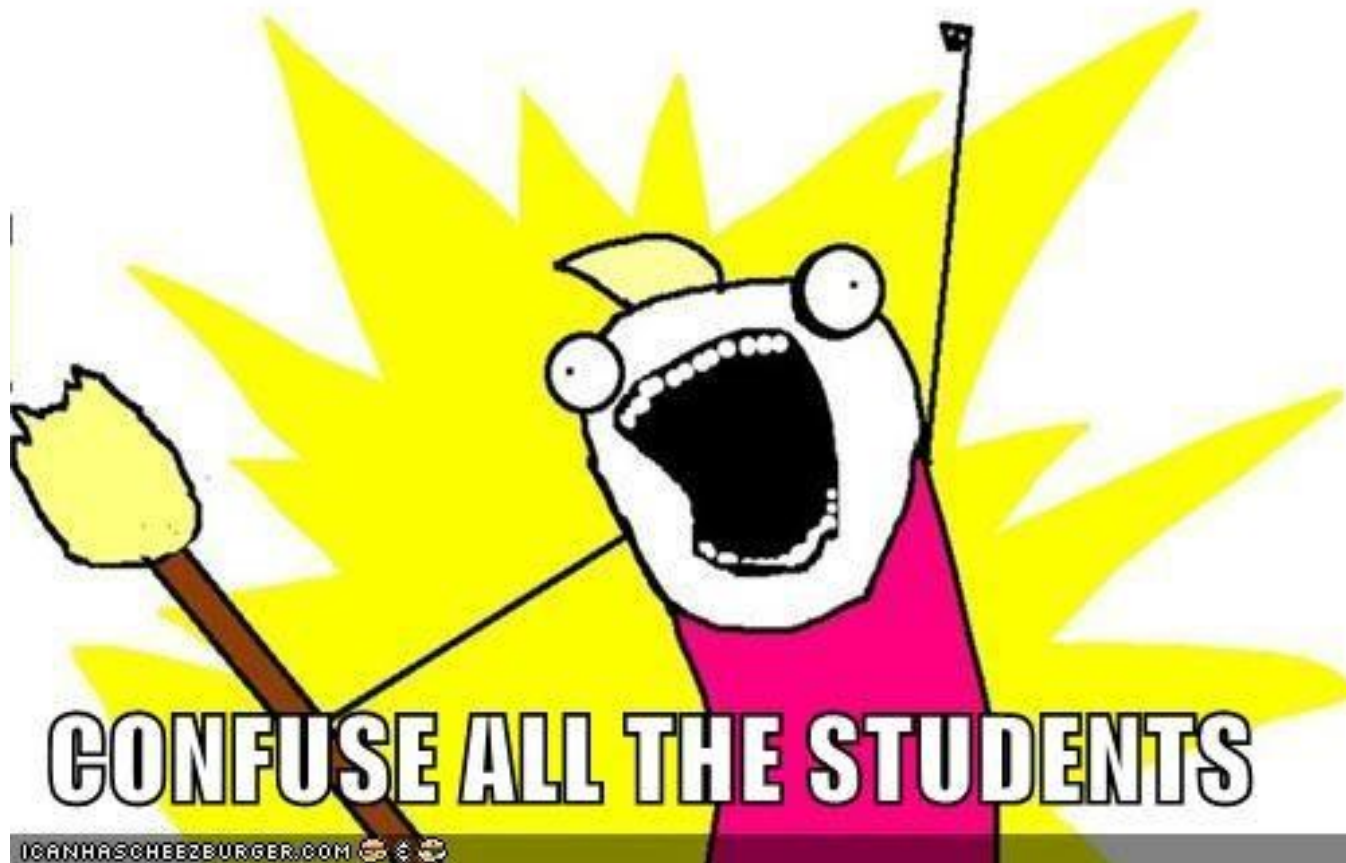


Гликолиз.

Глюконеогенез.

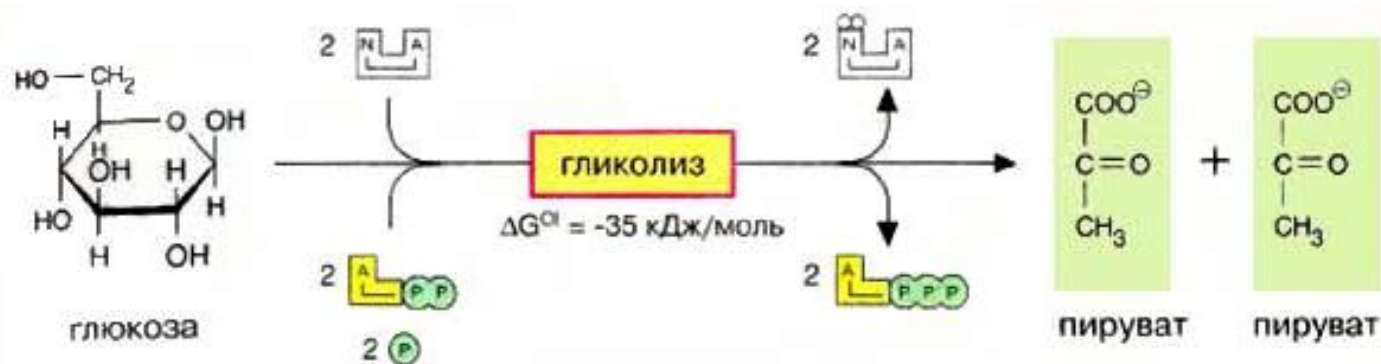
Пентозофосфатный путь.

Glycolysis:



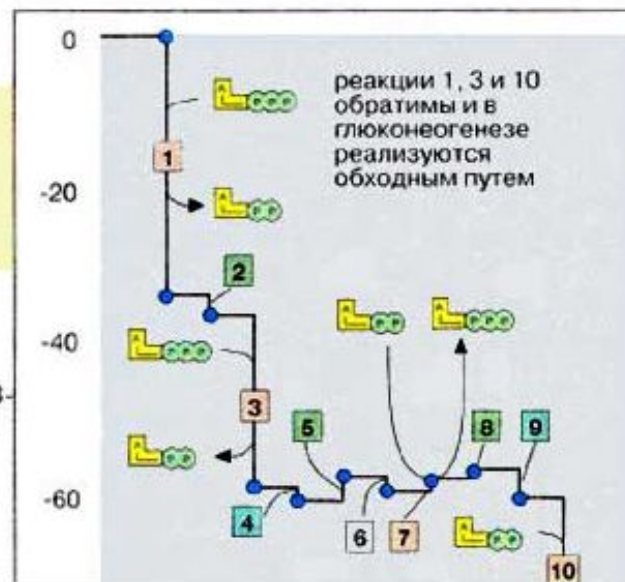
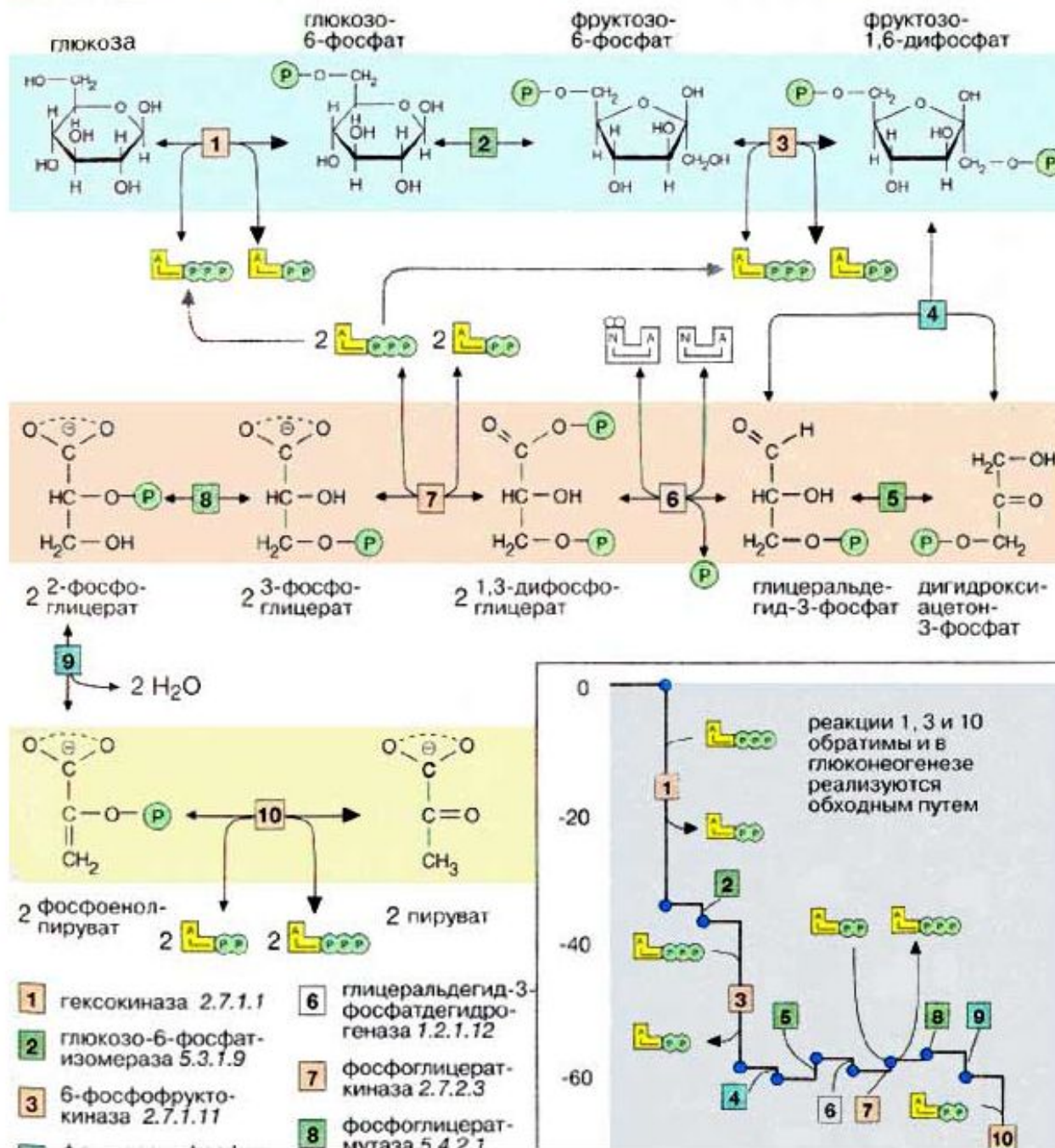
CONFUSE ALL THE STUDENTS

