



## An Ally in Supporting Cardiovascular Wellness

### Kaneka Ubiquinol®, manufactured exclusively by Kaneka Nutrients, supports cardiovascular health.

Ubiquinol, the active antioxidant form of coenzyme Q10 (CoQ10), is found naturally throughout our cells, tissues, and organs. It is required for 95% of cellular energy production,<sup>1</sup> and supports cellular function and antioxidant activity, aiding physiological processes linked to cardiovascular health.

**Ubiquinol plays an important part in supporting mitochondrial health by helping to neutralize free radicals, reduce oxidative stress in the body, and protect mitochondrial integrity.** It also supports the efficiency of the mitochondrial electron transport chain (ETC), aiding energy production and facilitating other critical mitochondrial functions.<sup>2</sup>

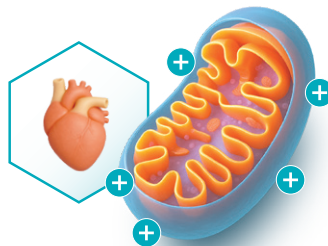
Ubiquinol supports mitochondrial functions and cellular processes that contribute to cellular homeostasis and overall wellness. When these functions decline, they may contribute to cellular changes that, over time, can influence the health of bodily organs and systems, potentially affecting age-related aspects of overall wellness,<sup>3,4</sup> including cardiovascular health.

### The Impact of Mitochondrial Health on Cardiovascular Health

**Maintaining mitochondrial health and proper function is vital for supporting cardiovascular health.** Mitochondria are the powerhouses of the cell, generating most of the energy needed for cell activities. They are also the primary source of free radical production.<sup>2</sup>

The high metabolic rate of the heart's cells leads to elevated production of reactive oxygen species (ROS), including free radicals. **With age, natural antioxidant defenses and ubiquinol levels decline,** reducing the body's ability to effectively neutralize these ROS.

Free radicals can also react with LDL cholesterol in the blood, leading to the formation of oxidized LDL, which can influence endothelial cell function and **contribute to factors that affect vascular health over time.**<sup>5</sup>



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 ETC in mitochondria is key for cellular energy production.

Through the ETC, mitochondria convert nutrients into adenosine triphosphate (ATP), the main energy currency for cellular functions.

### Mitochondria's role beyond energy production<sup>3,4</sup>:

- Initiating repair mechanisms, including a process known as "programmed cell death," which eliminates damaged cells, while recycling usable mitochondrial fragments.
- Governing the flow of small molecules, maintaining cell homeostasis.
- Regulating the expression of certain genes, including those involved in inflammatory processes.

### Impact of ROS generation on mitochondria<sup>2</sup>:

- The ETC generates superoxide, a type of ROS, as a normal part of cellular metabolism.
- Oxidative stress occurs when ROS production overwhelms the body's antioxidant defenses.
- Excess ROS can interact with cell components—such as lipids, proteins, and DNA—in ways that may affect mitochondrial efficiency and cellular function.<sup>4,6</sup>
- Mitochondrial disruption from ROS can trigger further ROS production, creating a cycle that may affect overall cellular health.<sup>4,6</sup>

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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 Kaneka Ubiquinol® Plays in Cardiovascular Wellness

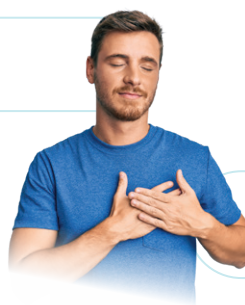
Ubiquinol's lipid solubility allows it to localize within the mitochondria,<sup>7</sup> where it helps neutralize ROS, supporting the health and function of cardiac cells.<sup>4,5,8</sup> **The heart has the highest concentration of mitochondria**—and therefore ubiquinol—of any organ, helping to meet its high energy demands and defend against oxidative stress.

Ubiquinol's lipid solubility also enables it to bind to lipid-based LDL particles in the blood, where it provides antioxidant support, which protects LDL from oxidation and contributes to a healthy endothelial environment.<sup>4,9</sup>

### Research shows that Ubiquinol supplementation supports cardiovascular health by:

Replenishing and maintaining healthy ubiquinol and total CoQ10 levels<sup>9</sup>

Maintaining healthy levels of blood markers associated with cardiovascular health.<sup>11</sup>



Supporting vascular health by aiding healthy vasodilation, maintaining nitric oxide levels, and helping to protect LDL from oxidation.<sup>9,12</sup>

Replenishing CoQ10 blood levels affected by statin cholesterol medicines.<sup>13</sup>

## Absorption and Bioactivity



Kaneka Ubiquinol® has been shown to be **2x better absorbed than a conventional CoQ10** supplement.<sup>14</sup>



Research demonstrates that 200 mg of Kaneka Ubiquinol® **increases ubiquinol levels by approximately 8x** compared to baseline in healthy adults when taken daily for at least 30 days.<sup>10</sup>

Unlike conventional CoQ10 supplements, **Kaneka Ubiquinol® requires no conversion in the body to perform its antioxidant functions**, making it more readily available for the body to utilize.<sup>9,15</sup>

For those already using CoQ10, **switching to Kaneka Ubiquinol® may offer enhanced absorption and bioavailability.**

### References

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