



Kaneka Ubiquinol® and Antioxidant Balance Across Life Stages

Antioxidant Balance Defined

Every cell produces energy, and every cell manages the byproducts that come with it. As mitochondria convert nutrients into cellular energy (ATP), they naturally generate reactive oxygen species (ROS), a type of free radical and a normal byproduct of energy production. In fact, the mitochondria are the greatest source of free radicals in the body.¹

Antioxidant balance is the relationship between two forces: the rate at which ROS are generated and the body's capacity to neutralize them. When antioxidant capacity keeps pace with ROS generation, the body maintains balance. When ROS accumulate faster than antioxidants can neutralize them, the body moves toward oxidative stress.²

What Tips the Balance

Two variables determine where the balance sits:

Mitochondrial Efficiency

How efficiently the electron transport chain influences the number of ROS released during energy production. Keeping ROS in check helps maintain the integrity of mitochondrial membranes, which are vital for optimal cellular energy production.³

Antioxidant Capacity

The body relies on antioxidants to neutralize free radicals before they can damage cells, membranes, and DNA.^{4,5} Capacity depends on the supply of antioxidants available where free radicals are formed.

Antioxidant Balance Across Life Stages



Early and Active Years

Energy demands are high, and physical exertion naturally increases ROS generation; the body's antioxidant defenses generally keep pace.



Later Years

Conversion of ubiquinone to its active antioxidant form becomes less efficient, and antioxidant capacity may not keep pace with ROS generation.



Midlife

Ubiquinol levels begin to decline, affecting the balance between ROS generation and antioxidant capacity.

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.



The Active Antioxidant Form of CoQ10



- Kaneka Ubiquinol[®] is stabilized to maintain its active antioxidant form. No conversion is needed for it to perform its antioxidant functions.^{4,7}
- Lipid-soluble and located in the mitochondrial membrane, where most free radicals are formed.^{5,8}
- Acts to neutralize ROS at their greatest source, helping defend cells against oxidative stress.^{3,9}

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Formats

Kaneka Ubiquinol® is available as a pure crystalline powder for use in the following product applications:

- Softgels
- Gummies
- Cap-within-cap
- Liposomal formulations
- Liquid capsules
- Other light- and oxygen-controlled environments

Kaneka Ubiquinol® is also available in an air-stable form as Kaneka Q30™, a 30% Ubiquinol powder. Additional applications include:

- Stick packs
- Sachets
- Soft chews

Packaging

- 1 kg or 5 kg units
- MOQ: 1 kg
- Q30 MOQ: 3 kg



Safety

Kaneka Ubiquinol® has a well-established safety profile as demonstrated by extensive clinical trial data.

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The Role of Kaneka Ubiquinol® in Antioxidant Balance

Kaneka Ubiquinol® is the all-trans isomer, bioidentical to the body's own ubiquinol. Like natural ubiquinol, it is lipid-soluble and works within the mitochondrial membrane,⁹ where supplementation with Kaneka Ubiquinol® supports the body's antioxidant defense system and helps promote a healthy oxidative balance across life stages.⁶

The Role Kaneka Ubiquinol® Plays Across Health Applications



Healthy Aging

Promotes muscle health and physical functioning in older adults.^{10,11}



Heart Health

Promotes vessel health and protects low-density lipoprotein from oxidation.⁶



Menopausal Well-Being

Reduces menopausal symptoms.^{12,13}



Preconception Support

Supports mitochondrial function, cellular energy production, and oxidative balance—important processes for sperm and oocyte quality and function.¹⁴⁻¹⁹



Exercise Performance

Supports a **healthy oxidative balance** and **cellular energy metabolism** during exercise.²⁰

Absorption and Bioactivity



Kaneka Ubiquinol® is **3x better absorbed** than a conventional CoQ10 supplement.^{21,22}



Research demonstrates that 200 mg of Kaneka Ubiquinol® **increases blood ubiquinol levels by approximately 8x** compared to baseline in healthy adults when taken daily for at least 30 days.²¹

References

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