Гликолиз



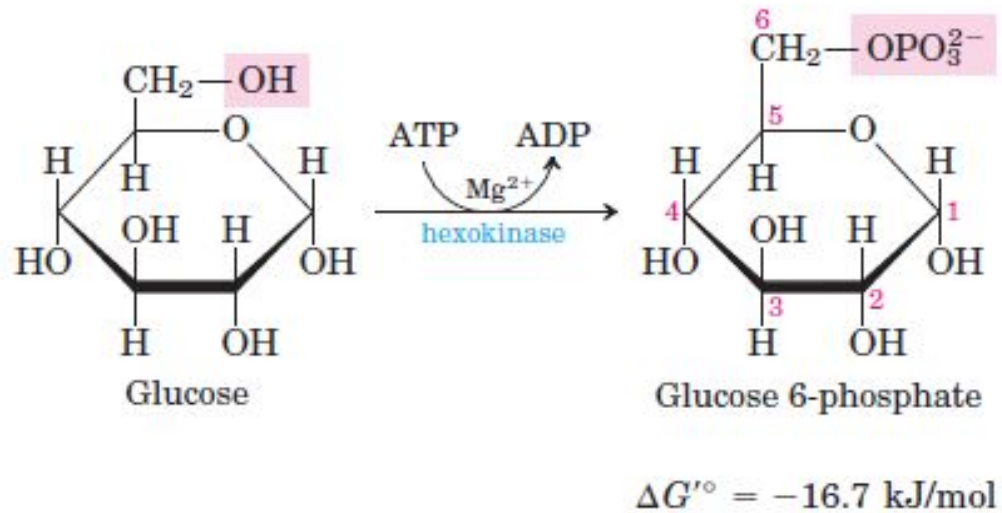
А. Гликолиз: баланс

Гликолиз



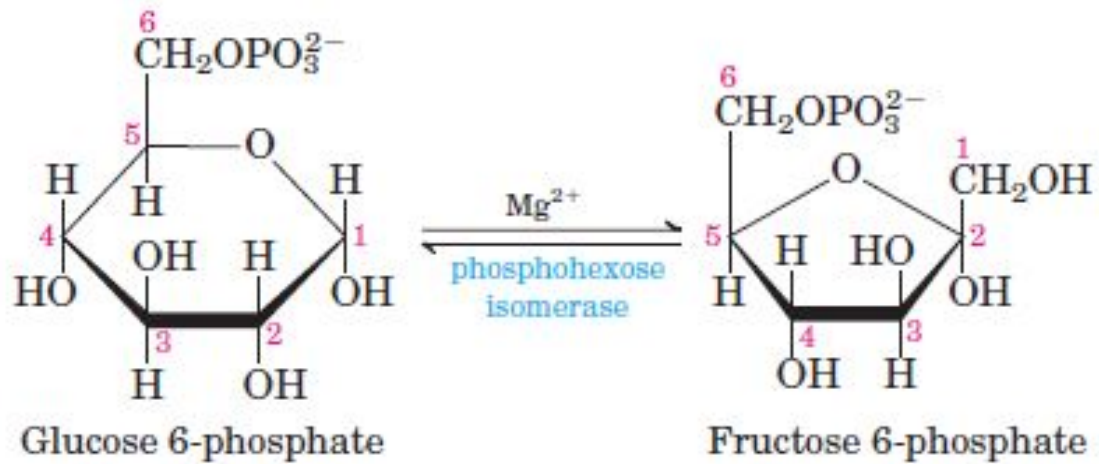
Подготовительный этап

1

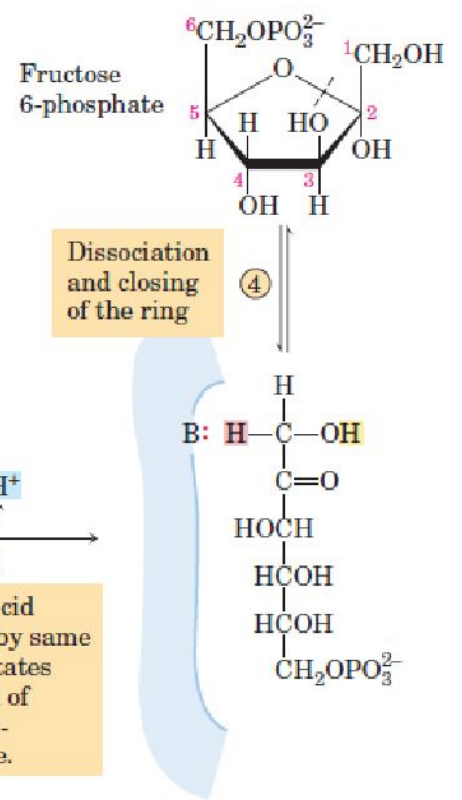
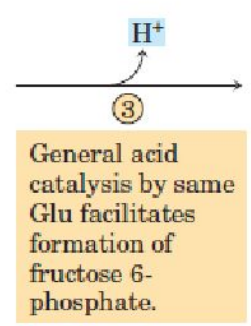
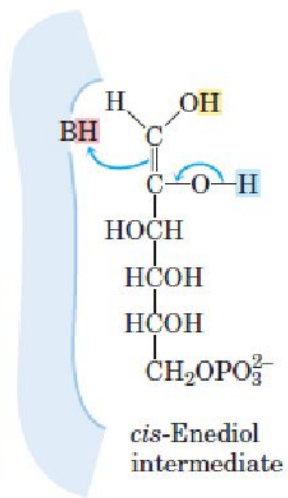
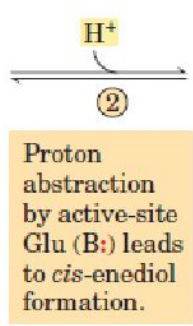
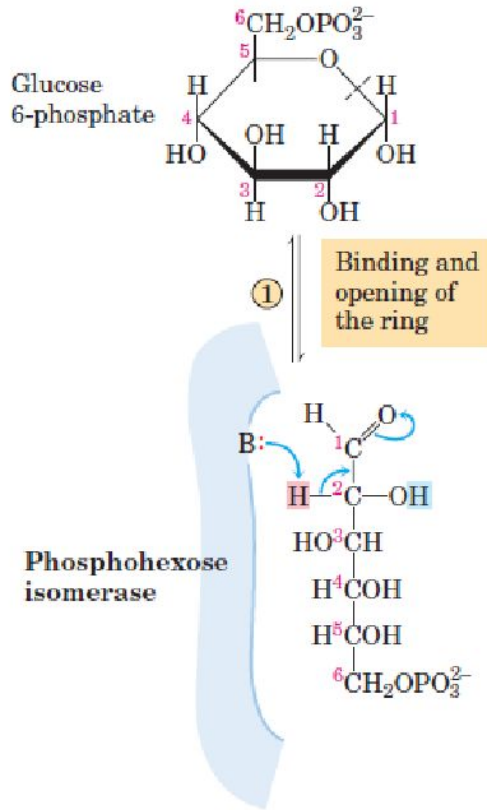


