

Life cycle of Glucose in Humans

SMPatel

Sources of Glucose

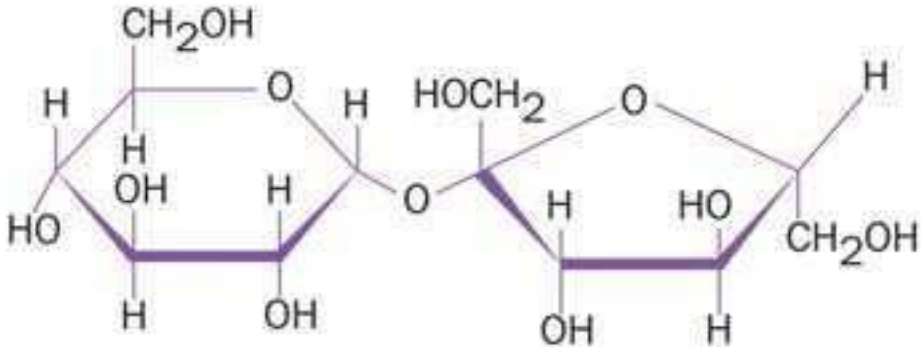
Makkhan Bhog **Agra Sweets**
Milk Palace



You are here

Sucrase, Intestinal Mucosa

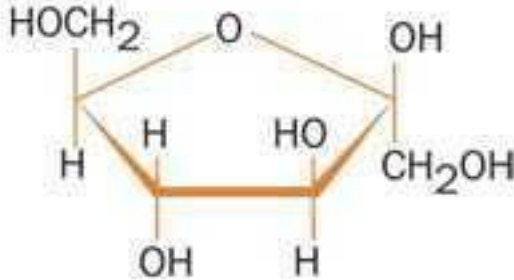
Sucrose



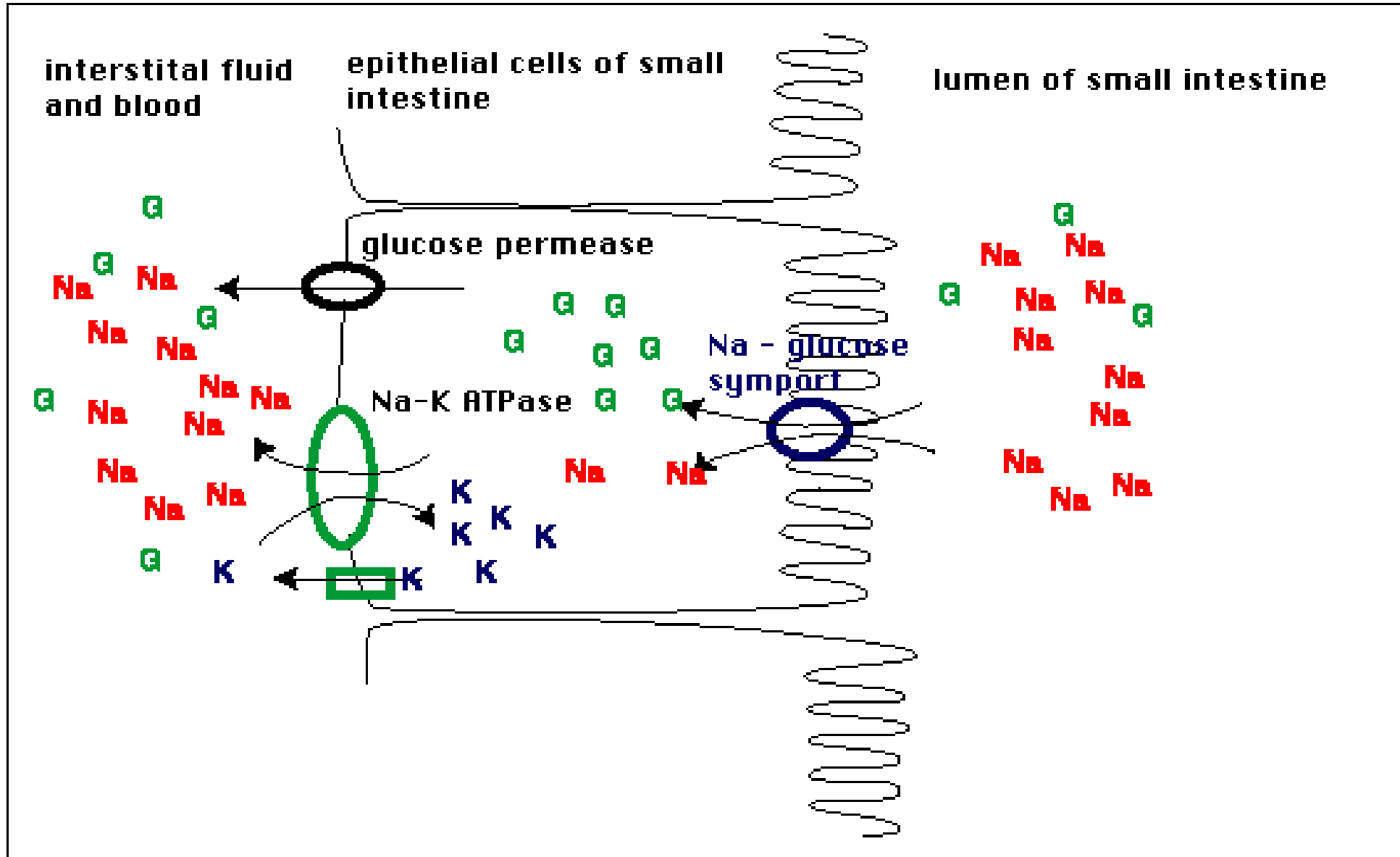
