

# Calories

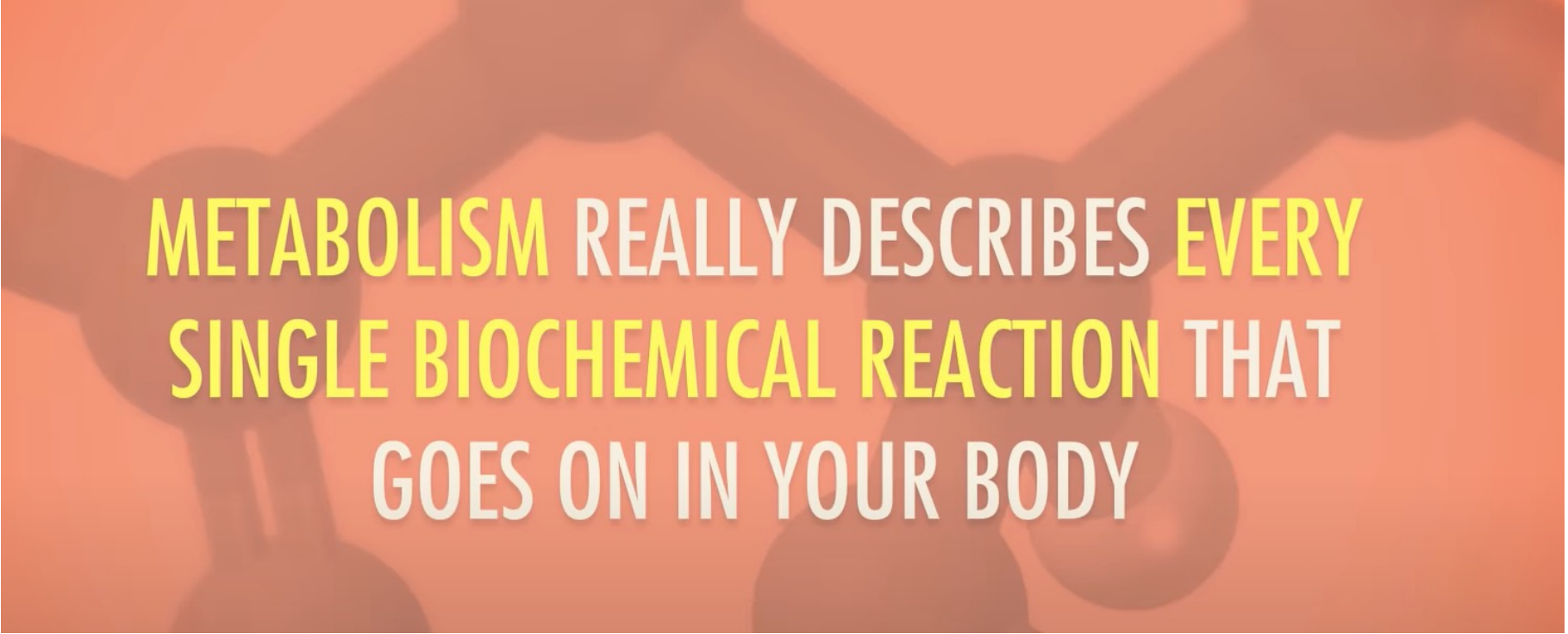
---

- Calories are a way of keeping track of our body's energy budget.
- 1 calorie = Energy required to increase the temperature of 1kg of water by 1 C.
- 10% Digestion; 20% Physical activity and 70% Basic Functions
- Basic functions = Basal Metabolic Rate

