

Presentation

KREB'S CYCLE

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ranjitha**

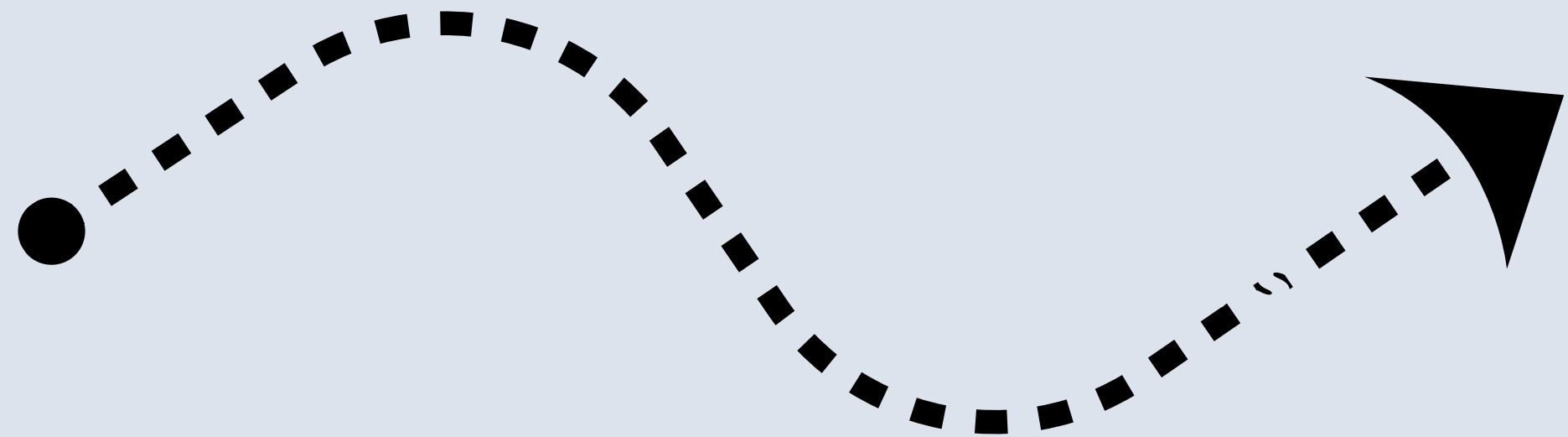
Kreb's cycle

- **Also known as the TCA cycle / Citric acid cycle**
- **Essentially involves oxidation of acetyl coA to carbon-Dioxide and water**
- **produce energy for the body.**

