

# DIABETES MELITUS (DM)

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# DEFINITION

DIABETES MELITUS :  
THE HIGH LEVEL BLOOD  
GLUCOSE BY ABNORMALITIES  
METABOLISM

# TYPE OF DIABETES MELITUS

1. DIABETES MELITUS TYPE 1
2. DIABETES MELITUS TYPE 2

# DIABETES MELITUS TYPE 1

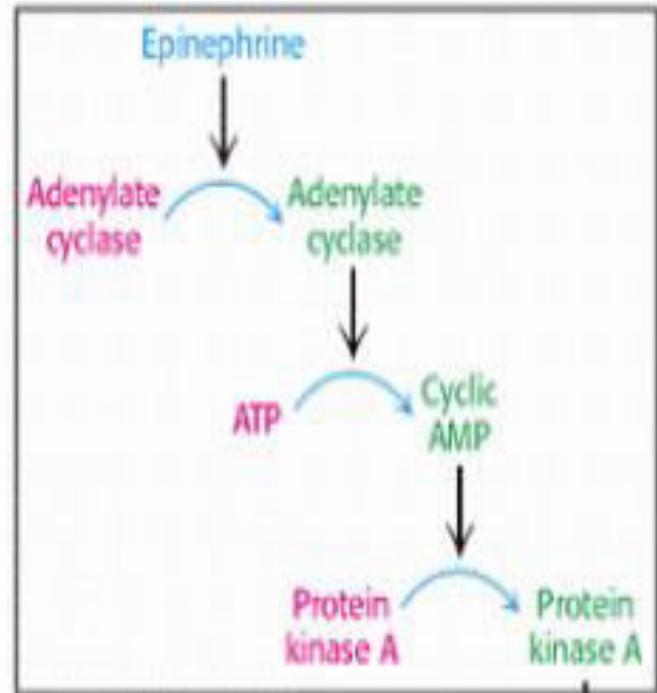
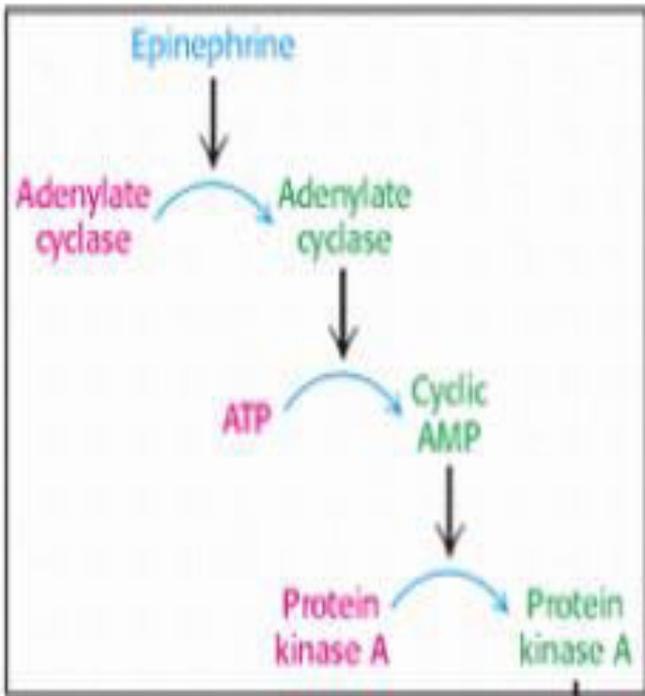
- Called IDDM (INSULIN DEPENDENT DIABETES MELITUS)
- the beta cell pancreas undergoes an autoimmune attack by the body itself, and is rendered incapable of making insulin
- Inheritance Disorder

# DIABETES MELITUS TYPE 1

- Improving hormone Glucagon and Epinephrine
- Increasing Glycogenolysis
- Increasing Gluconeogenesis