# What do cancer cells like to eat? How and why?

---

Go to **Mentimeter**; Code – 25 20 7712



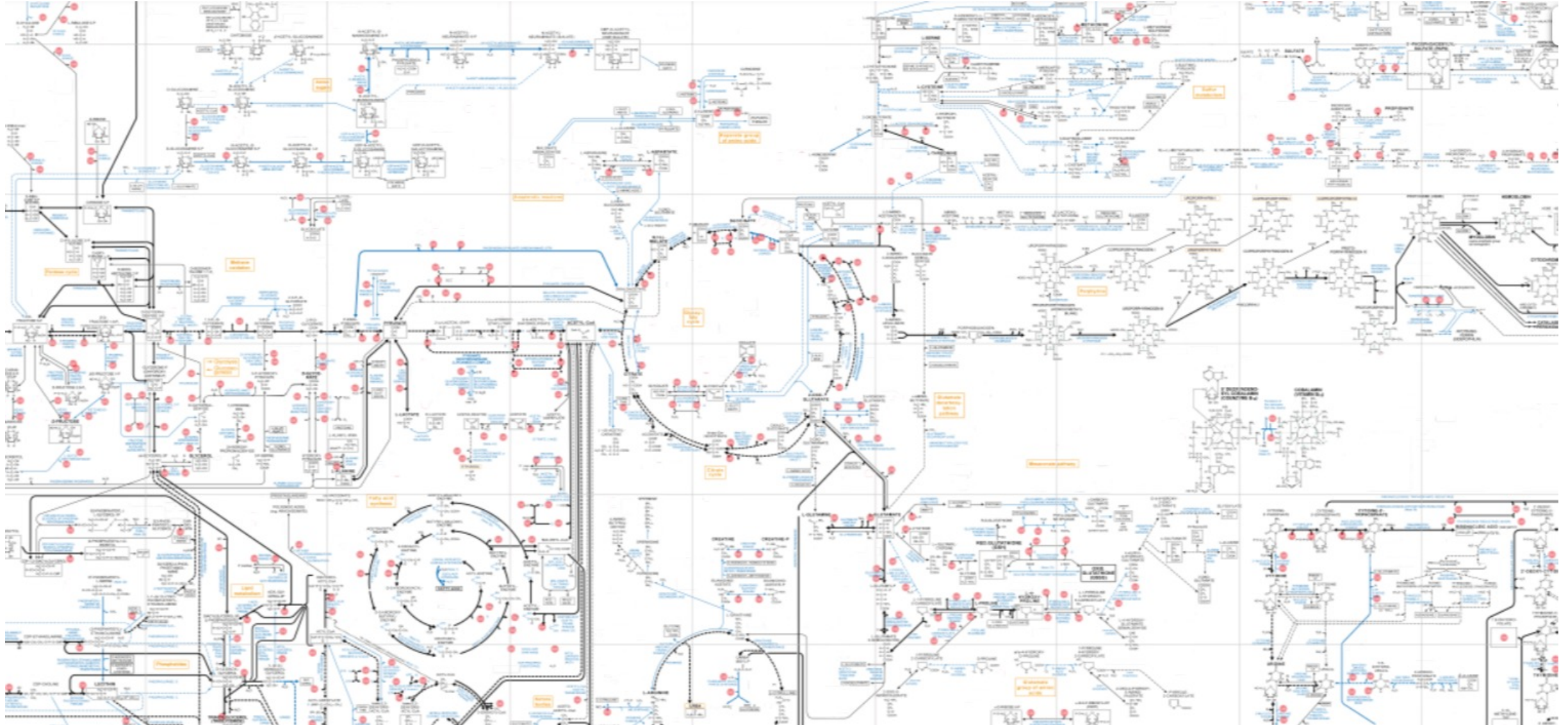
**METABOLISM** REALLY DESCRIBES **EVERY**  
**SINGLE BIOCHEMICAL REACTION** THAT  
GOES ON IN YOUR BODY