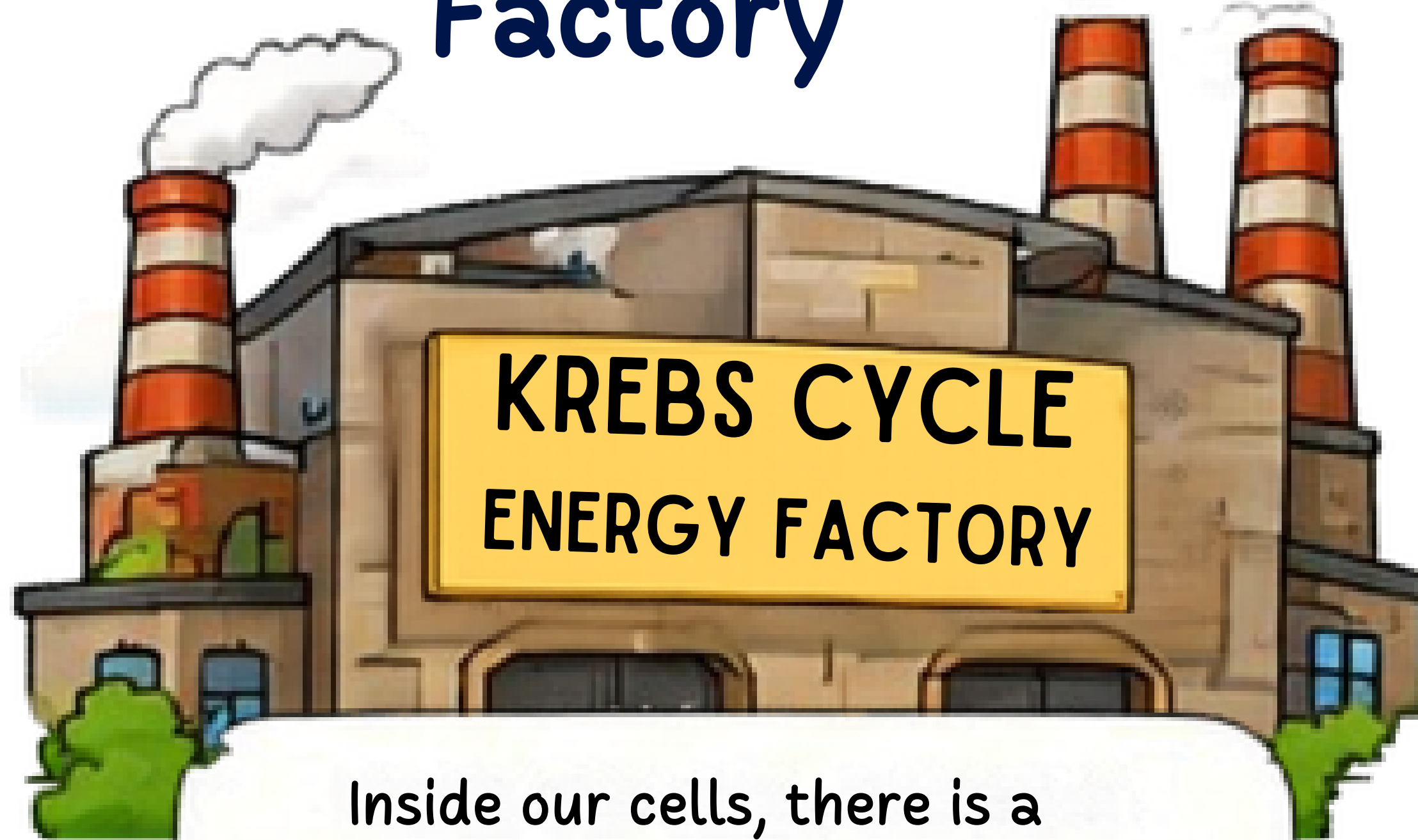
Kreb's cycle

- **LOCATION OF TCA CYCLE :**
Reactions occur in mitochondria of our cells

PATHWAY



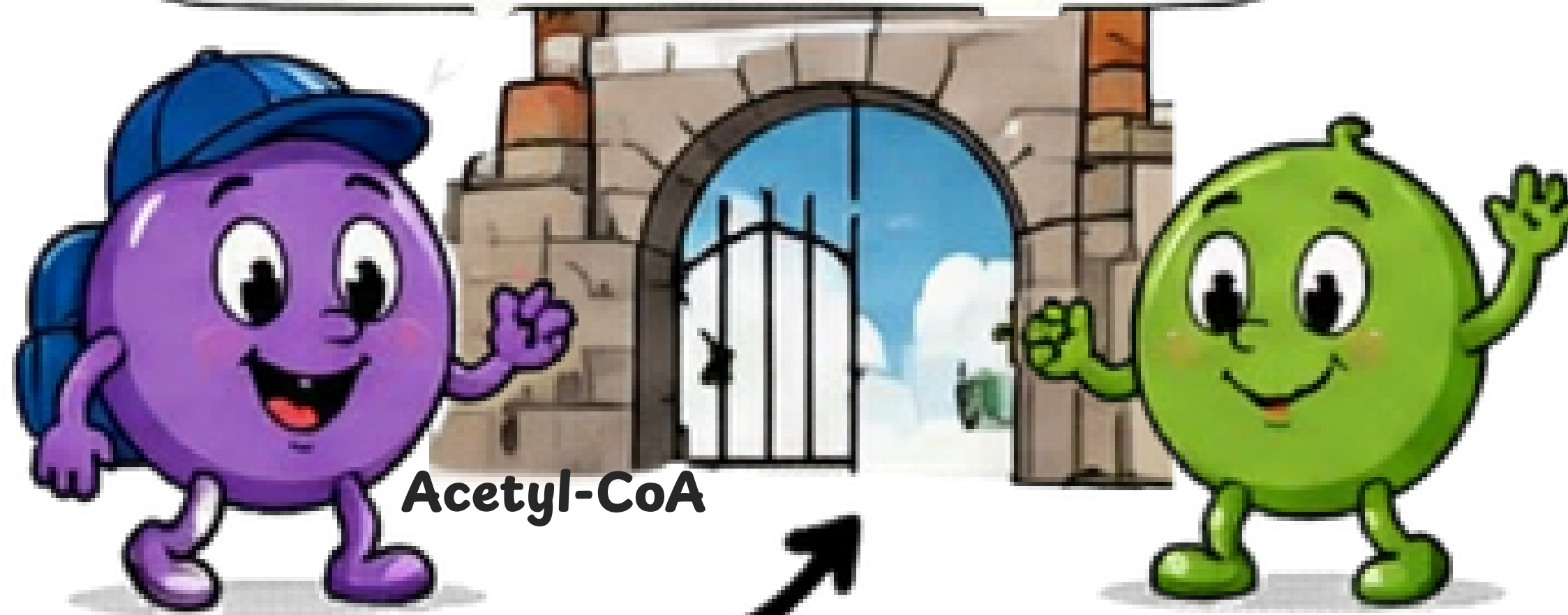
The Energy Factory



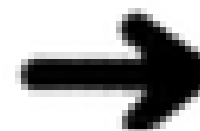
Inside our cells, there is a special factory that produces energy. Its name is Krebs Cycle!

The Entry

Acetyl-CoA enters the factory
and meets Oxaloacetate.



They join together
and become Citrate!



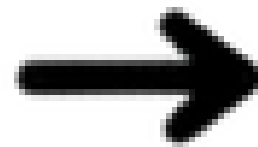
Citrate

The Walk Begins

Citrate starts walking
and slowly changes
into Isocitrate.



Citrate



Isocitrate

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First Energy Drop

Isocitrate loses some energy and releases NADH.



Isocitrate



NADH



α-Ketoglutarate

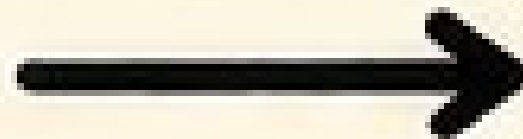
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More Energy

It loses more energy
and another NADH is
produced.



α -Ketoglutarate



NADH



Succinyl-CoA

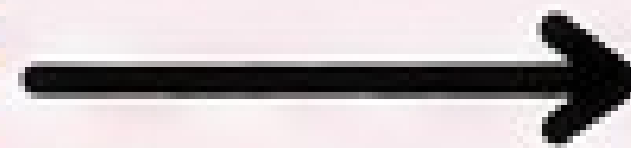
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Big Reward!

Now the factory makes
ATP – the energy coin!



Succinyl-CoA



Succinate

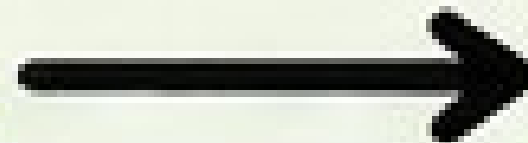
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Another Energy Carrier

Succinate gives energy to
make FADH_2 .



Succinate



FADH_2



Fumarate

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Hydration Step

Fumarate takes water
and becomes Malate.



Fumarate



Malate

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Final Energy Drop

Malate loses energy
and makes NADH.



Malate



NADH



Oxaloacetate

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Back to the Start

Oxaloacetate is ready again
to welcome a new Acetyl-CoA.
The cycle starts again!