Подготовительный
этап

2

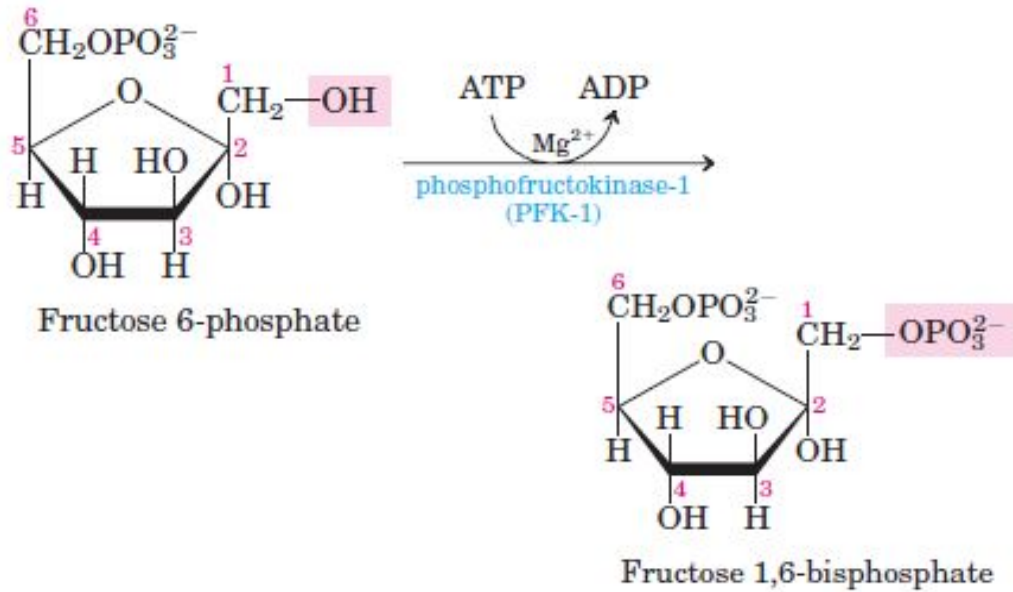


$$\Delta G'^{\circ} = 1.7 \text{ kJ/mol}$$



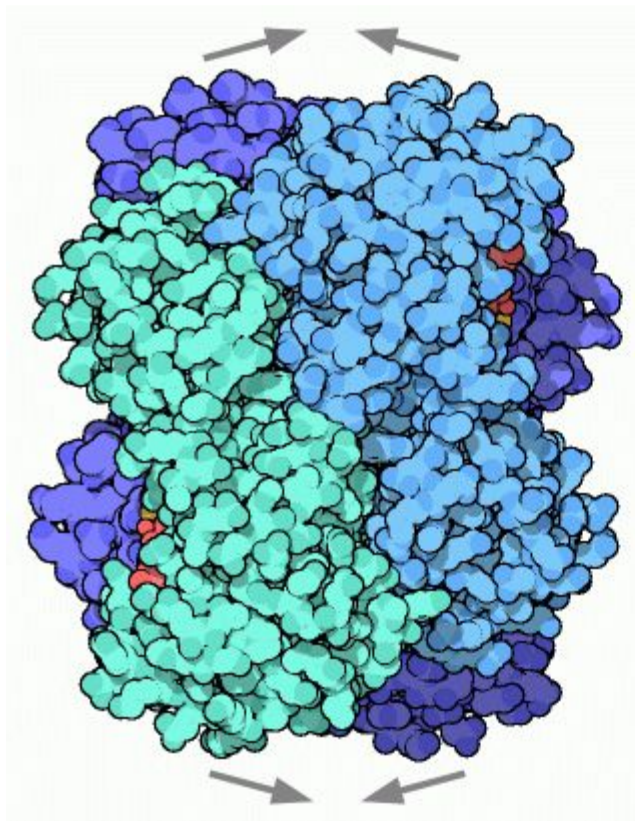
Подготовительный этап

3

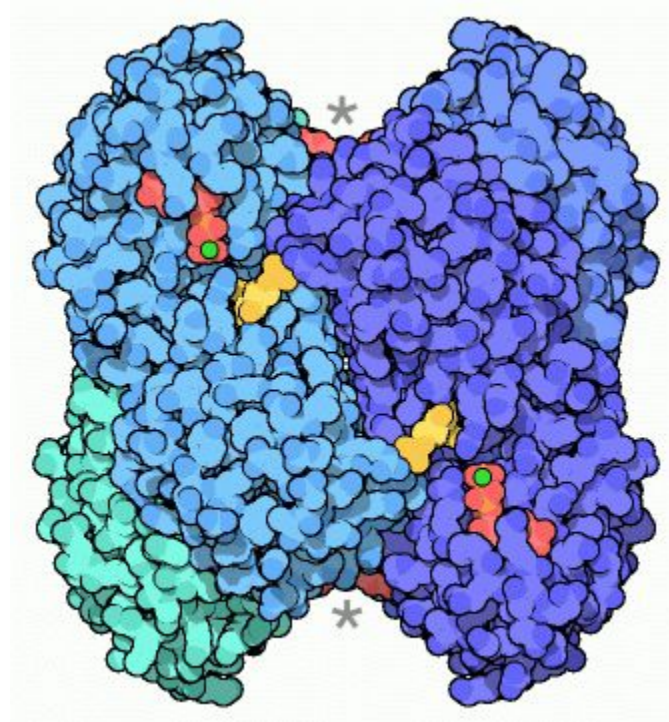
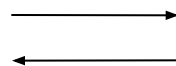


$$\Delta G'^{\circ} = -14.2 \text{ kJ/mol}$$

Фосфофруктокиназа-1 (PFK1) (2.7.1.11)

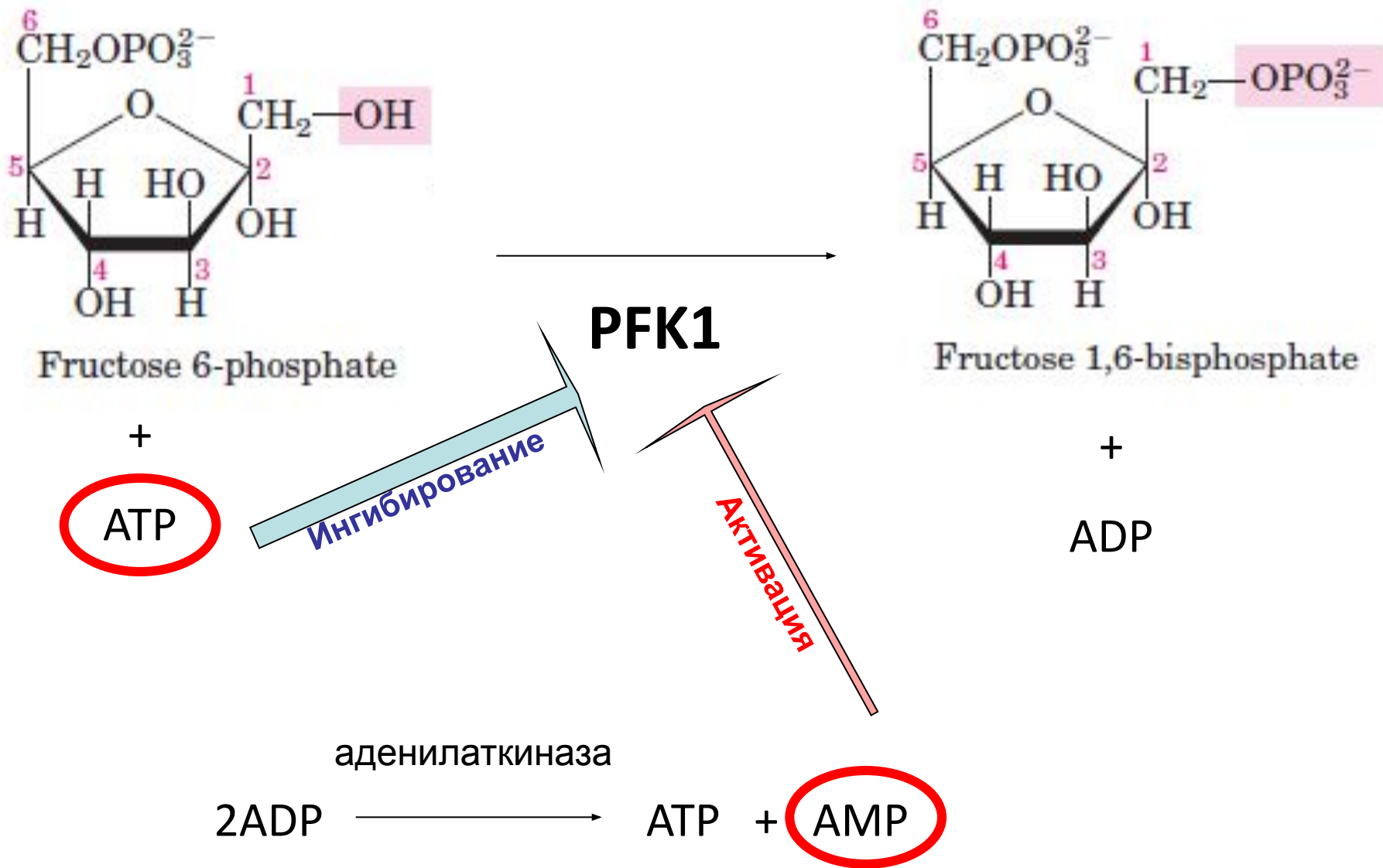


T



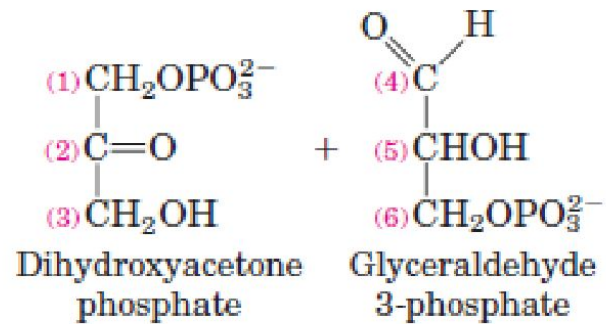
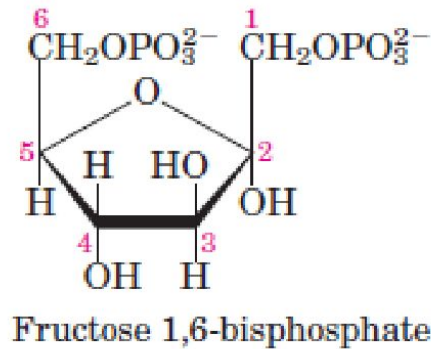
R

