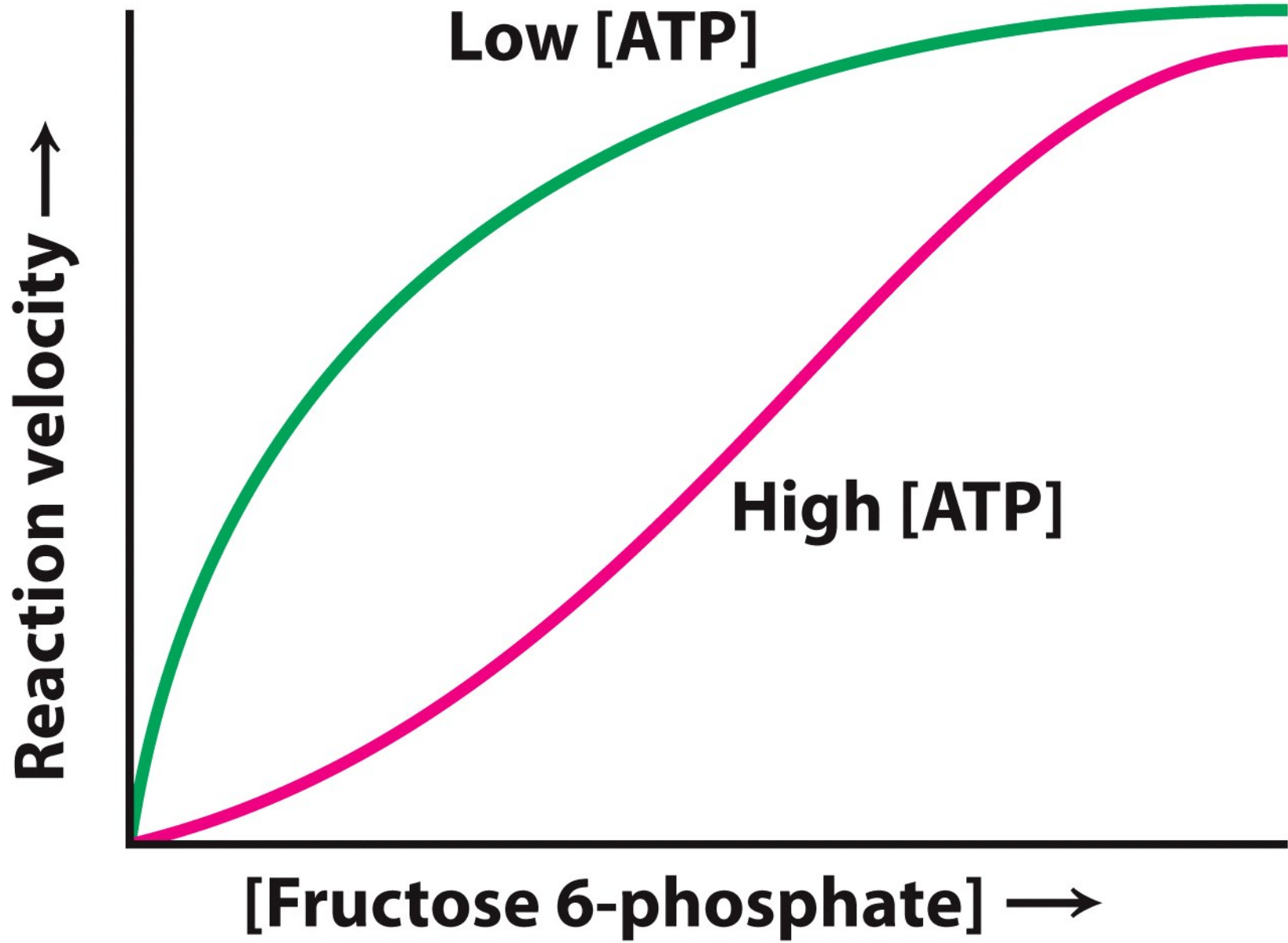


