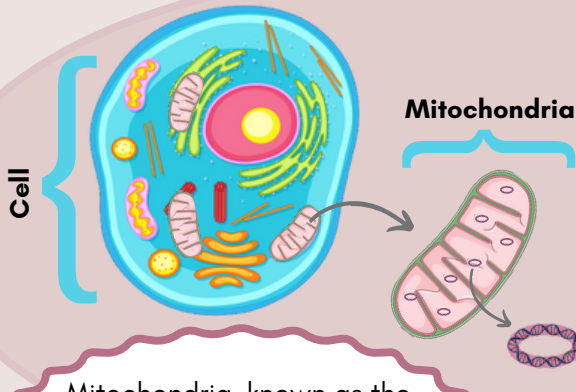


# MITOCHONDRIA & AGING

with the  study



Mitochondria play a big role in energy production. Mitochondria have their own circular DNA called **mtDNA**.

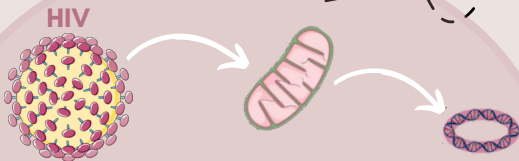
**mtDNA** are very susceptible to mutations (which are like typos in words)- when many **mtDNA** mutations accumulate, they can lead to human aging and age-related diseases

Mitochondria, known as the "powerhouse" of the cell, are little units found inside our cells that carry out a lot of essential body functions

**mtDNA** mutations are central to biological aging and these mutations can occur in many ways



## How does HIV affect mtDNA?



There is evidence that the HIV virus itself affects mitochondria and **mtDNA**, leading to mutations

Some HIV medication (cART, ARV) can directly or indirectly affect mitochondria and **mtDNA** functions

When your immune system is activated for too long with no rest, something called **chronic inflammation** occurs

Chronic inflammation can lead to **mtDNA** mutations



## So why are we interested in studying mtDNA in **Women Living With HIV**?

A type of HIV medication (NRTI's) can block **mtDNA** replication and lead to mutations in **WLWH**

this means that certain treatments could affect aging in **WLWH** by affecting mitochondrial health

We aim to learn more about factors that affect mitochondria and **mtDNA** so that we can better support **WLWH** as they age