Положительная обратная связь в работе PFK1



Подготовительный этап

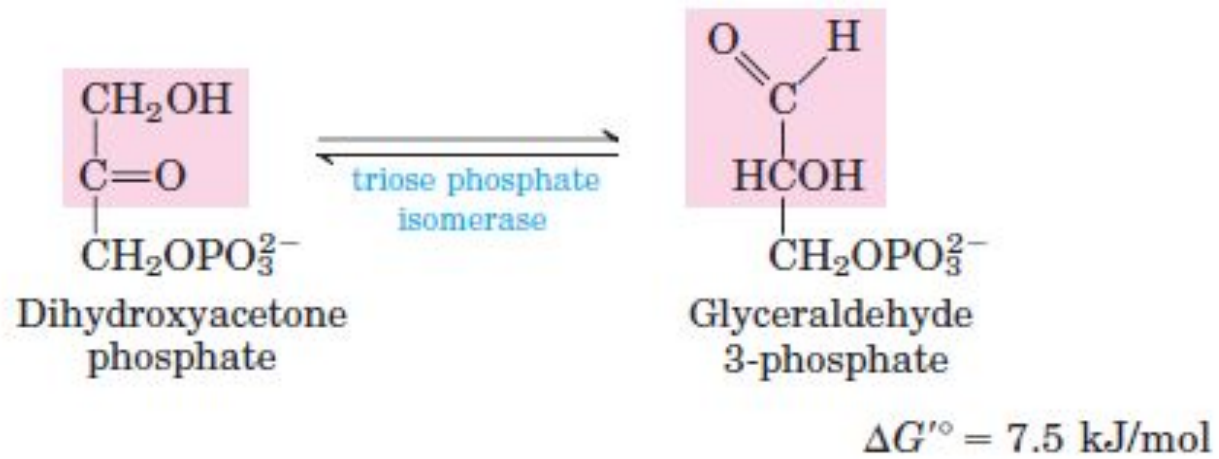
4



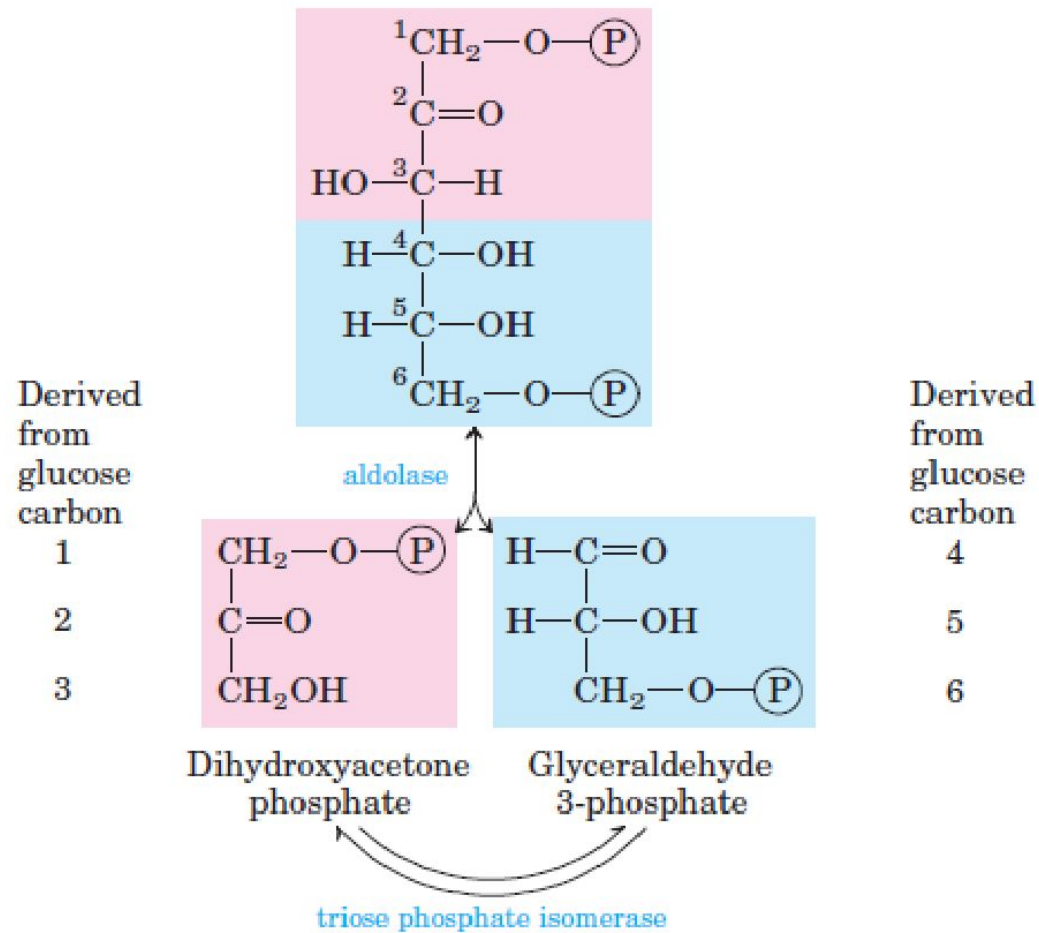
$$\Delta G'^{\circ} = 23.8 \text{ kJ/mol}$$