# Increasing Glycogenolysis

## Activating Phosphorylase & deactivating Glycogen Synthase



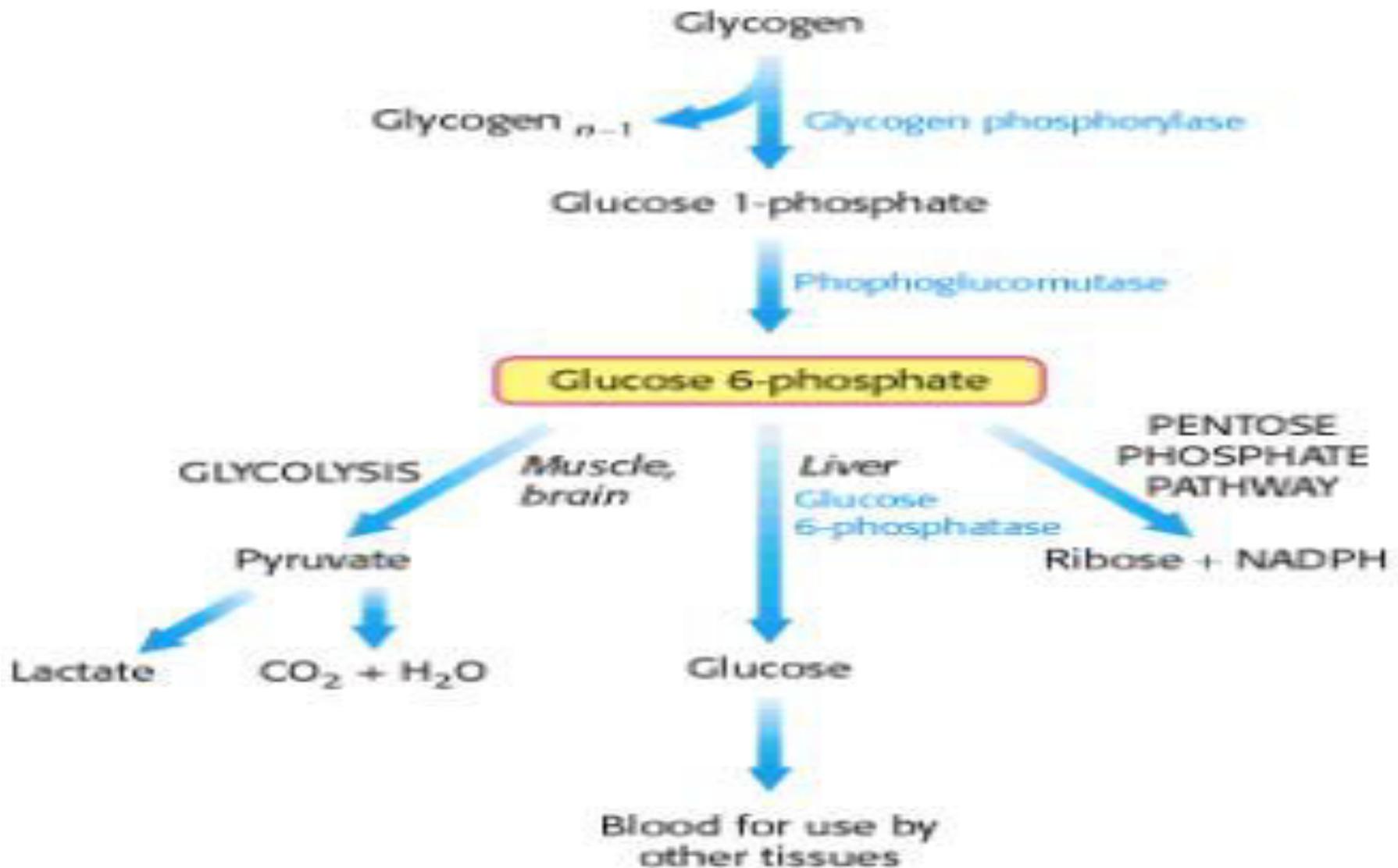
(A)

(B)