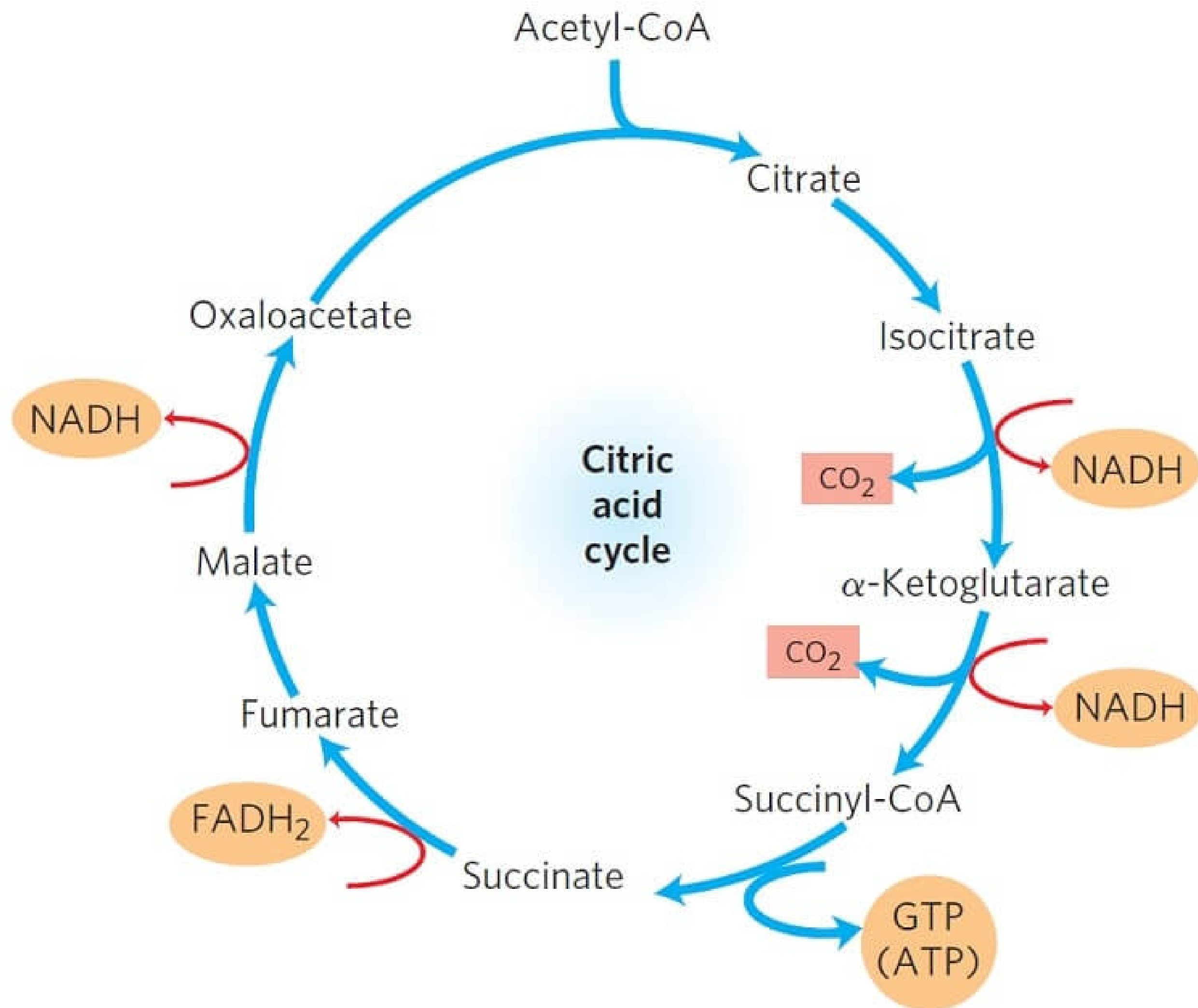


Oxaloacetate



Acetyl-CoA





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What We Gain



3 NADH



1 FADH₂



1 ATP

These go to
Electron Transport
Chain to produce
lots of ATP –
energy for our
body!