Подготовительный
этап

5

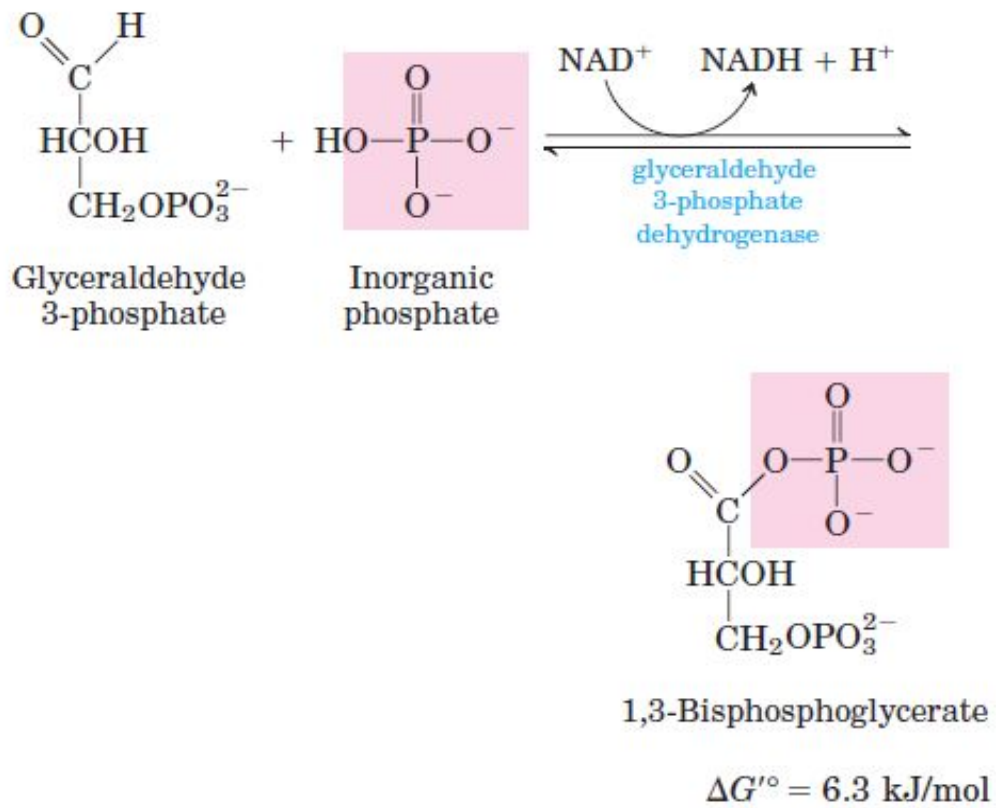


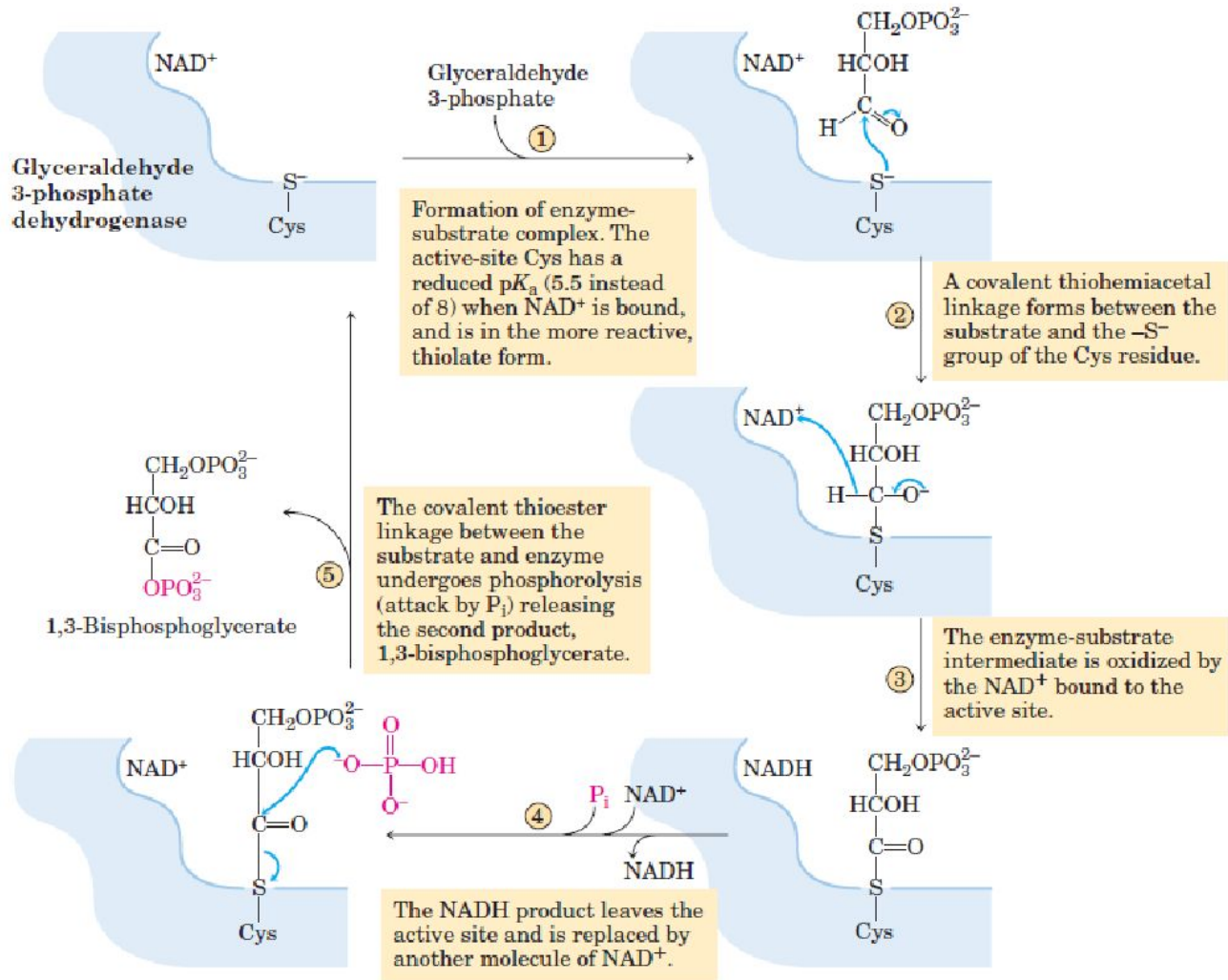
Fructose 1,6-bisphosphate



Основной этап

6

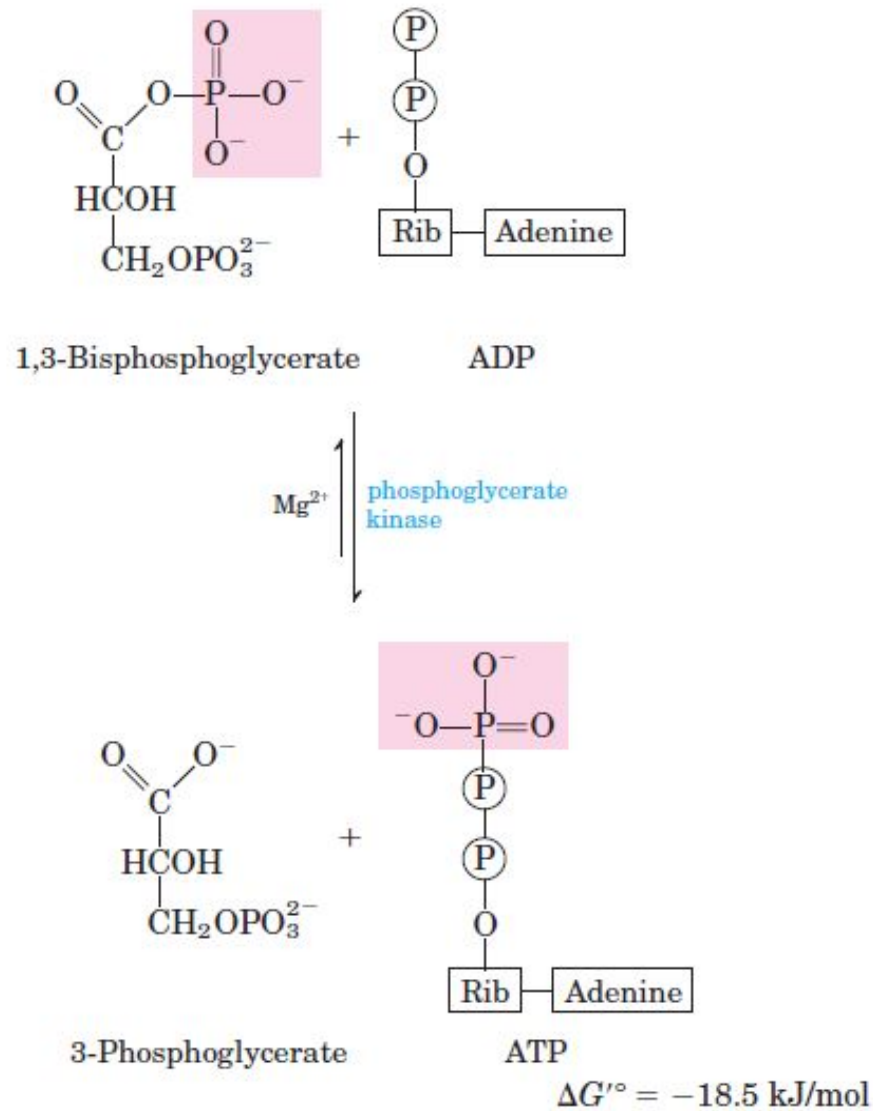




HANISM FIGURE 14-7 The glyceraldehyde 3-phosphate dehydrogenase reaction.

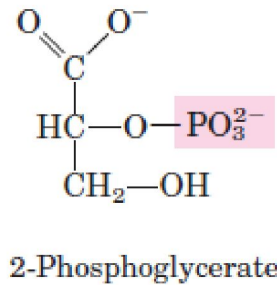
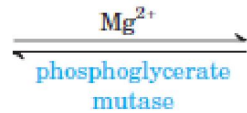
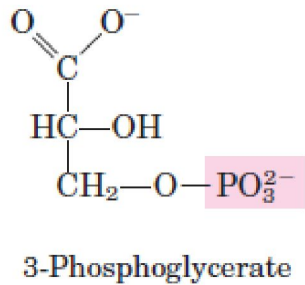
Основной этап

7



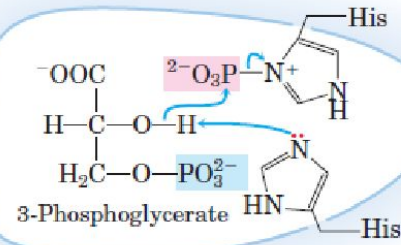
Основной этап

8



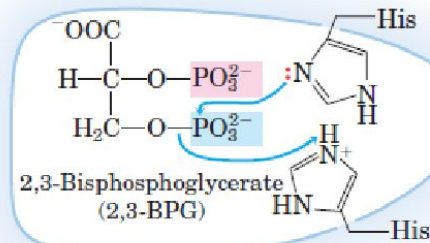
$$\Delta G'^{\circ} = 4.4 \text{ kJ/mol}$$

Phosphoglycerate mutase



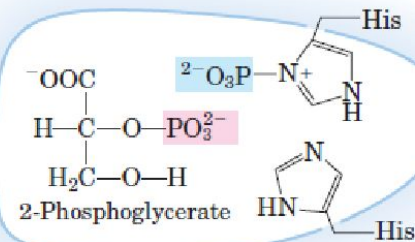
①

Phosphoryl transfer occurs between an active-site His and C-2 (OH) of the substrate. A second active-site His acts as general base catalyst.



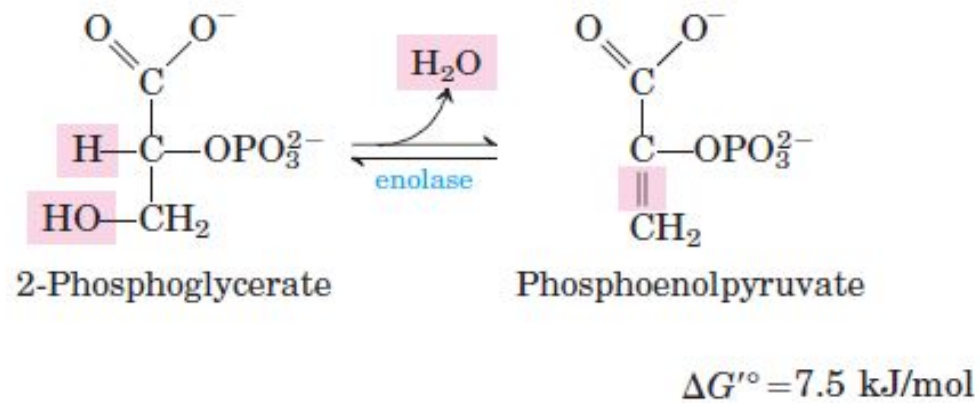
②

Phosphoryl transfer from C-3 of the substrate to the first active-site His. The second active-site His acts as general acid catalyst.