Glucose



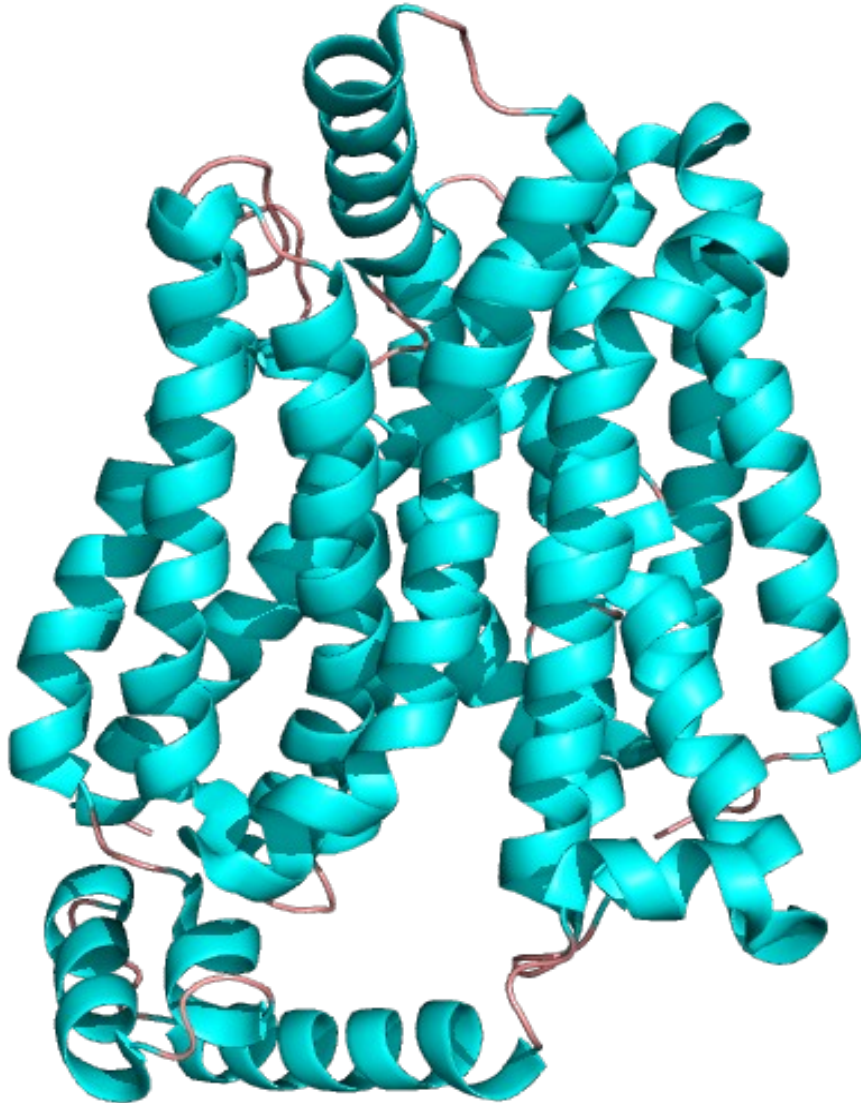
Fructose



Na⁺ Glucose Co-transporter



Glucose enter the cell

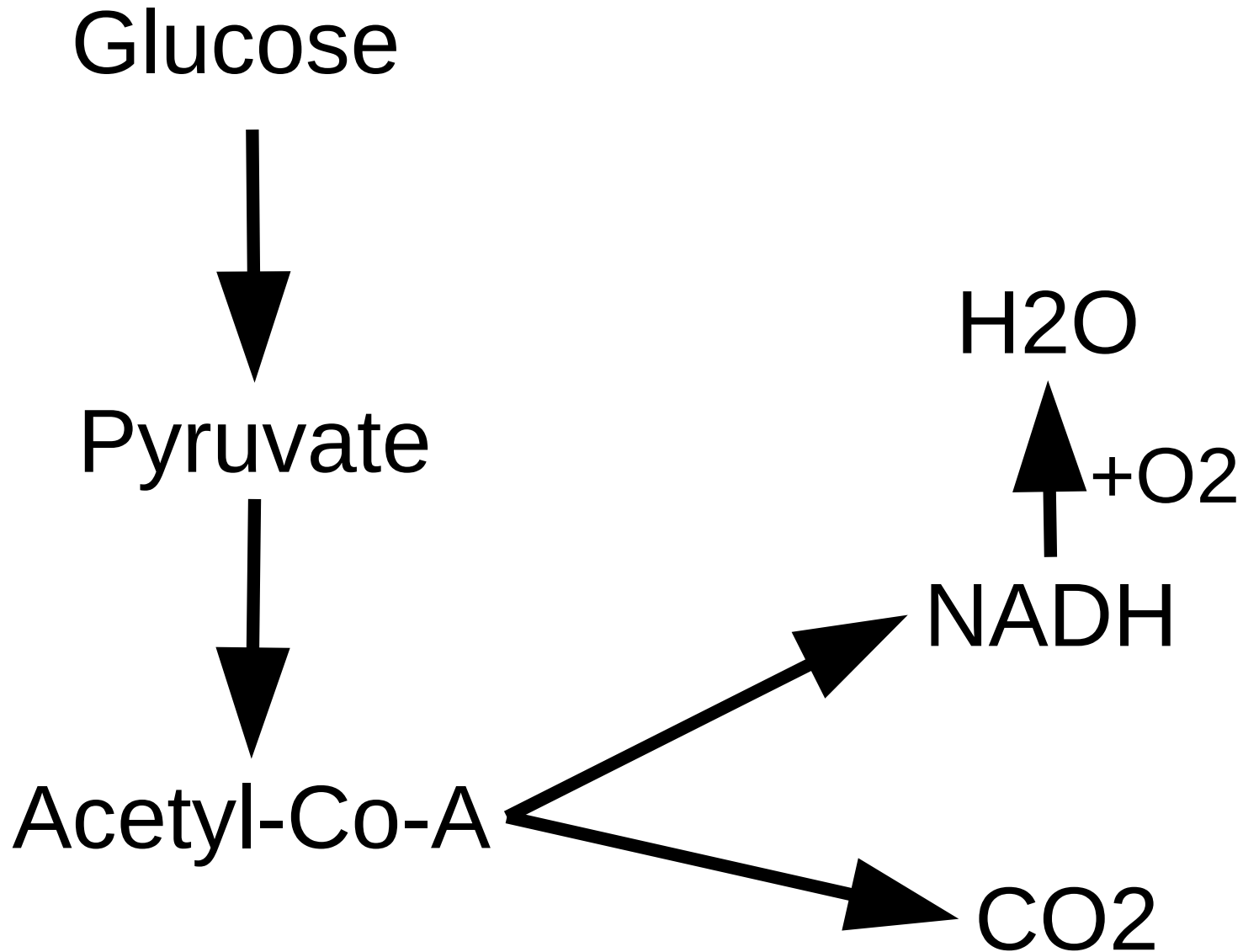


GLUT

Glucose
Transporter

Uniport

Glucose in the Cell



Glucose -> H₂O + CO₂

H₂O: How it leave Body?

CO₂: How it leave body?

How much water produced per day?

Requirement of energy kCal/day

gm of Glucose required

Glucose MW

mol of Glucose required

Glucose \rightarrow 6CO₂ + 6H₂O

mol Water required

H₂O MW

gm of H₂O required

How much water produced per day?