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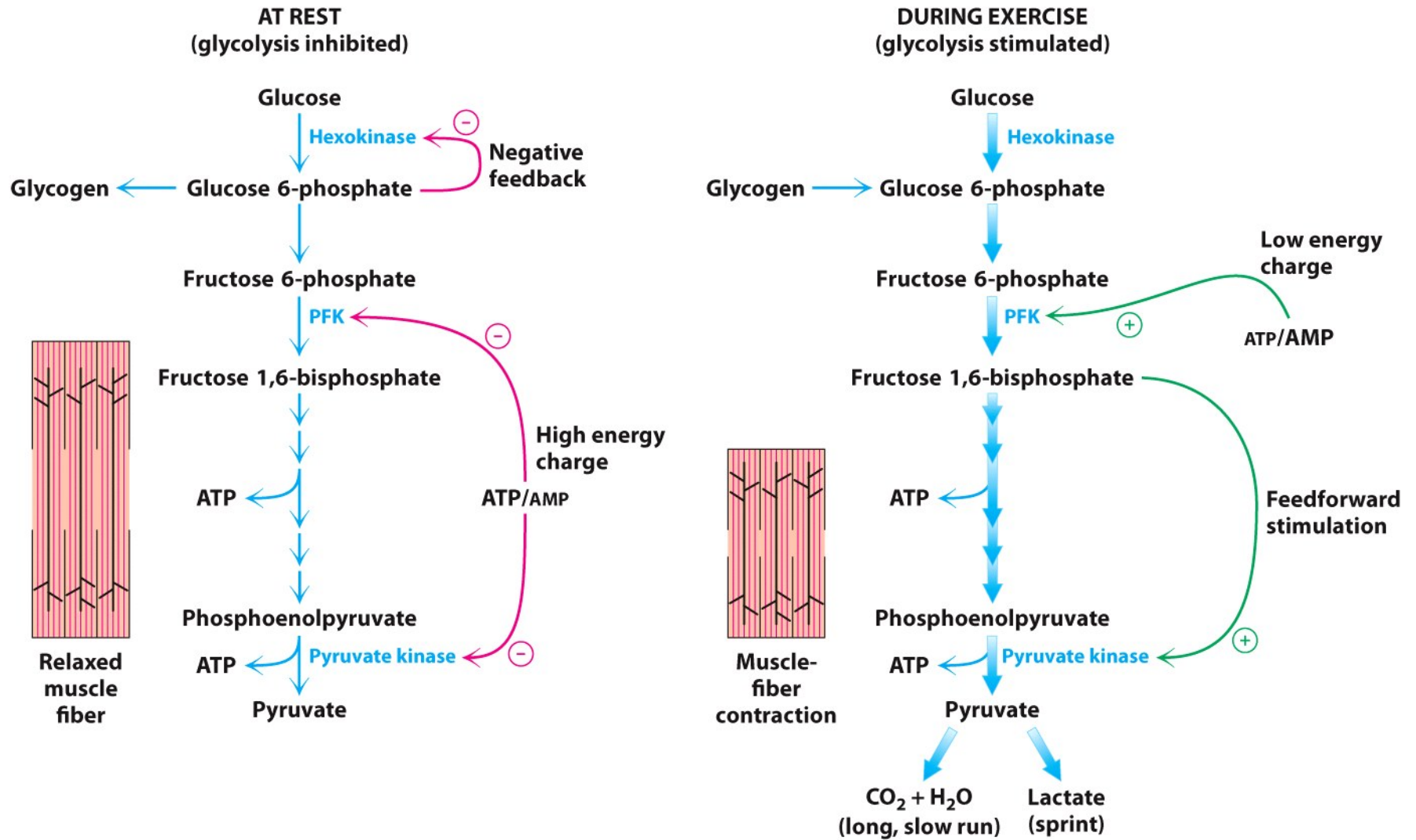
