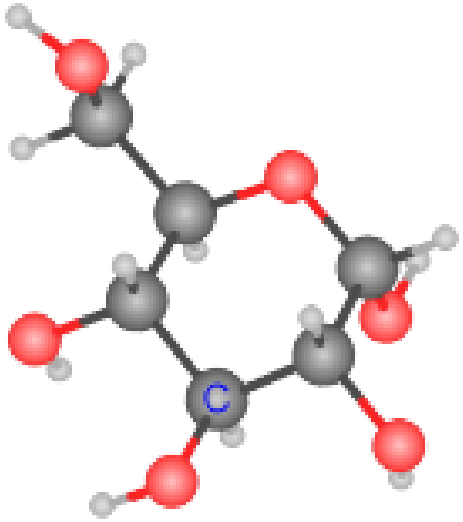
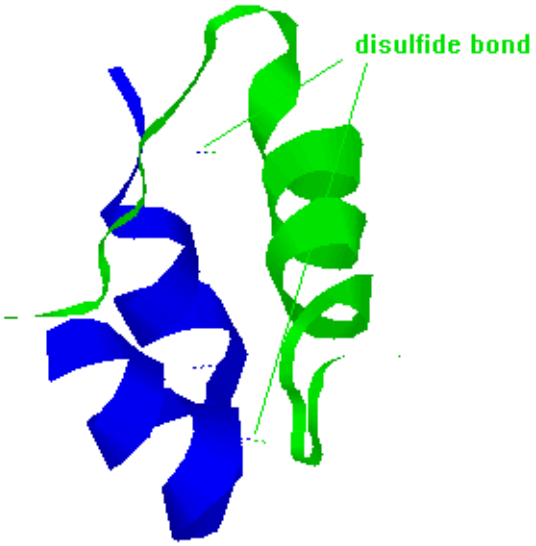
# Blood glucose level Homeostasis

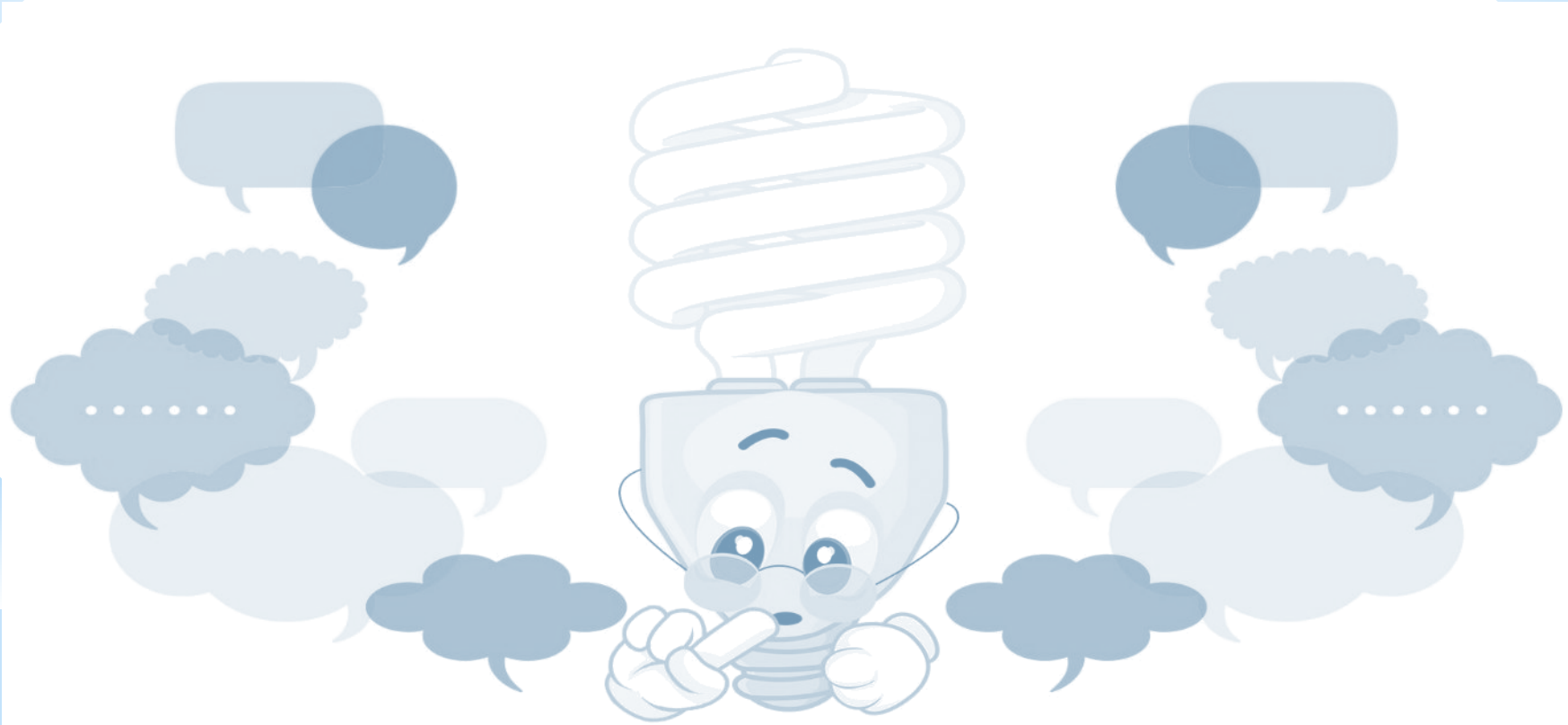




# Brainstorm

What do we know already

about the hormones which control blood glucose?