2000 kCal/day

$2000/4=500$ gm Glucose

Glucose MW 180

$500 \text{ gm} = 2.8 \text{ mol}$

Glucose \rightarrow $6\text{CO}_2 + 6\text{H}_2\text{O}$

$2.8 \times 6 = 16.8$ mol Water

H₂O MW 18

$18 \times 16.8 = 300$ gm

Glucose in the Cell

Glucose

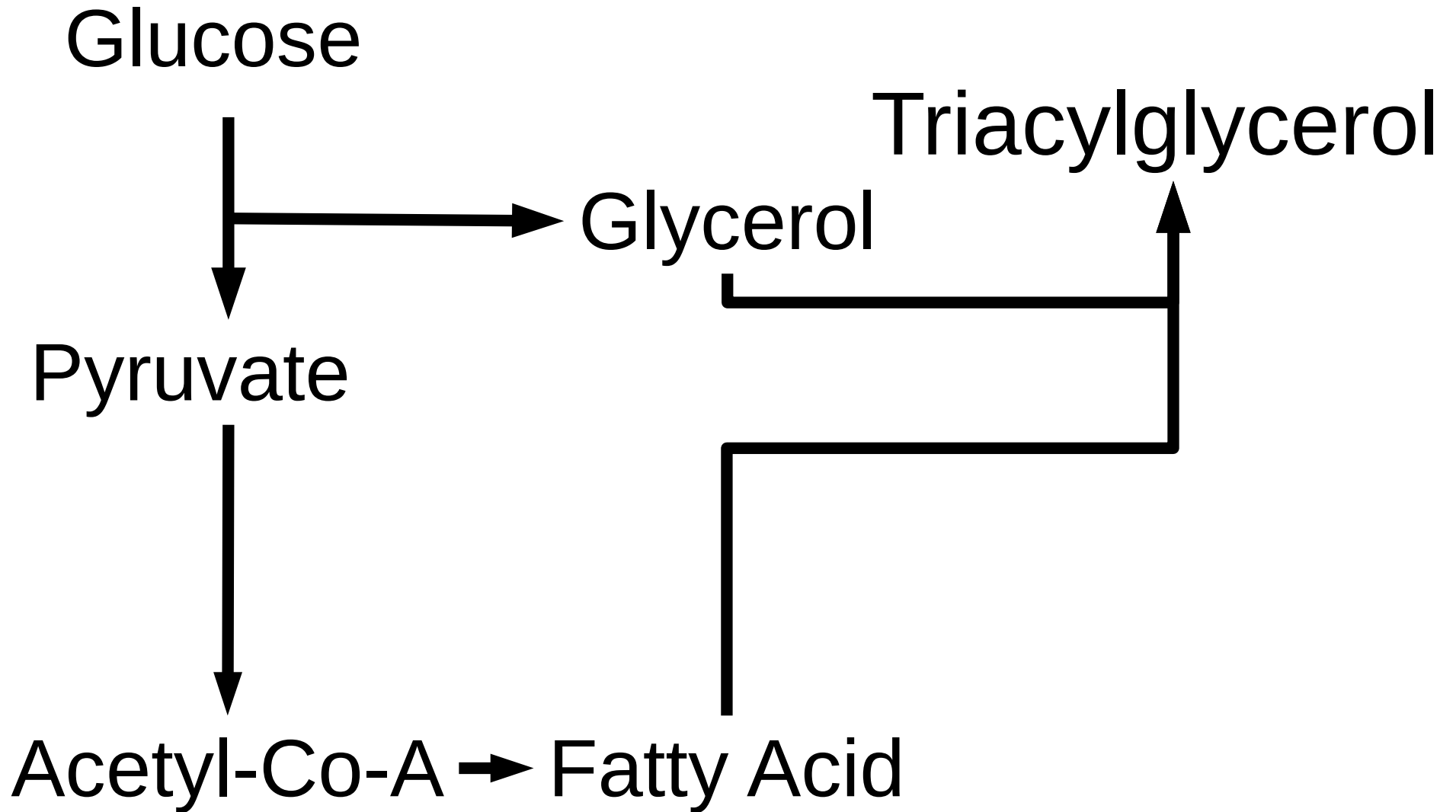


Glycogen

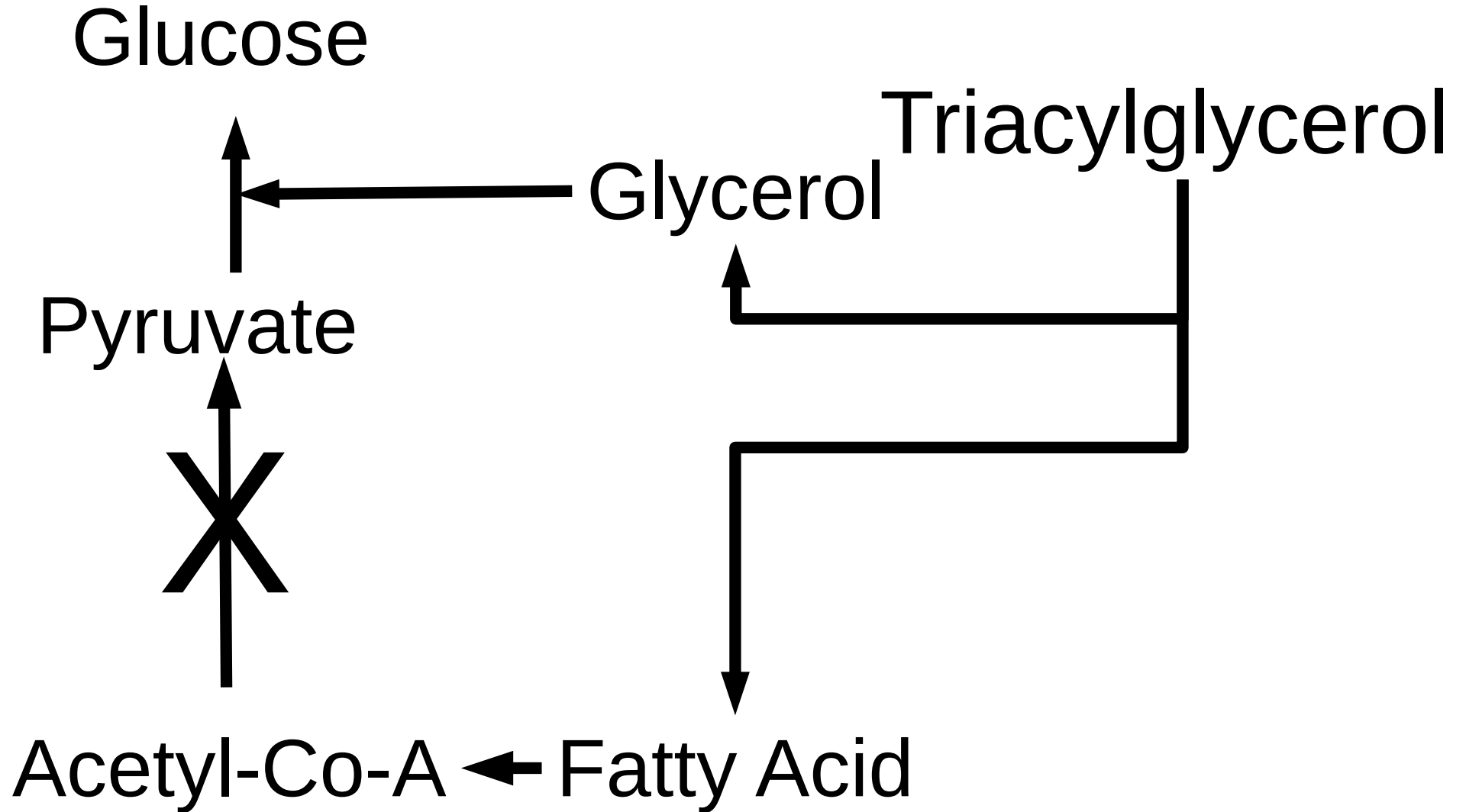