# Two important and conflicting processes

---



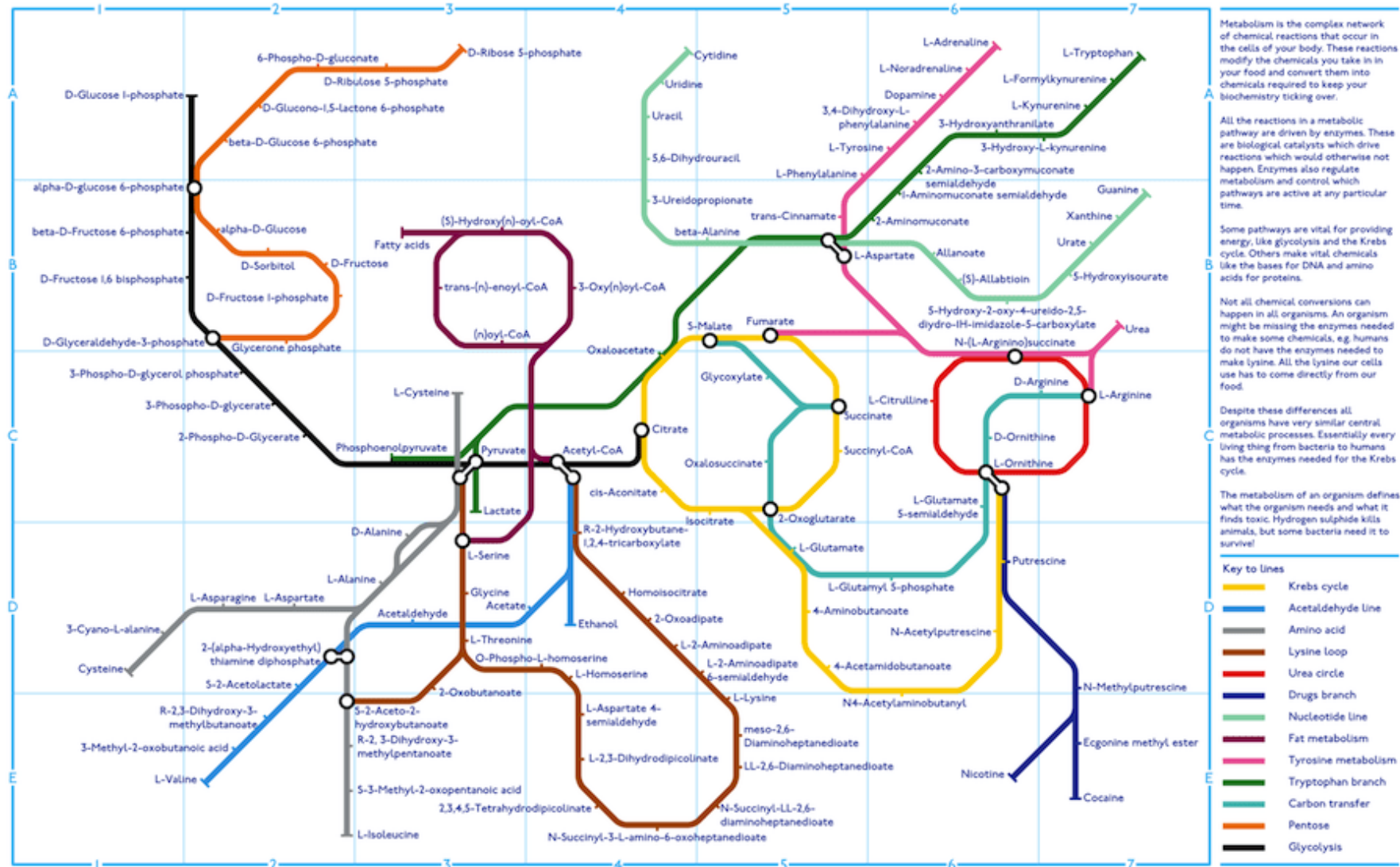
# Metabolic Complexity





# Metabolic Metro Map

Metabolism map