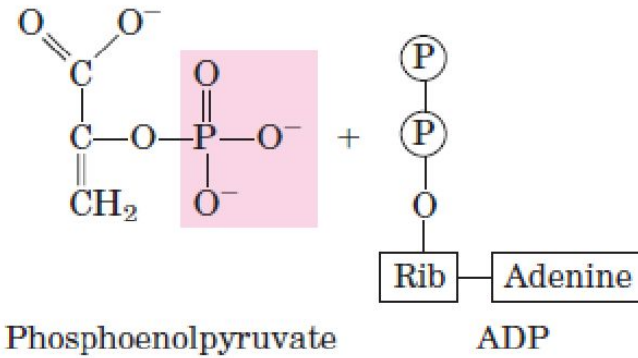
Основной этап

9

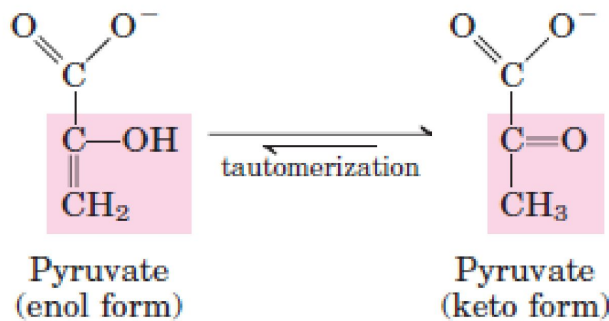
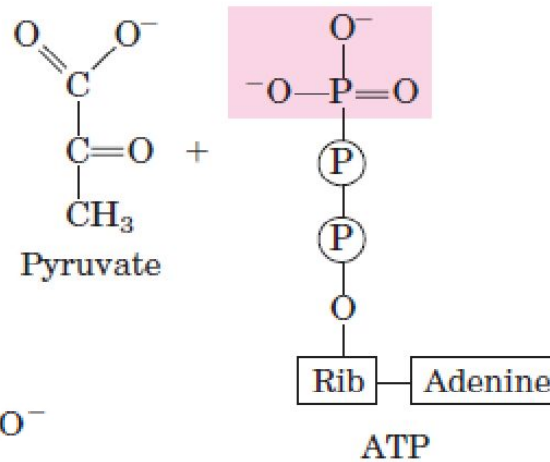


Основной этап

10



Mg^{2+}, K^{+} pyruvate kinase



$$\Delta G'^{\circ} = -31.4 \text{ kJ/mol}$$

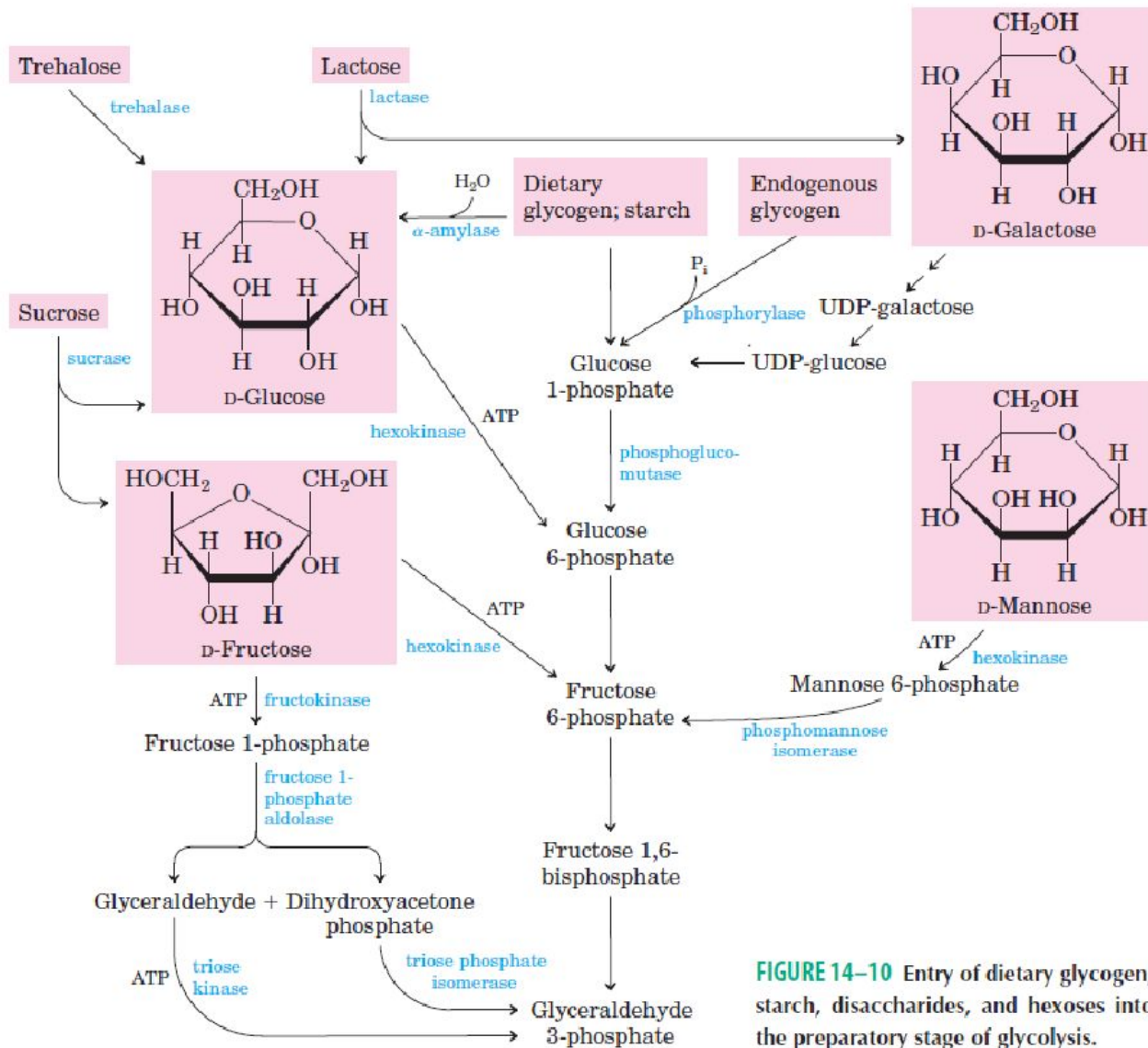
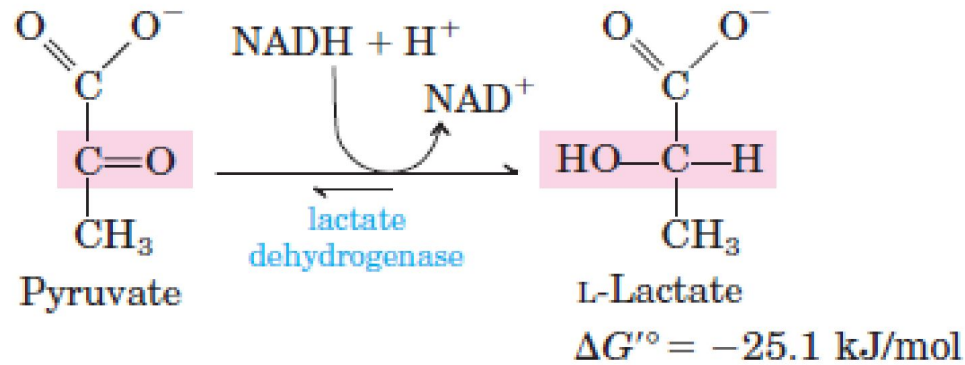


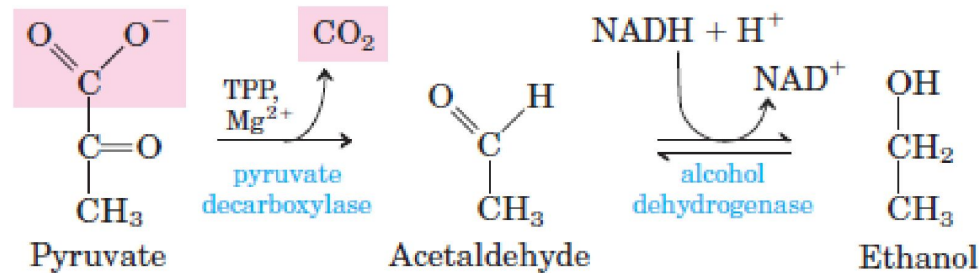
FIGURE 14-10 Entry of dietary glycogen, starch, disaccharides, and hexoses into the preparatory stage of glycolysis.