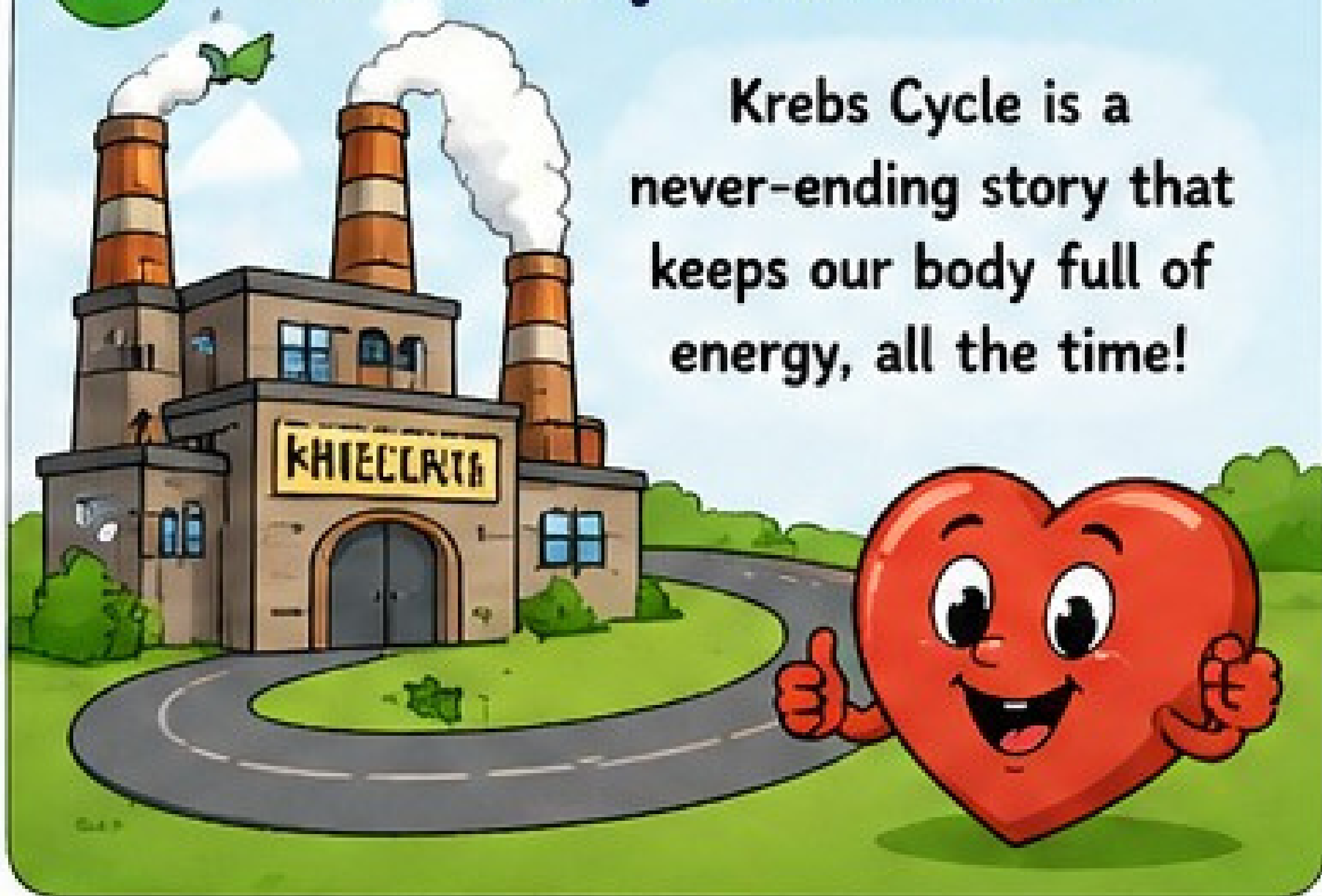
Significance

- **Produces energy in the form of ATP**
- **Final common pathway for carbohydrate, fat, and protein metabolism.**
- **Releases CO_2 during oxidation of food molecules**

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The Story Continues...

Krebs Cycle is a
never-ending story that
keeps our body full of
energy, all the time!





THANK YOU