Glucose

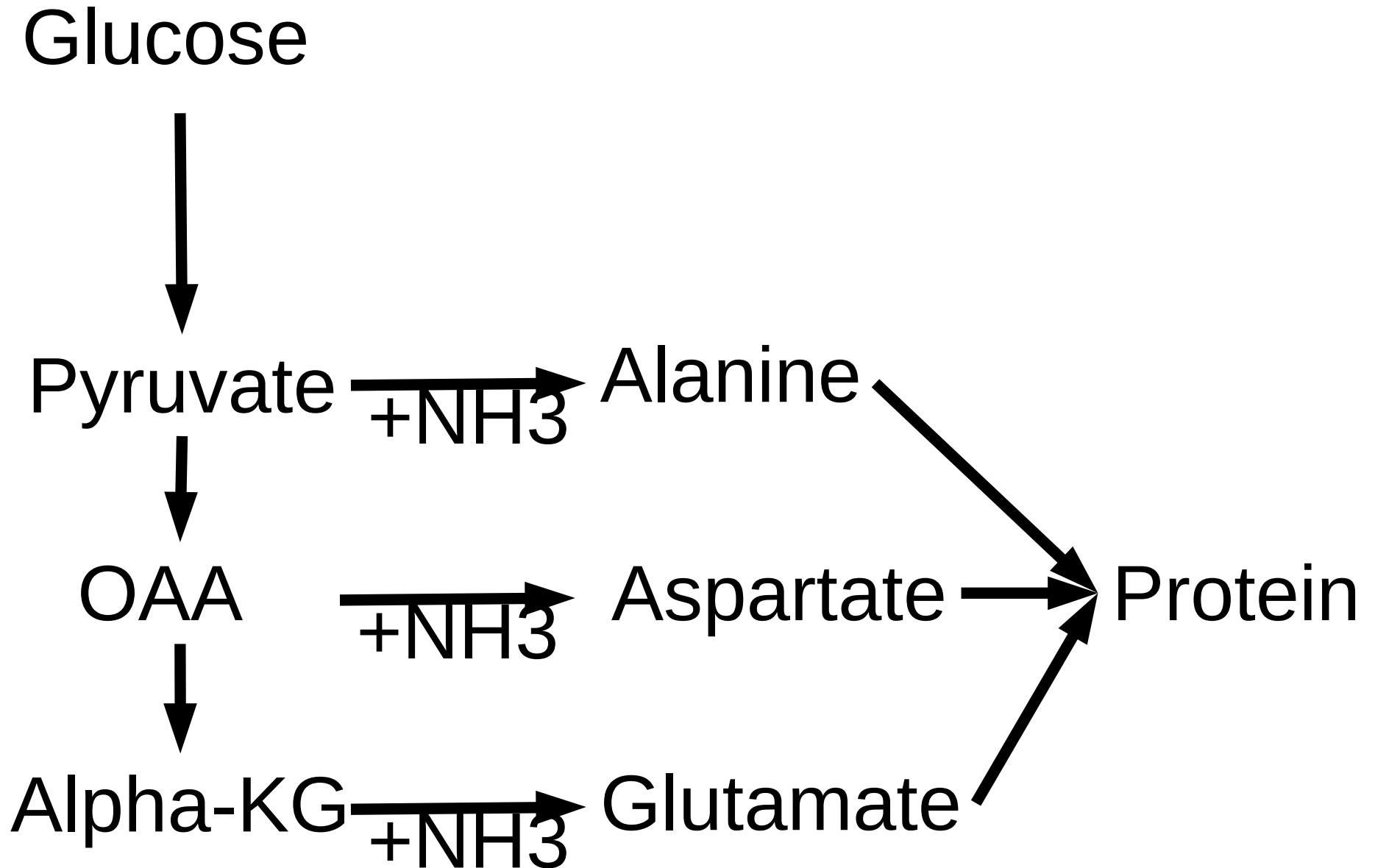
Glucose in the Cell



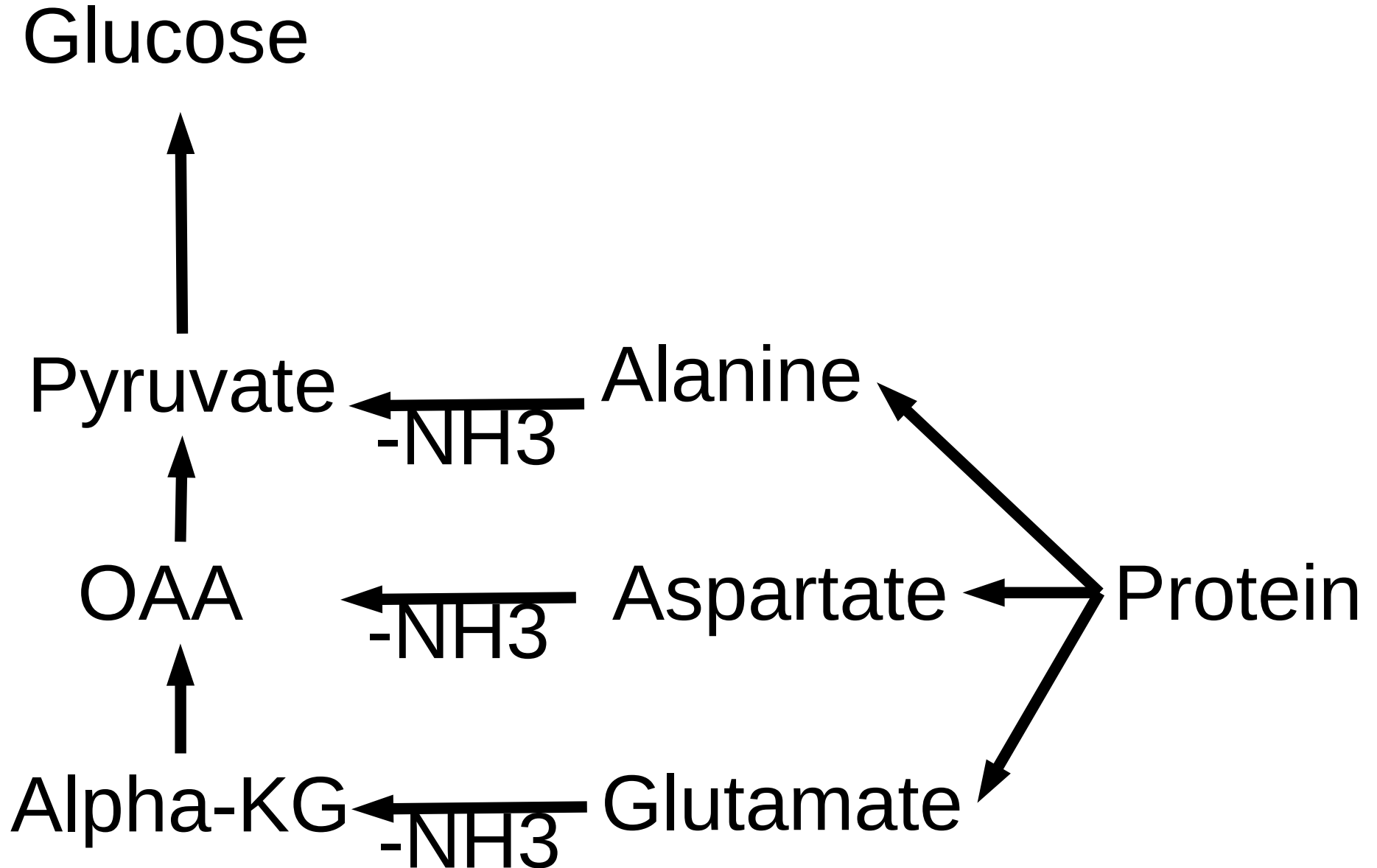
Glucose in the Cell



Glucose in the Cell



Glucose in the Cell



