

Quiz 4

Compare the pathway by which glucose is metabolized to that of fructose in a hepatocyte (liver cell) utilizing a diagram (flow chart) that includes correct chemical structures. Stop when the two paths converge.

Flow chart should include structures

Glucose → glucose-6-phosphate → fructose-6-phosphate → fructose-1,6-bisphosphate → glyceraldehyde-3-phosphate + dihydroxyacetone phosphate

Fructose → fructose-1-phosphate → dihydroxyacetone phosphate + (glyceraldehyde → glyceraldehyde-3-phosphate)

Why might you want to avoid a diet high in fructose?

Fructose catabolism within the liver bypasses the major regulatory step of glycolysis (phosphofructokinase-1). Even during a glucagon signaling event, fructose can still flow through pyruvate.