

Lipogenesis pathway

1 glucose

Glycolysis

↓ 2 pyruvate

"Extra glucose"



Liver converts glucose to pyruvate, then Acetyl CoA. Liver then converts Acetyl CoA into:

1. Cholesterol

2. Ketones

3. Fatty acids

Pancreatic hormone stimulus for liver to take up glucose =
insulin

This molecule the liver can convert into triglycerides (or white fat)



Glycogen metabolism

If insulin is present the liver takes up blood glucose and can undergo glycogenesis.

Glucose + Glucose



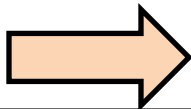
Glycogen

What enzyme is needed for this to happen?

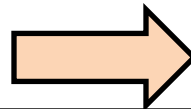
glycogen synthase

If glucagon is present, the liver can breakdown glycogen into free glucose (glycogenolysis)

Glycogen



Glucose 6 phosphate



free glucose

What enzyme is needed for this to happen?

glycogen phosphorylase

What enzyme does the liver have (but not skeletal muscles) for this to happen?

glucose 6 phosphatase