

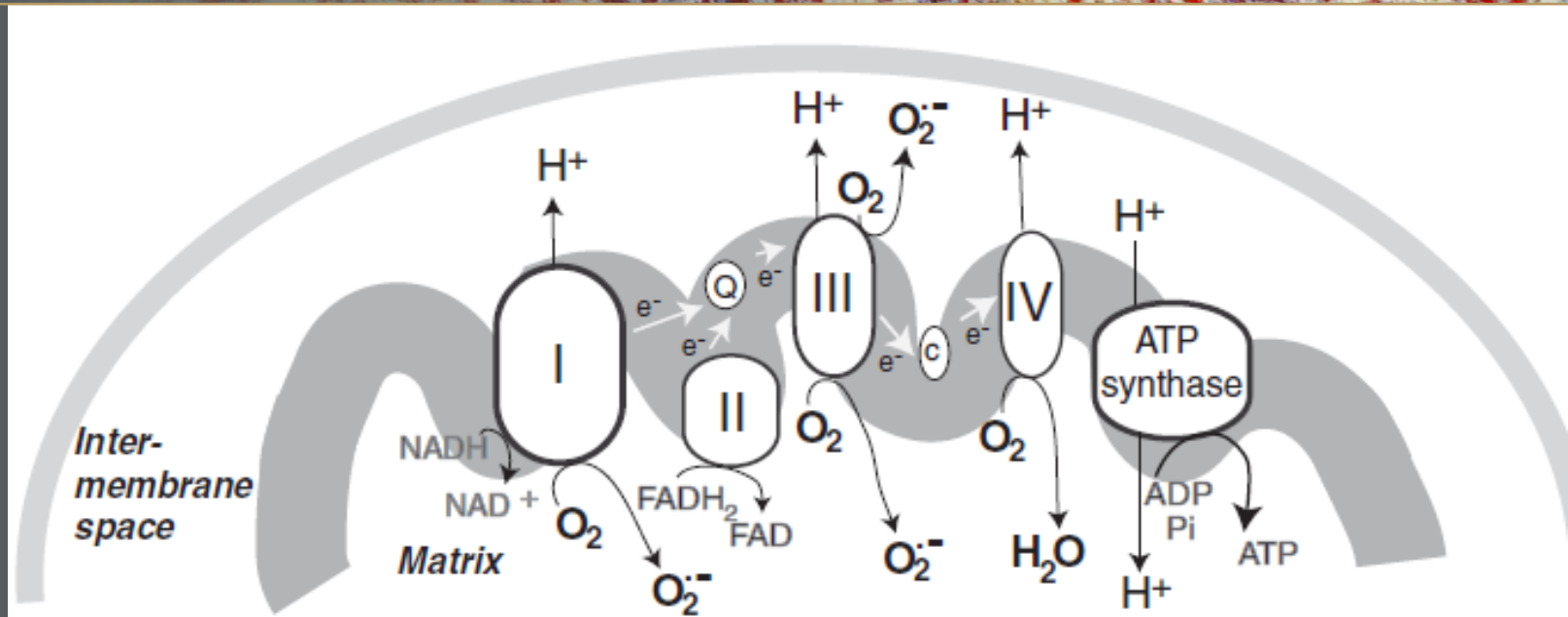


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The untapped medicinal value of Honeybush in the management of diabetes

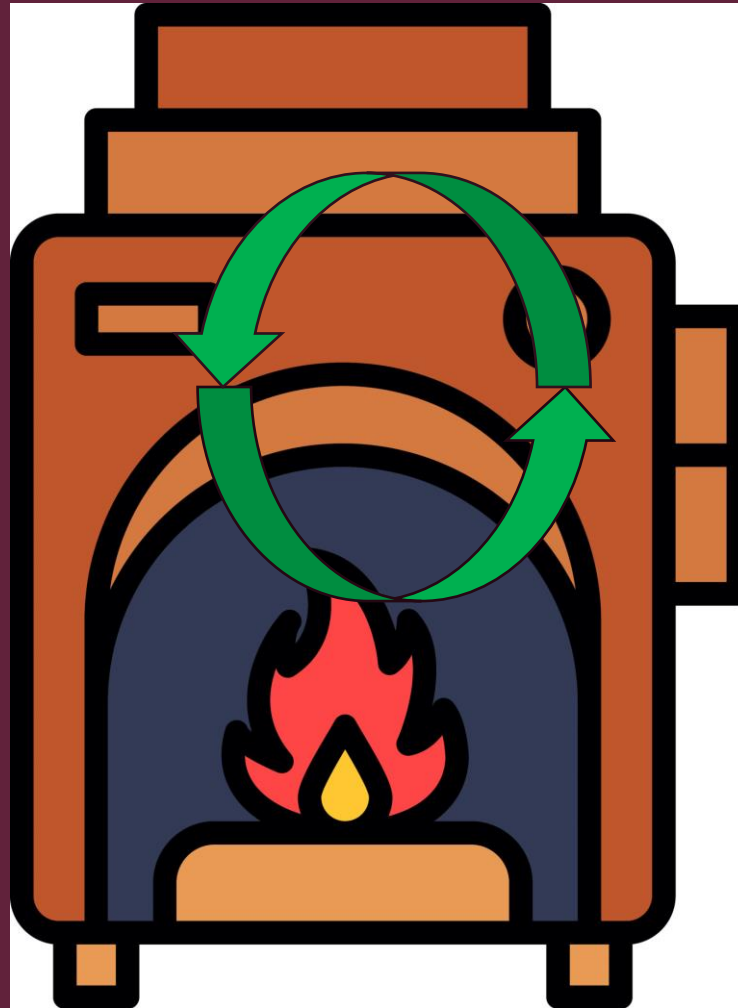
Kyle Le Roux (MSc Biochemistry)