Молочнокислое брожение



Спиртовое брожение



Ацетобутановое брожение *Clostridium*

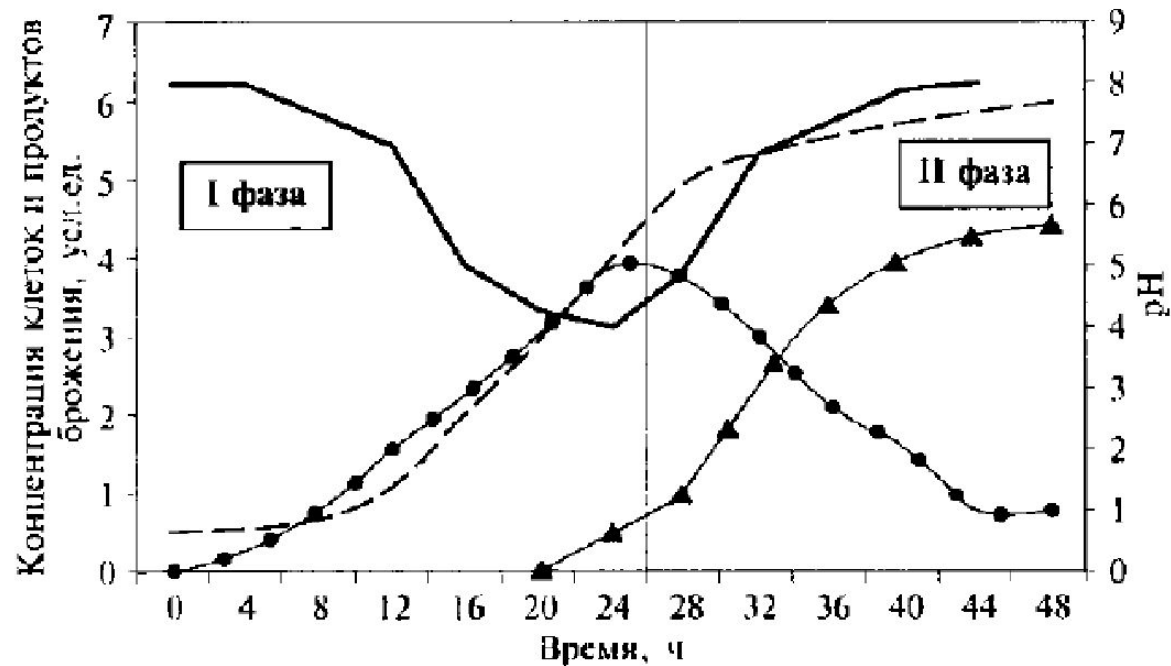
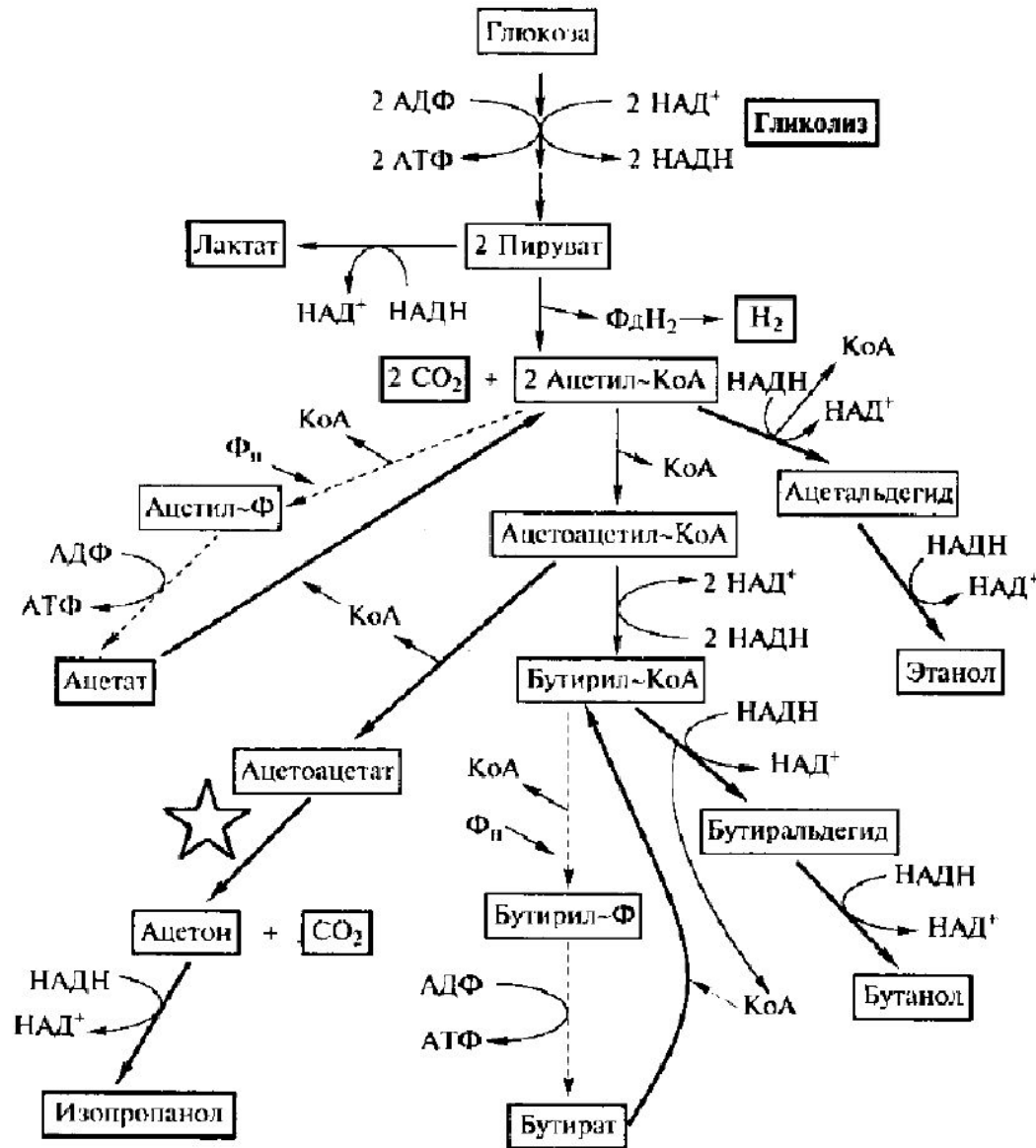


Рис. 95. Двухфазное маслянокислое и ацетонобутиловое брожение клостридий (— — — биомасса; ▲ — нейтральные продукты; ● — кислоты; — — — pH)