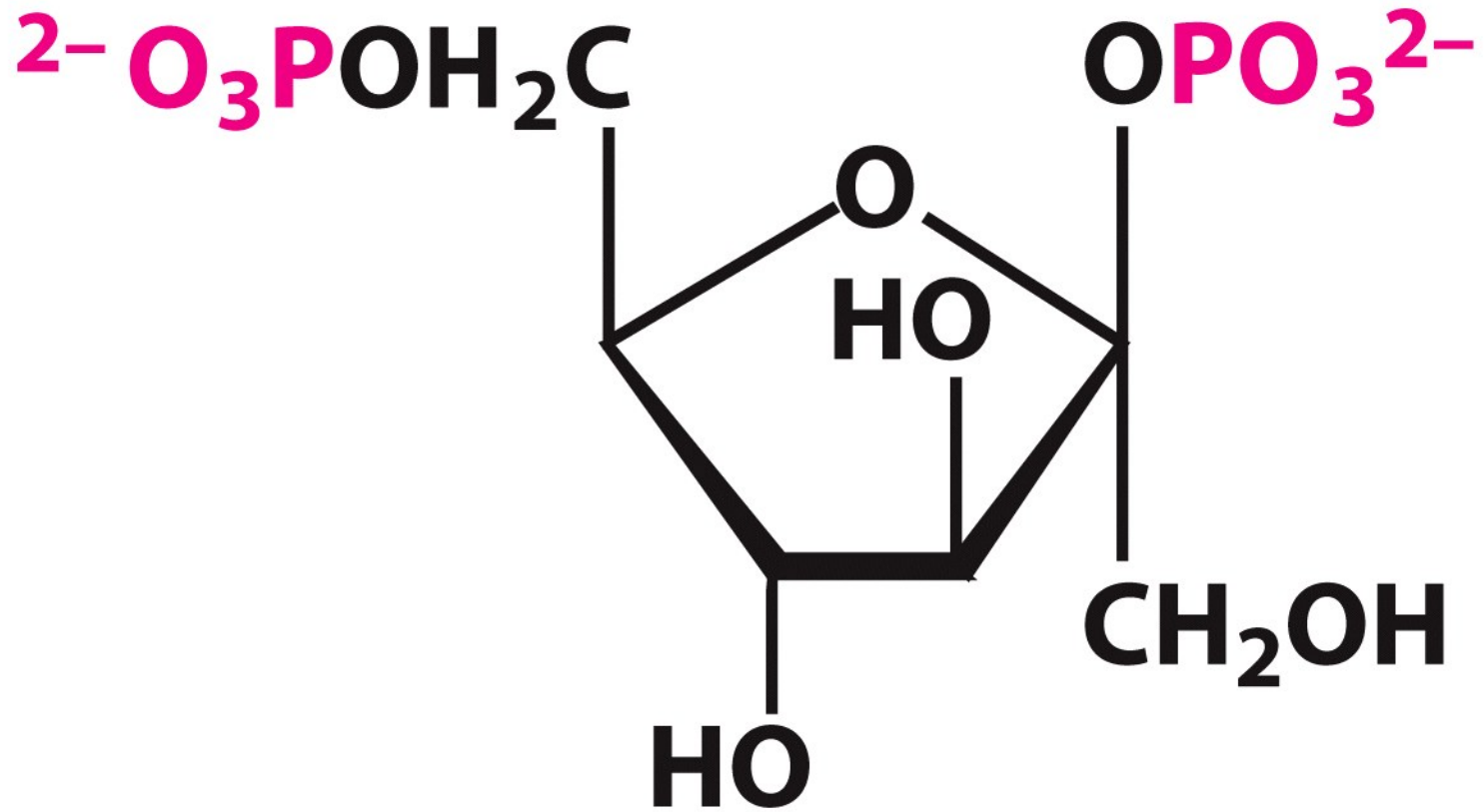