Food

Life of Glucose

Glucose

FA

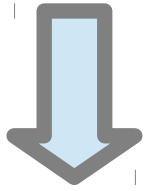
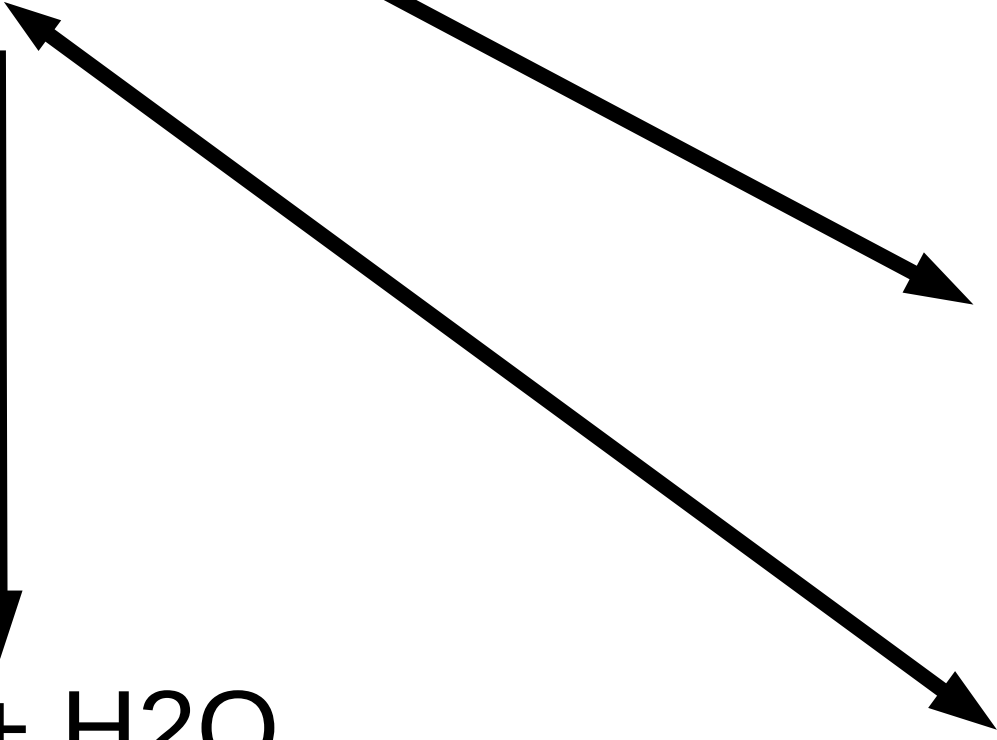
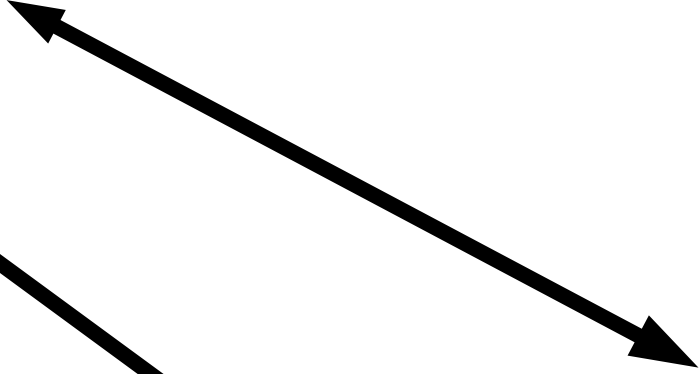
TG