Ацетобутановое брожение *Clostridium*



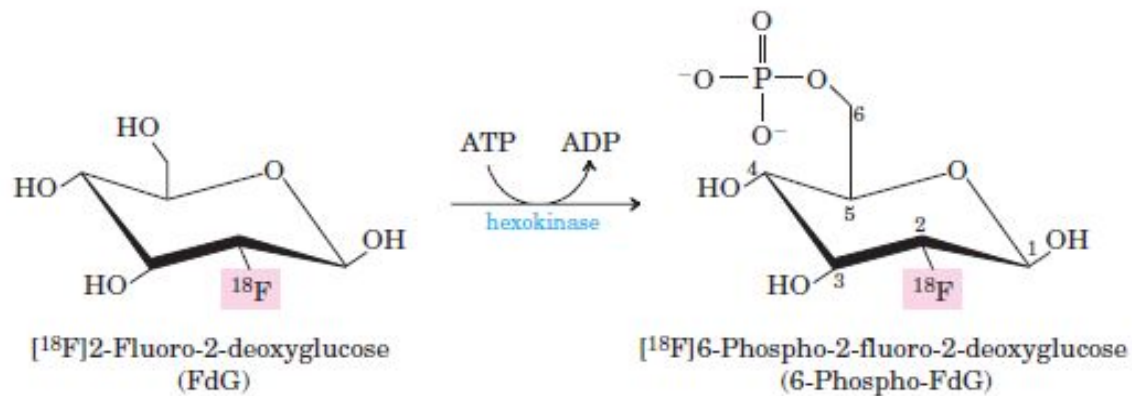
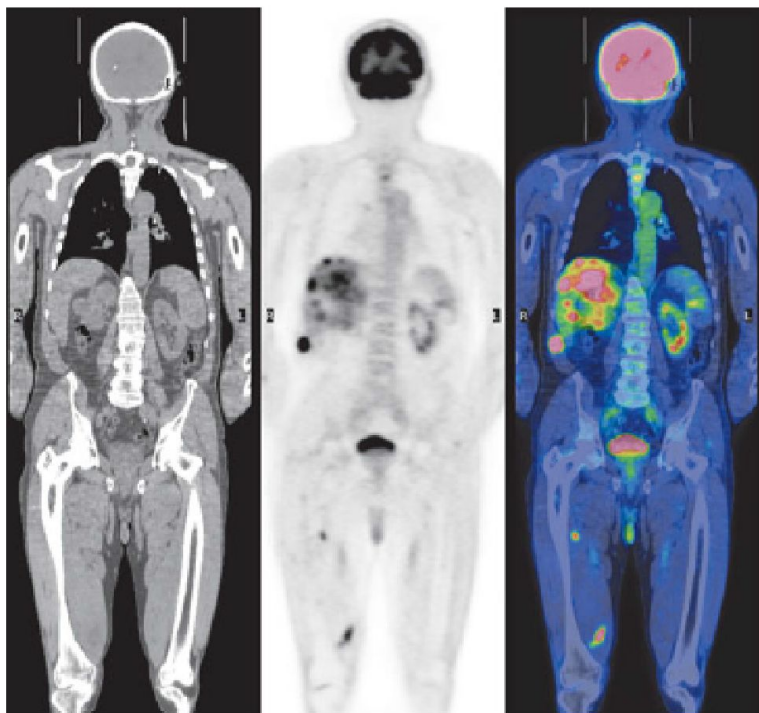
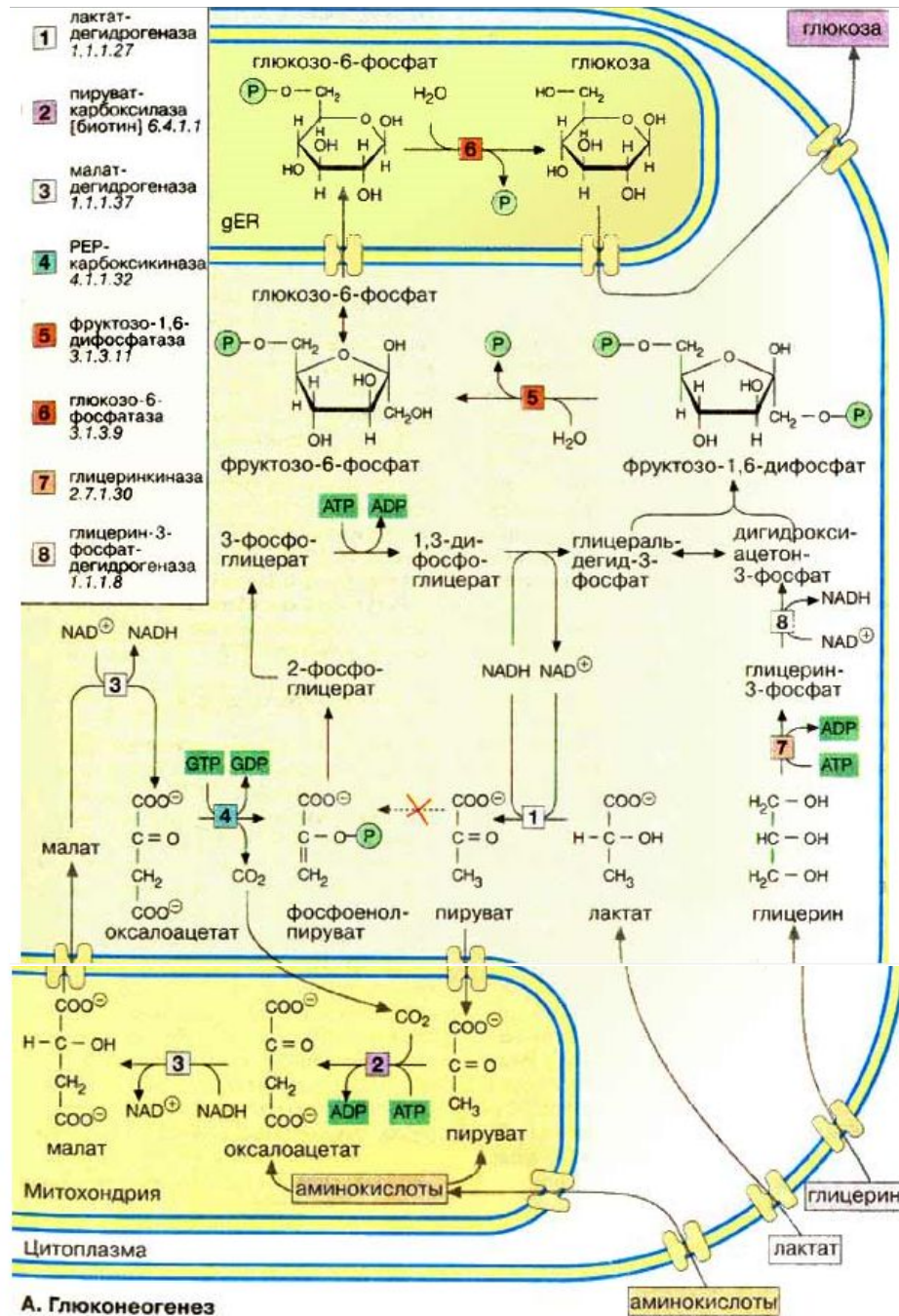


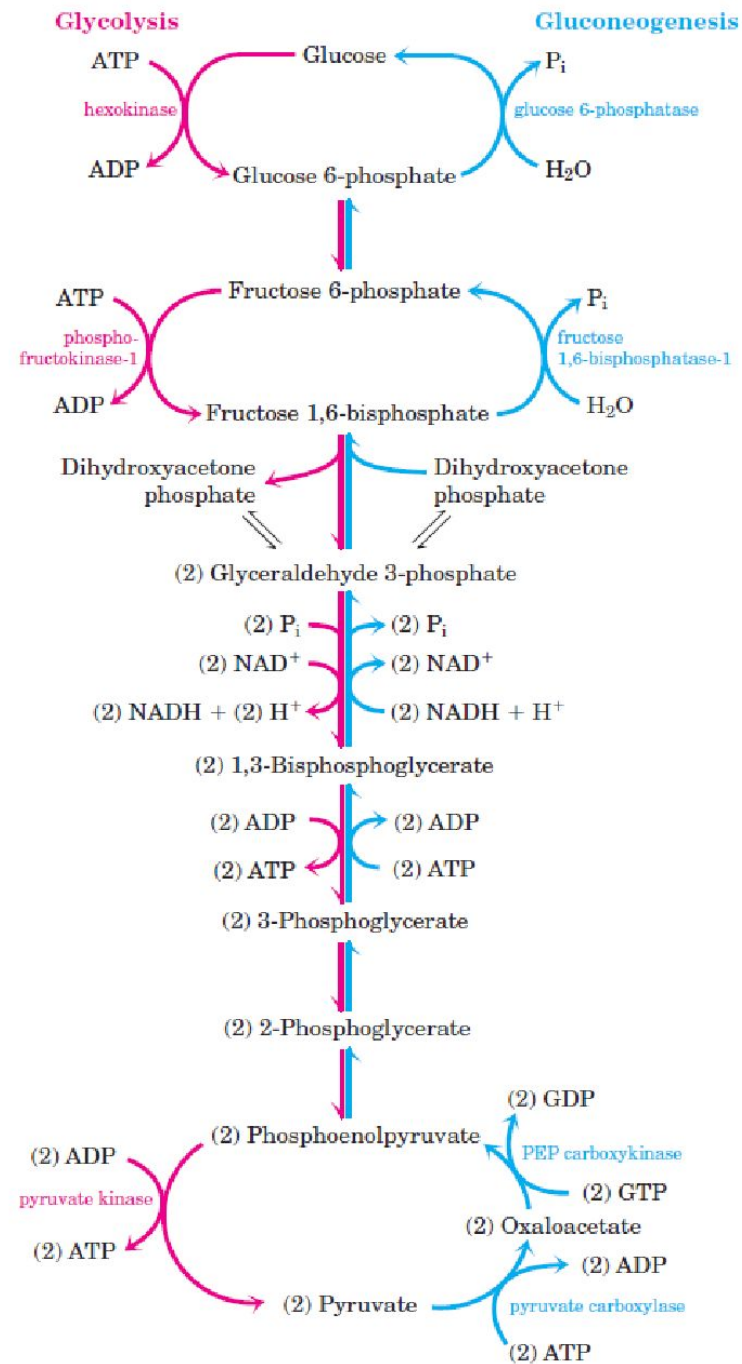
FIGURE 2 Phosphorylation of ^{18}F -labeled 2-fluoro-2-deoxyglucose by hexokinase traps the FdG in cells (as 6-phospho-FdG), where its presence can be detected by positron emission from ^{18}F .

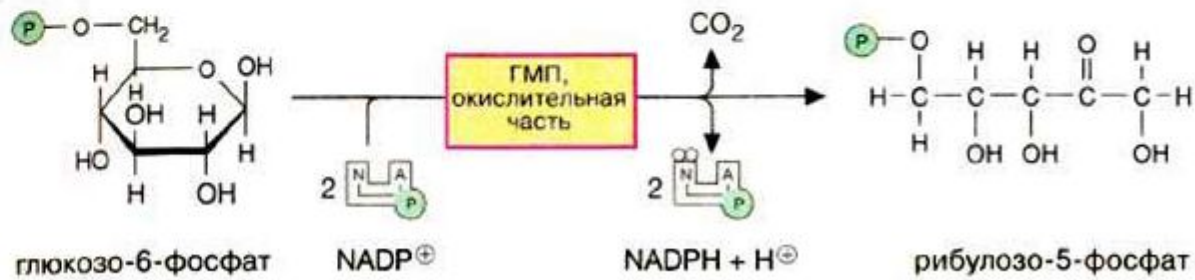


Глюконеогенез



А. Глюконеогенез





А. Гексозомонофосфатный путь: окисление