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Fructose 2,6-bisphosphate (F-2,6-BP)

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Glucose



F-6P



F-2,6-BP

activates PFK



PFK



F-1,6-BP



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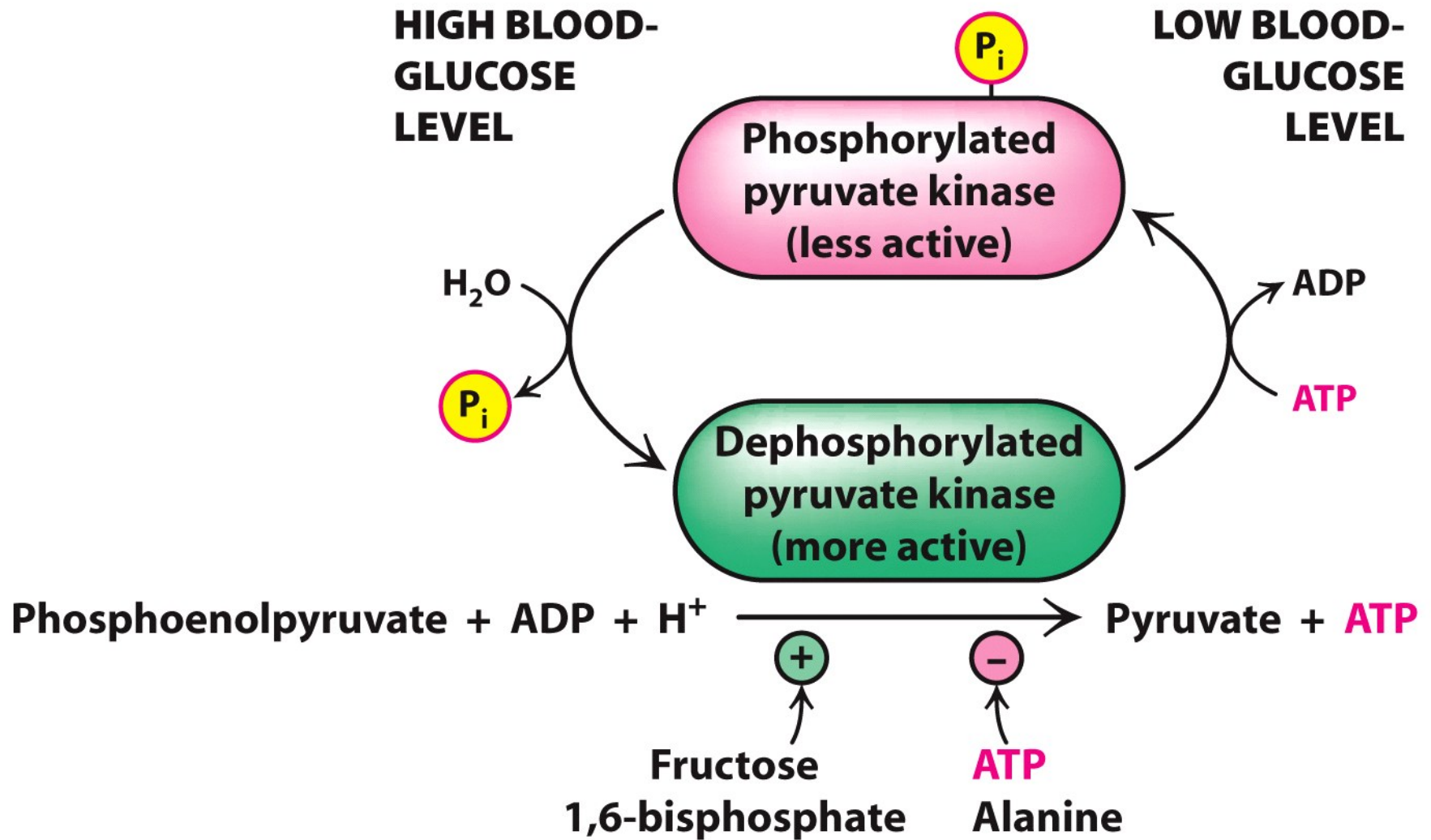


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Table 16.3 Family of glucose transporters

Name	Tissue location	K_M	Comments
GLUT1	All mammalian tissues	1 mM	Basal glucose uptake
GLUT2	Liver and pancreatic β cells	15–20 mM	In the pancreas, plays a role in the regulation of insulin In the liver, removes excess glucose from the blood
GLUT3	All mammalian tissues	1 mM	Basal glucose uptake
GLUT4	Muscle and fat cells	5 mM	Amount in muscle plasma membrane increases with endurance training
GLUT5	Small intestine	—	Primarily a fructose transporter