Mitochondrial health and its role in diabetes



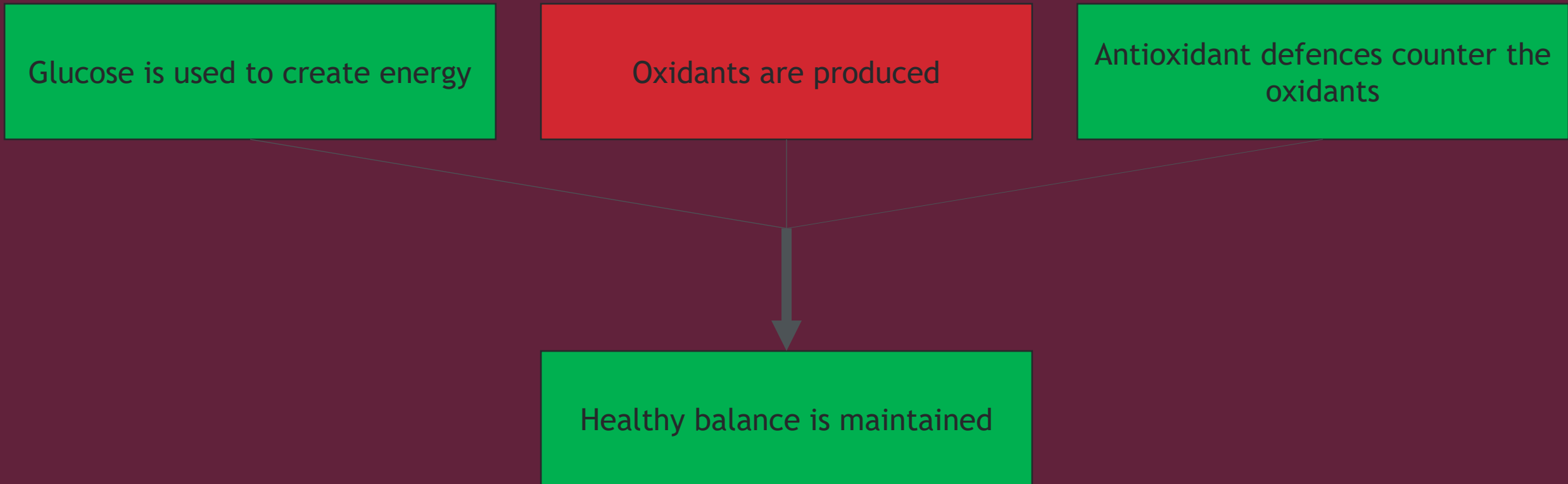
Mitochondria are the living furnaces of the cell and antioxidants are its cleaners

Glucose
= fuel



Oxidants
= smoke and soot

The healthy scenario



The diabetic scenario

High amounts of glucose enters the cells

Excessive Oxidants are produced

Antioxidant defences are overwhelmed

Mitochondria become dysfunctional and complications manifest

Why conventional medicine is not the whole answer

- Liver and brain cells carry multiple mitochondria and are the hardest hit by mitochondrial dysfunction
- Lowering glucose levels does not account for the damage to the antioxidant defences or the damage before treatment
- Conventional medicine requires access to healthcare services, and in many cases is unaffordable

Why indigenous plants have caught the interest of researchers



Anti-Inflammatory Effects of *Aspalathus linearis* and *Cyclopia* spp. Extracts in a UVB/Keratinocyte (HaCaT) Model Utilising Interleukin-1 α Accumulation as Biomarker

Can honeybush be the answer?