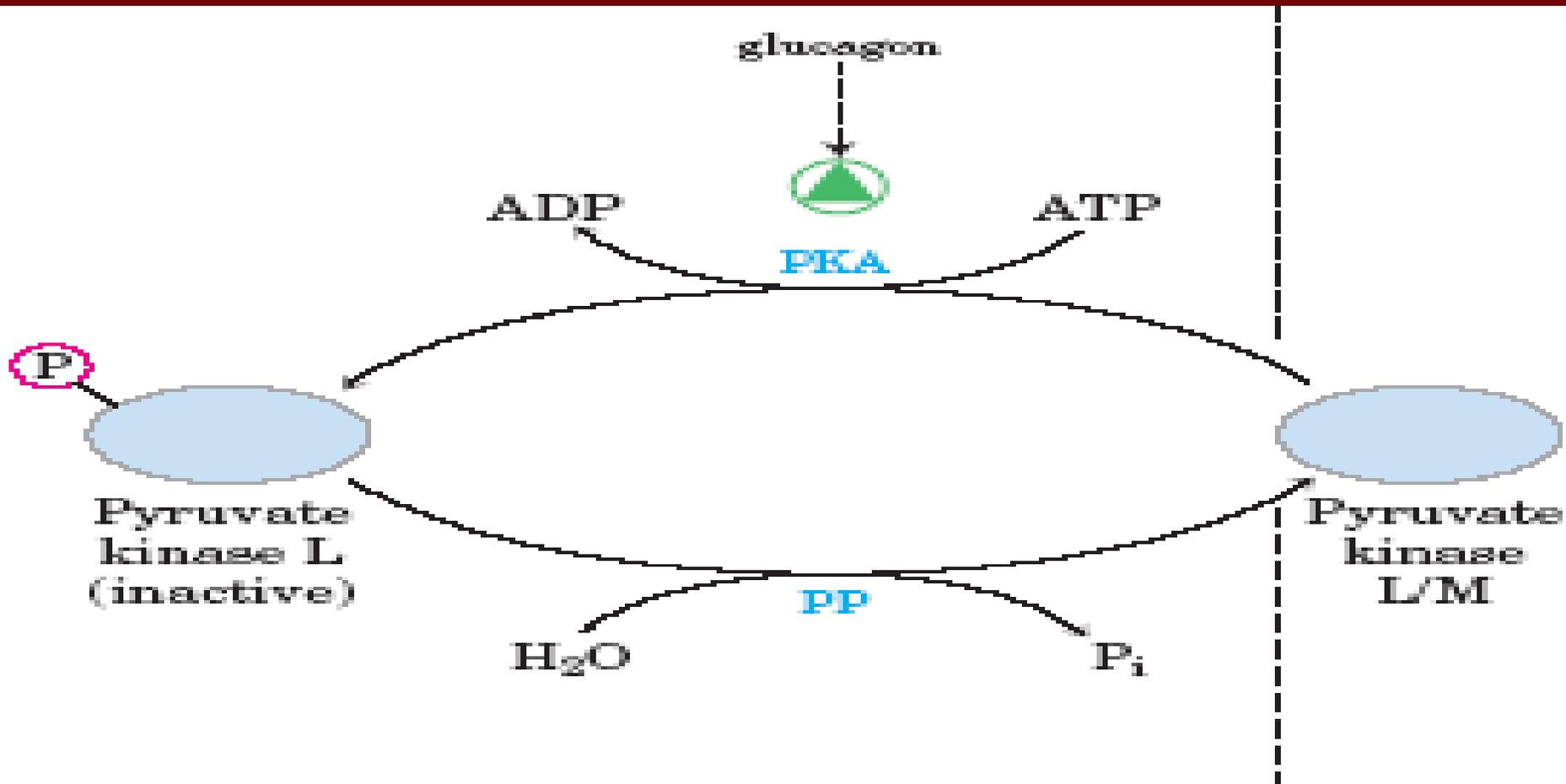
Green = active

red = inactive

# Increasing