Table 16.3

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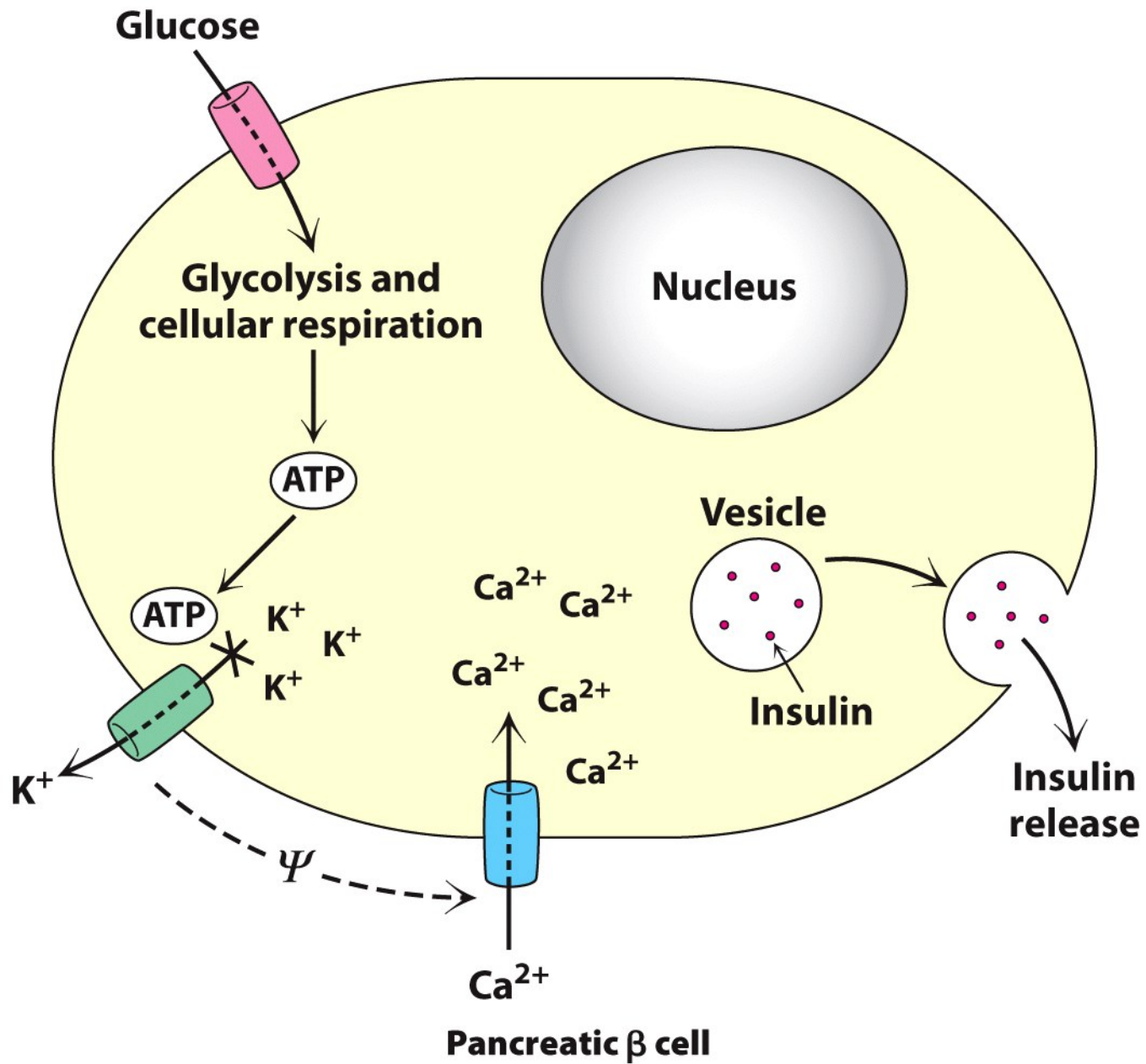


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