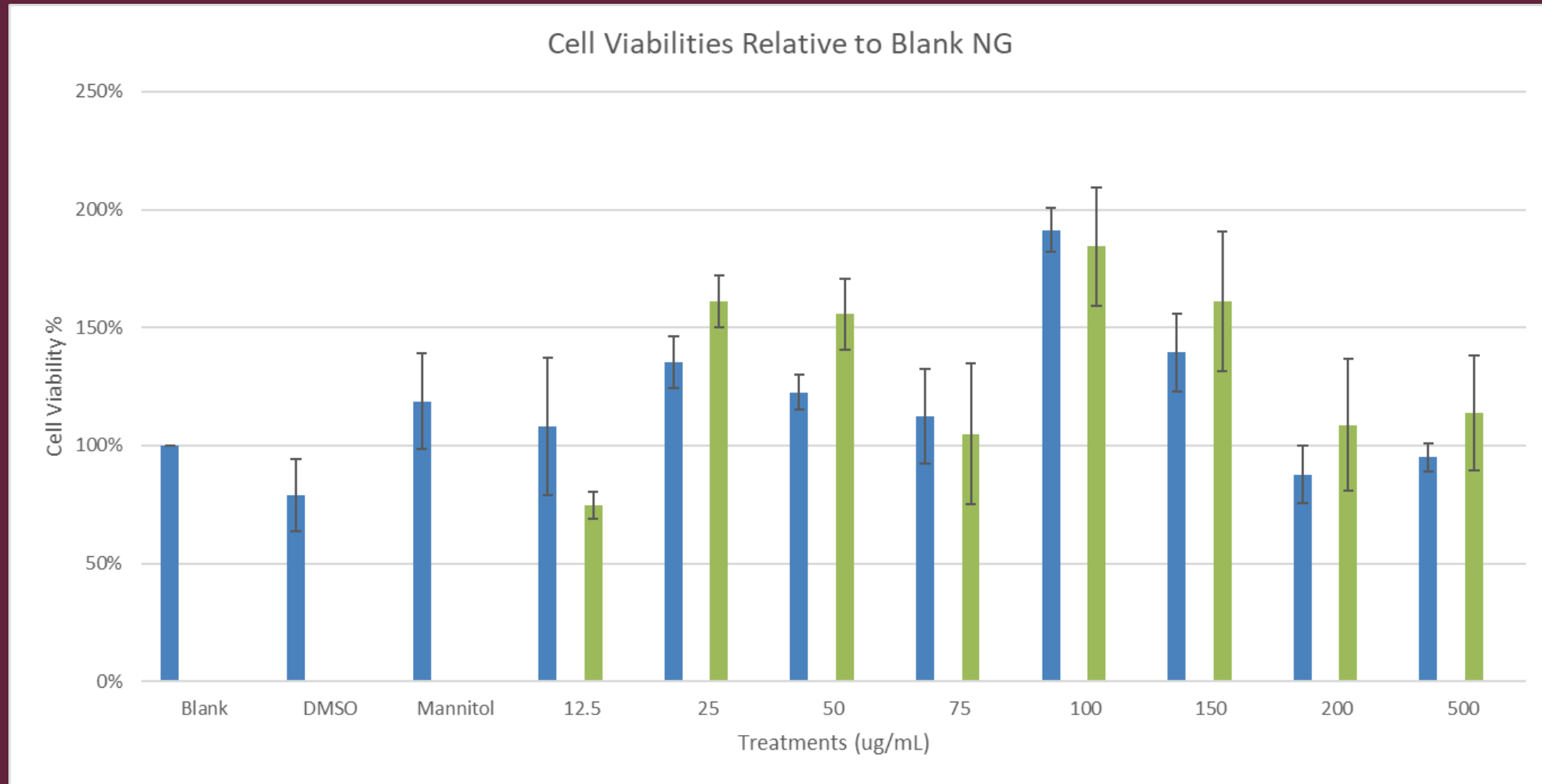
Article

Anti-Inflammatory, Anti-Diabetic, Anti-Oxidant and Cytotoxicity Assays of South African Herbal Teas and Bush Tea Blends

***Cyclopia intermedia* (Honeybush) Induces Uncoupling Protein 1 and Peroxisome Proliferator-Activated Receptor Alpha Expression in Obese Diabetic Female db/db Mice**

Honeybush Extracts (*Cyclopia* spp.) Rescue Mitochondrial Functions and Bioenergetics against Oxidative Injury

So far, the results are promising



What these findings could mean for the industry

- Honeybush would find an entirely new market in the form of a nutraceutical extract
- Harvesting and cultivation of honeybush may change to improve its content, rather than its taste profile
- Previously underutilised species may see relevance if proven to be beneficial in the treatment of diabetes
- These findings would further support the interest in other indigenous plants



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Thank you!