Glycogenolysis

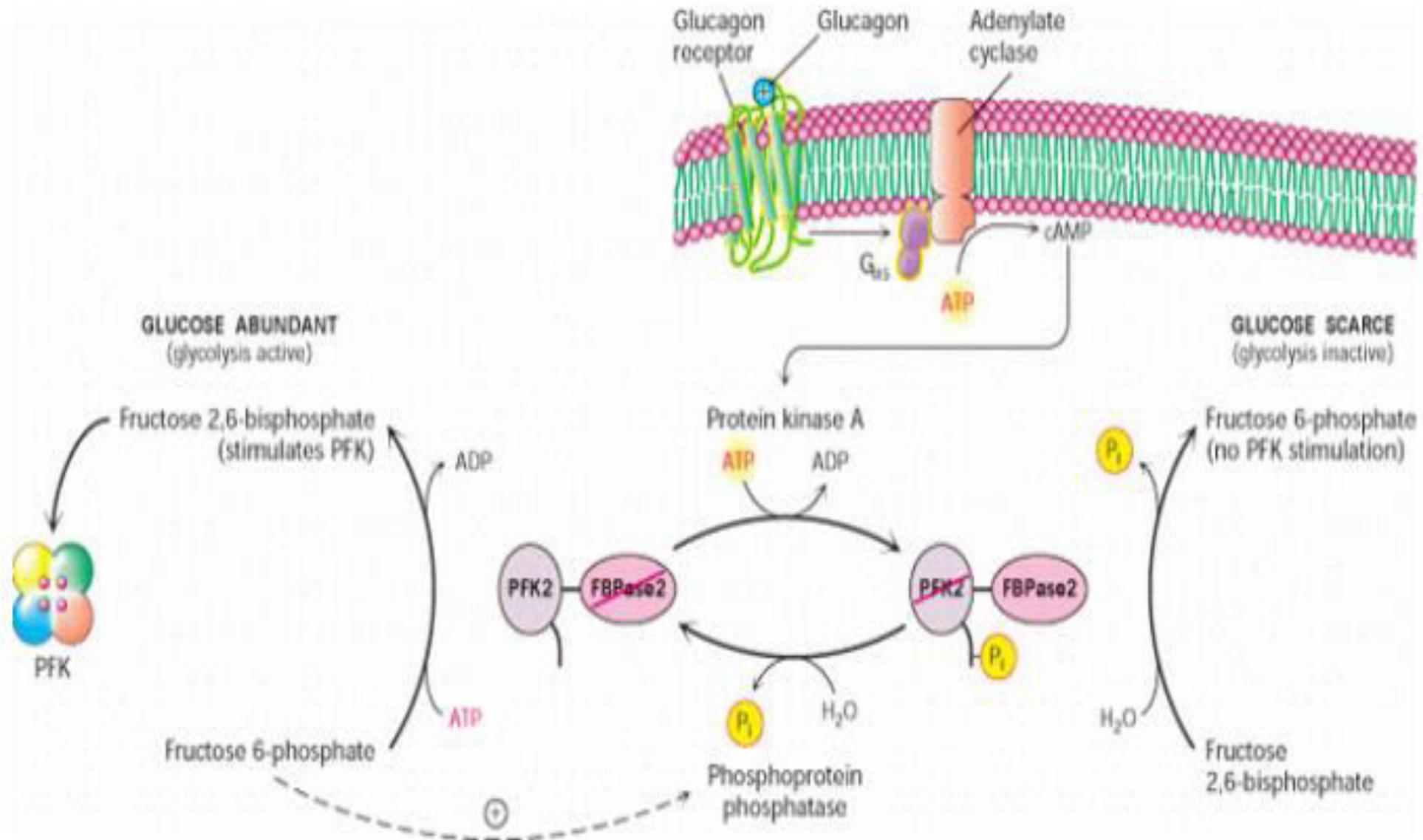


# INCREASING GLUCONEOGENESIS