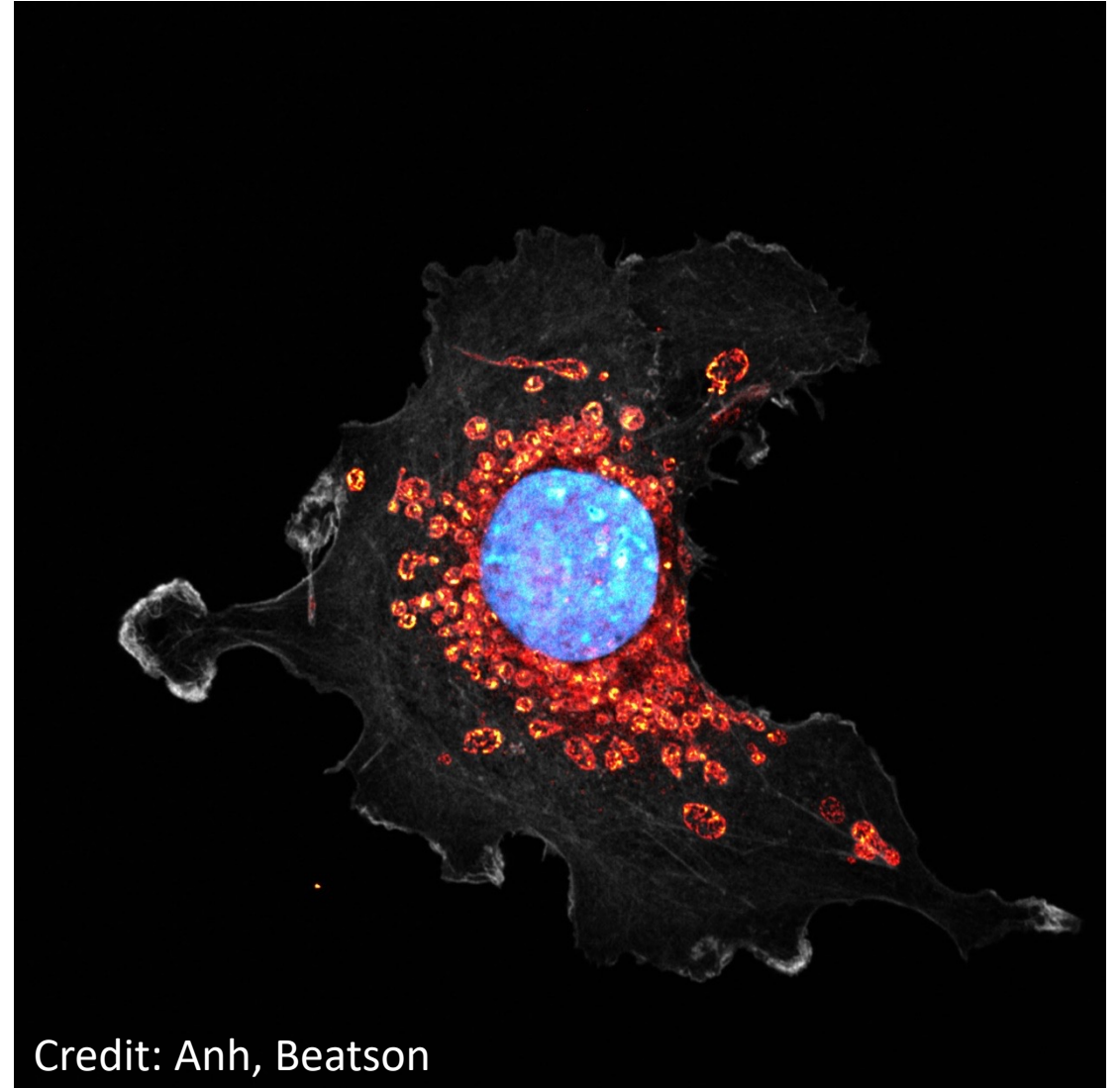
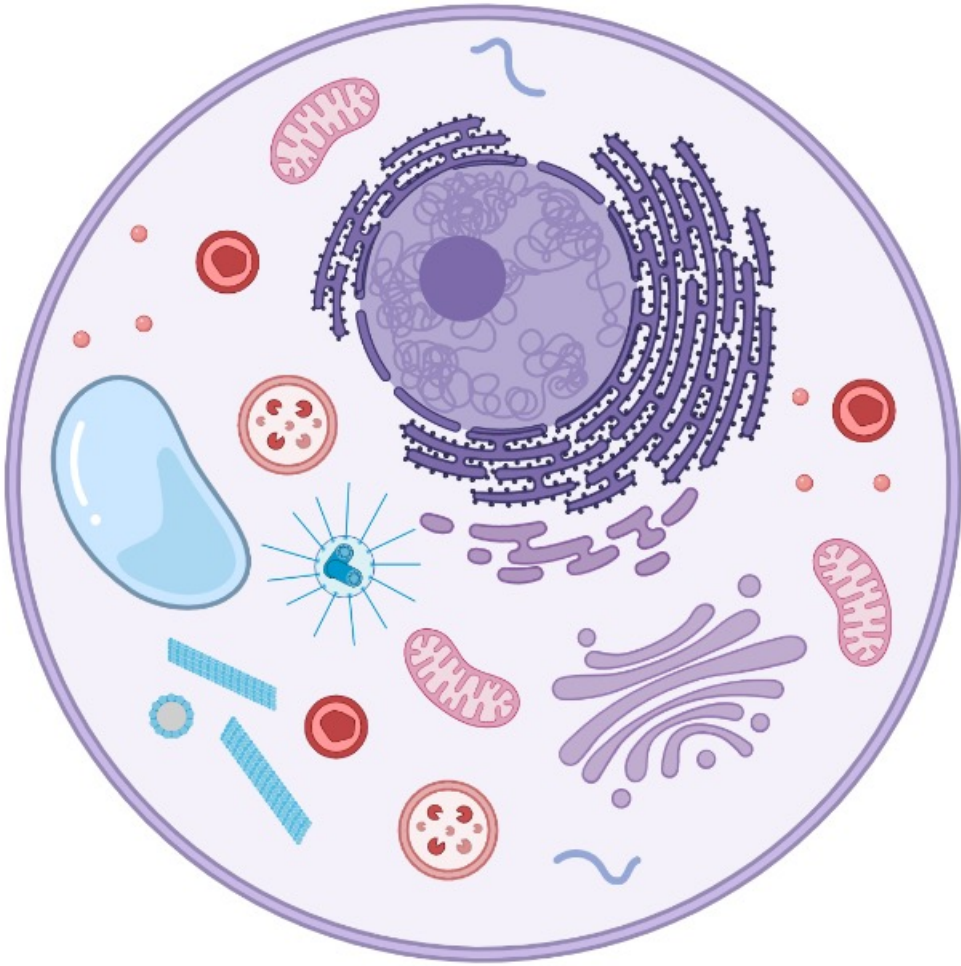
# What do you think cancer cells eat?