Glycerol

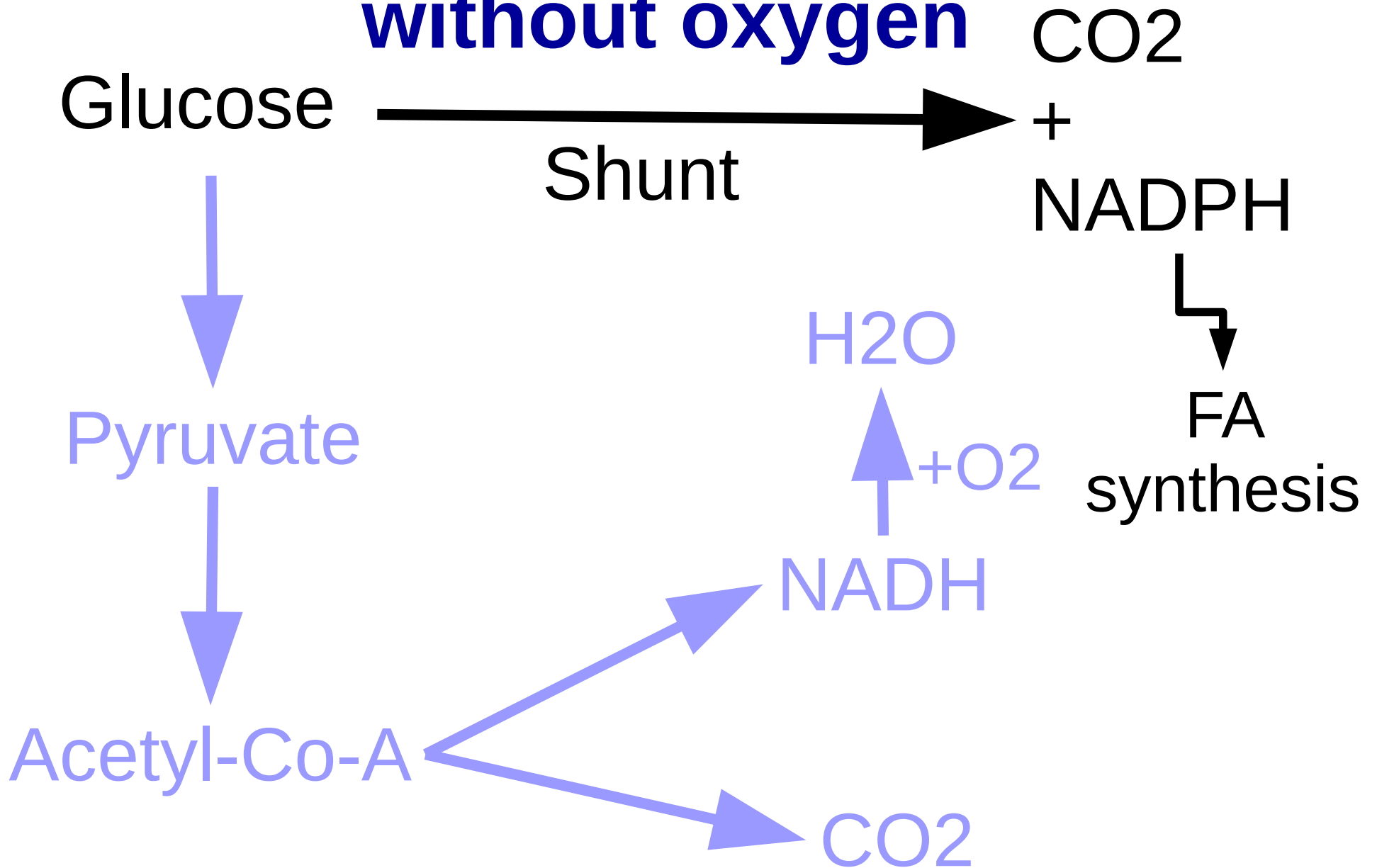
Protein

CO₂ + H₂O

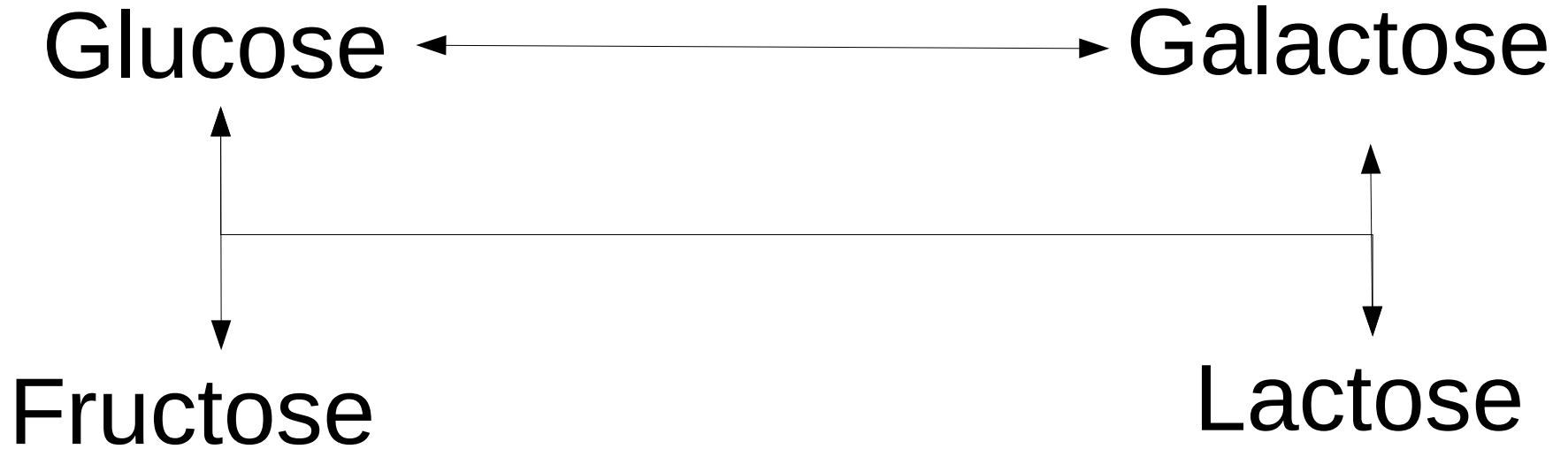
Lung, Urine



Glucose Oxidation without oxygen



Mono/disaccharide interconversion



Maltose ??

Sucrose ??

Boring pathways of sweet glucose

- Chemistry, Nutrition, Digestion, Absorption
- Glycolysis
- Glycogen synthesis
- Glycogenolysis
- Gluconeogenesis
- Hexose Monophosphate (HMP) Shunt
- Interconversion among mono/disaccharides

Carbohydrate Metabolism

Always understand, never remember

**IF GLYCOLYSIS IS THE
DESTRUCTION OF GLUCOSE**



**THEN WHAT IS
ANALYSIS?**

Girl After Studying Organic Chemistry:

Rishtey wali Aunty: Beta kya kya Bna leti ho?

Larki: Phenol, Alcohol, Ketone, Glucose, etc.

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Why science teachers
should not be given
playground duty.



Aj k logon k blood me
glucose ho na ho attitude
zaroor hota hai.. 🧑