deactivating Pyruvate Kinase

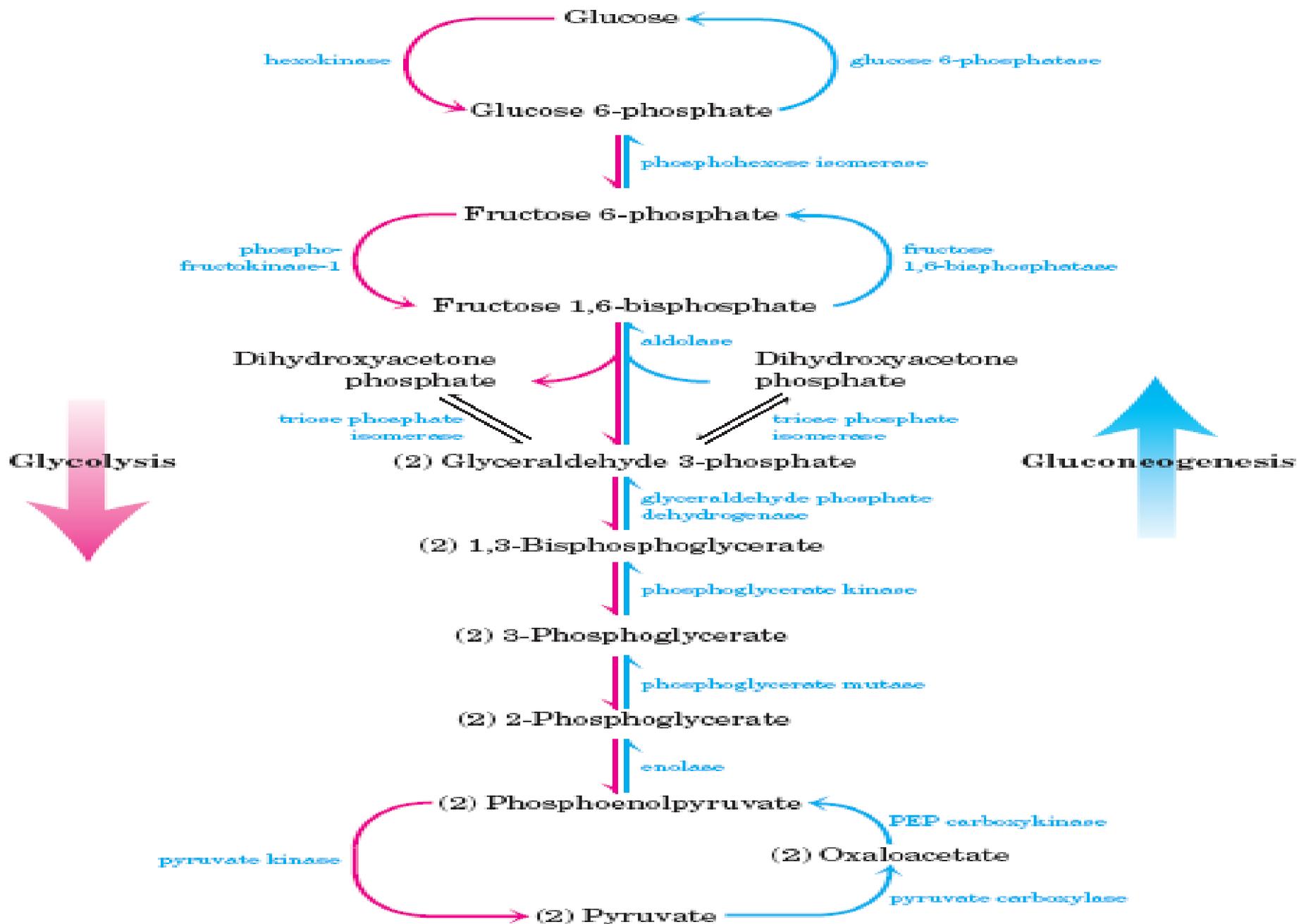