---

Go to **Mentimeter**; Code – 27 47 9025

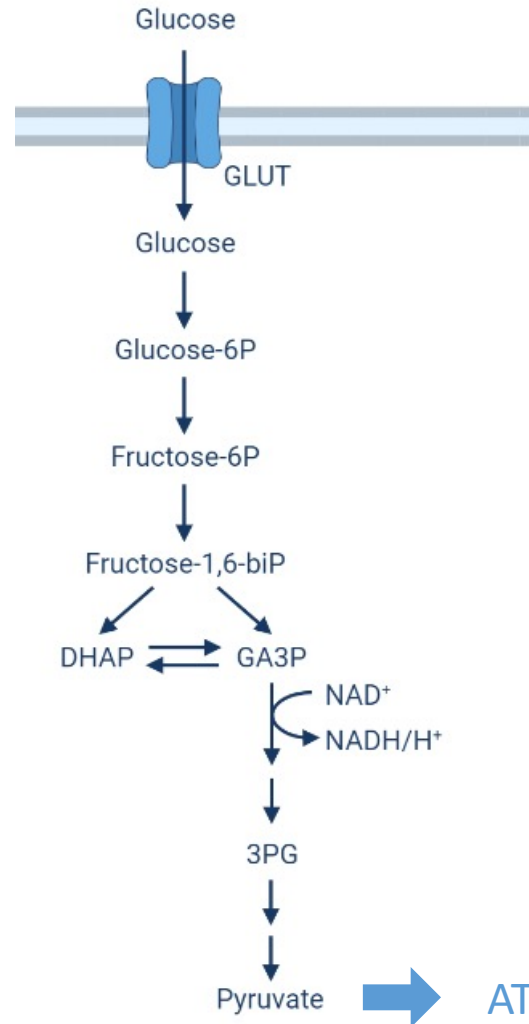
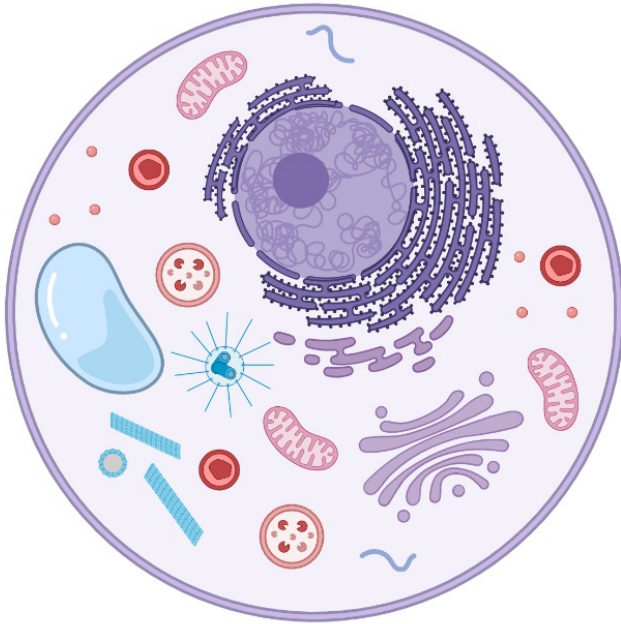
# Metabolic Compartments

---





# Glycolysis



Normal cell

Enough Oxygen → 36 ATP

Oxygen dependent

More efficient

# Cancer cells and their sugar cravings

---

Early 20th Century



**Otto Heinrich  
Warburg**

German Physiologist

Observed that cancer cells had increased rates of glycolysis

Despite the availability of adequate oxygen levels

Write in the chat ways  
in which these sugar cravings of cancer  
cells be used for diagnosis?

Can we exploit the tumour's  
need of high sugar intake?