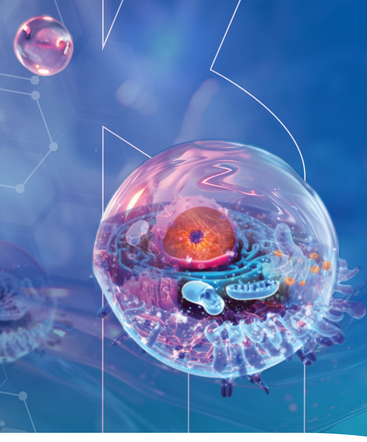
Kaneka UBIQUINOL®

Made in USA



Mitochondrial Health: The Foundation of Cellular Health and Oxidative Balance

Mitochondria as the Cellular Command Center

Best known as the cell's energy producers, mitochondria do far more than generate energy. They help regulate metabolic networks, coordinate signaling pathways, and influence innate immune responses, cell division, and cellular fate.[1,2] In addition, by responding to shifts in energy demand and oxidative balance, mitochondria help maintain cellular resilience and systemic homeostasis.[3]

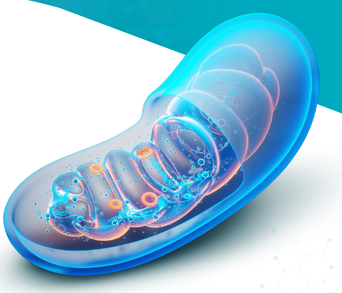
Mitochondria are increasingly recognized as central regulators in cellular function, including:

- Metabolic coordination and redox signaling [1]
- Mitochondrial quality and repair [4]
- Cellular adaptation to stress [4,5]
- Maintenance of mitochondrial processes [5]

The Connection Between Energy Demand and ROS

As mitochondria generate energy through the electron transport chain (ETC), reactive oxygen species (ROS) are formed as natural byproducts of cellular energy metabolism.[6,7] In balanced amounts, ROS participate in cellular signaling and other biological processes.

However, when production of ROS exceeds antioxidant defenses, oxidative stress can occur, influencing energy production efficiency, mitochondrial integrity, and cellular and mitochondrial repair processes.[3,8,9]



Cellular Resilience Across the Adult Lifespan

Mitochondrial efficiency and antioxidant capacity generally decline with age.

Changes in oxidative balance, metabolic demand, and environmental stressors influence how well cells can sustain energy production and structural integrity throughout adulthood.[3,8,10]

Age-related shifts in redox biology may also influence the balance between ubiquinone and ubiquinol, reflecting a broader change in oxidative status.[11,12]

Oxidative Balance and Mitochondrial Integrity

Oxidative balance reflects the relationship between ROS production and antioxidant defenses.

Maintaining this balance helps support mitochondrial membrane stability, signaling precision, and efficient cellular energy processes.[2,9]

When oxidative pressure increases, mitochondrial DNA, lipid membranes, and cellular performance may be affected.[3,6]

Ubiquinol Within the Mitochondrial Membrane

Ubiquinone and ubiquinol are two forms of coenzyme Q10 (CoQ10) located within the mitochondrial inner membrane. Together, they support mitochondrial energy production by transferring electrons between complexes in the ETC.

As the reduced, antioxidant form of CoQ10, ubiquinol also helps neutralize ROS formed during energy metabolism.[6,9]

Through its dual role in energy transfer and antioxidant defense, ubiquinol supports mitochondrial function and physiological processes relevant to:

- Healthy Aging [13,14]
- Cardiovascular Wellness [15]
- Preconception Health [16-18]
- Menopausal Well-Being [19-21]
- Sports Nutrition [22-24]

The Kaneka Ubiquinol® Advantage

50
50 years of ubiquinone and ubiquinol research and testing

100+
Backed by 100+ clinical studies using Kaneka Ubiquinol®

18+
18+ years of positive consumer experience with Kaneka Ubiquinol® supplementation

Free of impurities commonly found in synthetic CoQ10

Bioidentical to the body's own ubiquinol

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Read the White Paper

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Nutrients.Sales@Kaneka.com
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