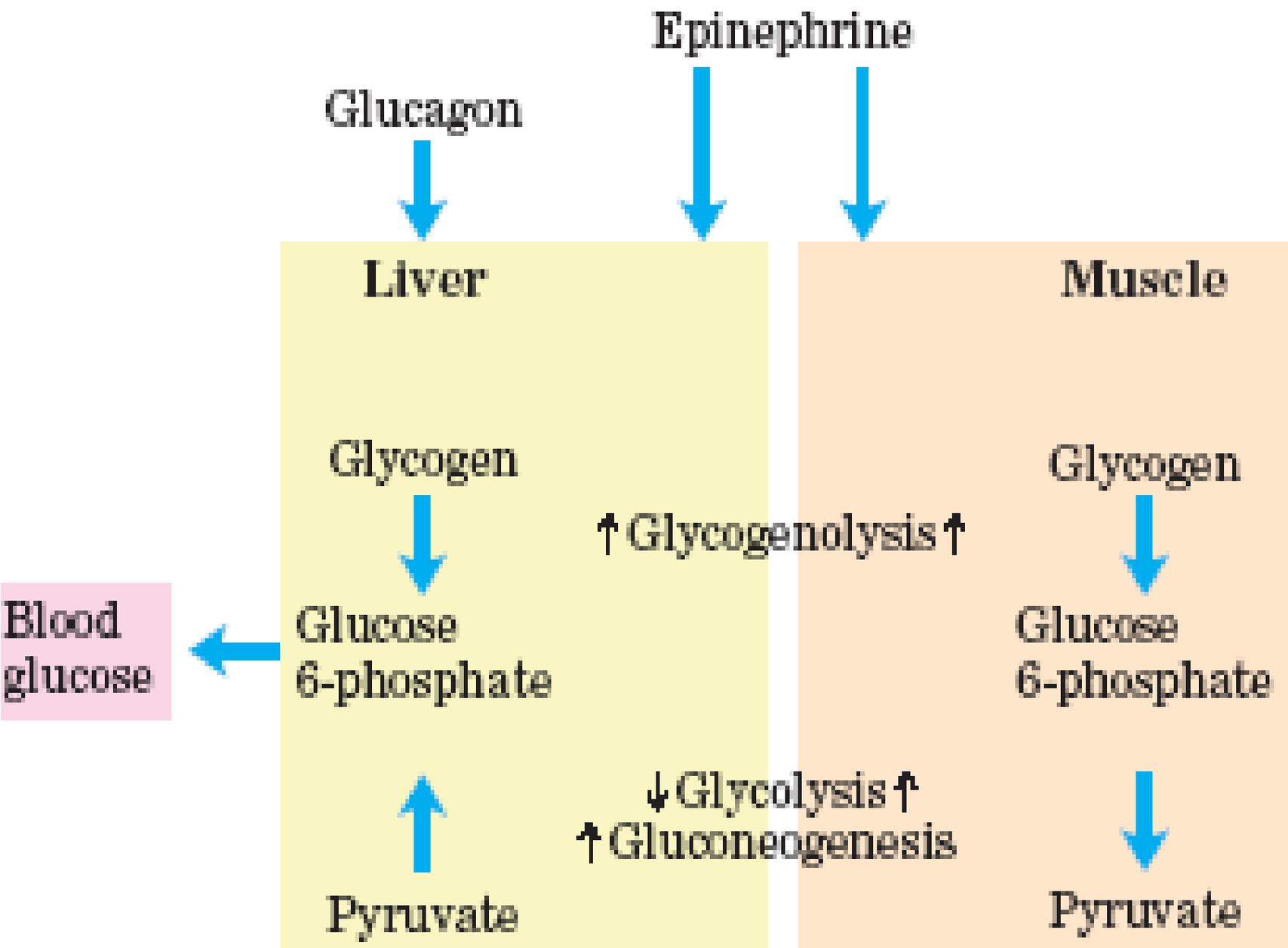
# INCREASING GLUCONEOGENESIS

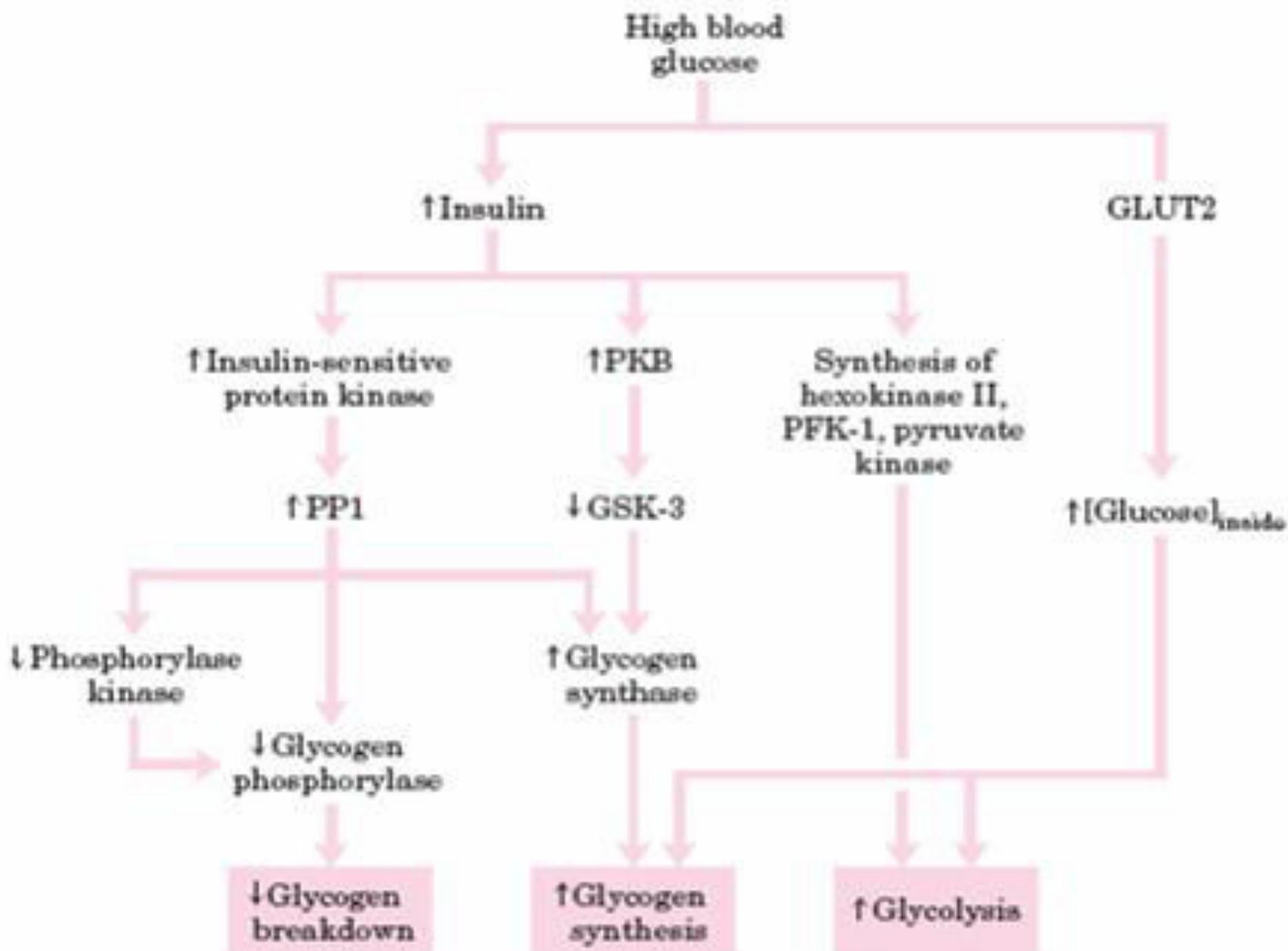
deactivating Phosphofruktokinase activating fructose -1,6-bisphosphatase