# Glucose containing molecules

Free glucose is stored in the body as glycogen

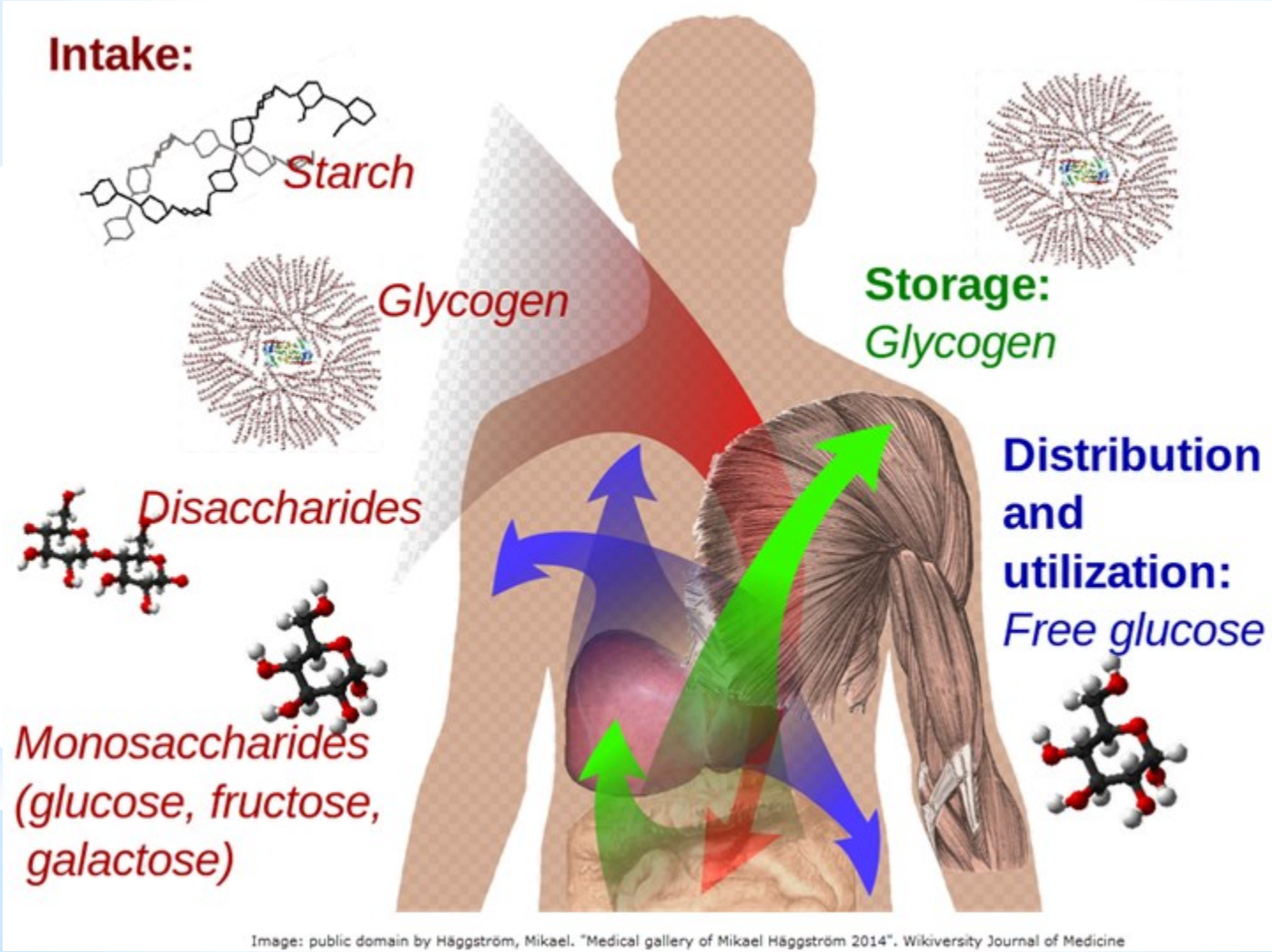



Image: public domain by Häggström, Mikael. "Medical gallery of Mikael Häggström 2014". Wikiversity Journal of Medicine

# Homeostasis & negative feedback

Explained simply:

Homeostasis is the maintenance of an internal condition within a narrow range of values.

More fully explained:

Homeostasis occurs by **negative feedback**:
A stimulus causes a response which reverses the stimulus.

For example

When blood glucose levels are high – insulin is produced which lowers blood glucose

# Two important hormones

| Hormone | Description | Overall effect |
|---|---|---|
| Insulin | Produced by β-cells in the islets of the pancreas.<br><br>Target cells = liver and muscle cells.<br><br>Effect – these cells absorb glucose from the blood and convert it to glycogen | Lowers blood glucose level |
| Glucagon | Produced by α-cells in the islets of the pancreas.<br><br>Target cells = liver and muscle cells.<br><br>Effect – these cells release glucose into the blood and convert glycogen to glucose | Raises blood glucose level |

# Insulin levels & glucose levels