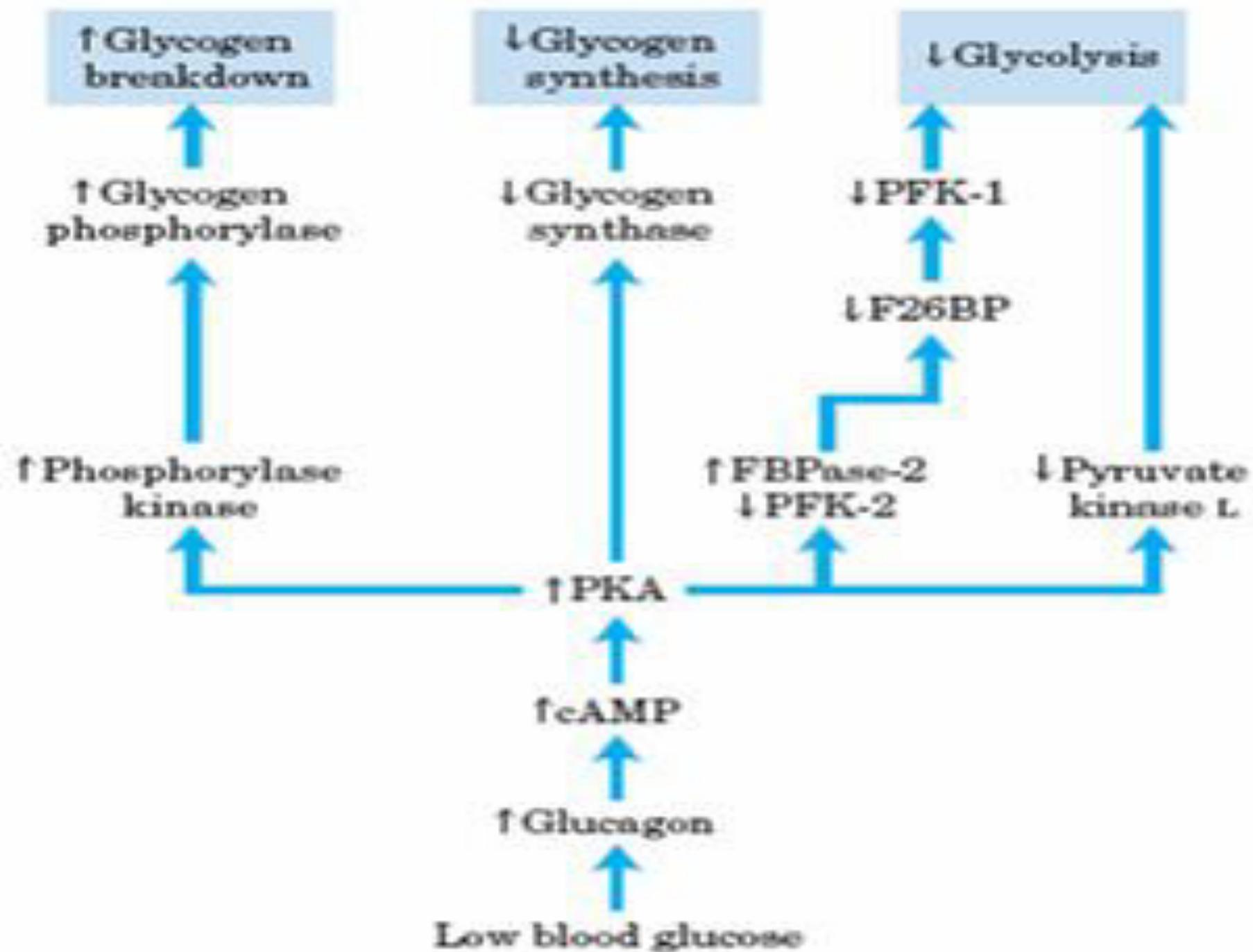


# INCREASING GLUCONEOGENESIS









# DIABETES MELITUS TYPE 2

- Called NIDDM (NON-INSULIN DEPENDENT DIABETES MELITUS)
- Caused by :
  - Insulin Resistance (Hyperinsulinemia)
  - Inadequate of secretion insulin

# DIABETES MELITUS TYPE 2

- Increasing of glucose in hepar
- Deficiency insulin secretion by pancreas
- Improving hormone Glucagon and Epinephrine
- Increasing Gluconeogenesis
- Increasing Glicogenolysis

# MEDICATION

- DM 1 :  
Injection of insulin to our body
- DM 2 :
  - With consume medicine
  - Injection of insulin to our body

# References

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- Laemmerhofer M. et al. 2013 Metabolomics in Practice: Successful Strategies to Generate and Analyze Metabolic Data Wiley
- Mathews C.K. et al. 2000 Biochemistry Benjamin Cummings
- Murray R.K. et al. 2012. Harper's Illustrated Biochemistry. 29<sup>th</sup> edition. McGraw Hill Medical.
- Nelson D.L and Cox M.S. 2008. Lehninger Principles of Biochemistry. 5<sup>th</sup> edition. W.H Freeman.

**THE END**

**THANKS**