



[www.mitoq.com](http://www.mitoq.com)



## Company profile

# MitoQ

---



MitoQ's mission statement expresses the belief that with powerful mitochondria, everyone can optimise their health and wellbeing to live better, do more of what is important to them and maintain high performance for longer. They have created MitoQ, the world's first mitochondria-targeted antioxidant with the objective of empowering the health and ambitions of every body.

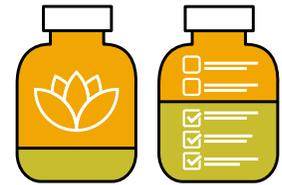
The MitoQ story is a longer one than most, and began in 1990 at the University of Otago, New Zealand, when biochemist Robin Smith and mitochondrial specialist, Professor Mike Murphy were studying mitochondria and trying to extrapolate why antioxidant supplements, such as CoQ10, were ineffective at curing certain diseases. They found that regular antioxidants, although successful at getting into the bloodstream, were unable to penetrate the mitochondria itself. Thus, they created Mitoquinol Mesylate, a multi-patented cellular optimiser that can penetrate mitochondria and, in doing so, manage free radicals and oxidative damage providing additive benefits above and beyond normal antioxidant supplements. A consortium of NZ investors purchased the rights to Mitoquinol Mesylate in 1990, with Dr Ken Taylor managing commercialisation of the product.

A 2006 Phase II Parkinson's trial required additional fundraising, and a new parent company Antipodean Pharmaceuticals Inc (USA) was established. Although this trial was unsuccessful, promising results from independent research encouraged Gary Lane, one of the original NZ investors, to increase his shareholding to 90% and launch the MitoQ topical and nutraceutical range

in 2013. With its unique ingredient Mitoquinol Mesylate, first available as a skin serum and health supplement, the company quickly expanded to a ten supplement and five skin product-range, and now employs 50 people across New Zealand, the USA and China. The new product formulae combine the base MitoQ product with carefully selected premium ingredients, such as Longvida<sup>®</sup> Curcumin, Siliphos Milk Thistle and Green Lip mussel extract. Each formula uniquely targets different aging problems such as healthy brain and digestion, liver function and joint function. The company's advanced skincare range launched in 2017.

Dr Ken Taylor says: "We identified the breakthrough technology as being potentially huge amongst the globally aging population looking for aging solutions." With over two decades of research already behind it, MitoQ continues to collaborate extensively with research institutions and has received over NZ\$50m of independent research development investment.

MitoQ 5mg, the company's flagship product, contains Mitoquinol Mesylate, and has over 60 patents globally. MitoQ 5mg has been on the market since 2013 and is sold in dozens of countries around the world. MitoQ uses third-party distributors (Amazon and Ruby Has for distribution in the US, Tmall, Taobao, Daigou and ABM in China, Misi in Europe and Nutri-link in UK) together with direct sales via its own MitoQ website. MitoQ has several New Zealand food safety certifications, and its products are manufactured in New Zealand using leading certified GMP facilities.



## MitoQ for Longevity: Target Hallmarks of Aging

**Epigenetic changes, Cellular senescence, Mitochondrial dysfunction, Altered cellular communication, Telomere attrition.**

MitoQ has been shown to reduce reactive oxygen species and therefore oxidative stress in a range of studies from cellular studies to clinical trials. Unlike regular CoQ10, by reducing the size of the molecule and adding a positive charge, MitoQ can penetrate the mitochondria. MitoQ's products can target mitochondrial dysfunction by neutralising reactive oxygen species within mitochondria that are produced as by-products in energy production.



## Flagship Product Deep-Dive

### MitoQ: Product Description

MitoQ 5mg contains a 5mg dose per capsule of the patented ingredient Mitoquinol Mesylate ("MitoQ" for short). This special molecule was invented to solve the problem of antioxidants not being able to penetrate mitochondria, where free radical damage occurs. MitoQ is an engineered form of CoQ10 that's been shortened and given a positive charge, so it's small enough to penetrate the tough mitochondrial membrane and is pulled inside the mitochondria by its negative charge. Once inside, MitoQ balances CoQ10 levels and helps reduce free radical damage. MitoQ has been shown in 400+ independent, reviewed papers to offer benefits to oxidative stress, organ health and more.

### MitoQ: Pre-Clinical and Clinical Studies

MitoQ has demonstrated encouraging preclinical results in numerous studies in isolated mitochondria, cells and tissues undergoing oxidative stress and apoptotic death. Over 400 positive peer-reviewed animal and in vitro studies covering a huge range of therapeutic

areas have been published to date. Some notable in vivo studies have shown that MitoQ is protective against the damage to endothelial cells from nitroglycerin exposure in rats, and pre-administration in mice protected them from cardiac damage when induced with sepsis.

MitoQ has been used in nine clinical trials to date. One promising trial showed that MitoQ improved arterial dilation in healthy adults by 42%, suggesting that MitoQ holds promise for treating age-related vascular dysfunction. Another suggested that MitoQ can reduce liver damage in hepatitis C viral infection. MitoQ currently has 40 clinical trials either underway or in the planning stage in the fields including neurology, cardiovascular health, metabolics, rheumatology, immunology, oncology and sports science. The company encourages further research through the MitoQ Collaborative Research Programme.



## MitoQ: Ingredients and Dosage

Ingredient	Scientific Evidence
<b>Mitoquinol Mesylate (10mg)</b>	Mitoquinol mesylate has been shown in animal and human studies to have potent antioxidant properties. As people start aging, CoQ10 within cells starts to decline, which can contribute to redox imbalance. Mitoquinol mesylate can penetrate the mitochondrial membrane and neutralise reactive oxygen species within the mitochondria helping to maintain cellular homeostasis.

## MitoQ: Safety and Risks

MitoQ raw ingredients and finished products are produced at GMP-certified facilities. MitoQ has self-approved generally recognised as safe (SA GRAS) status in the US and is currently going through the process of approval by various other authorities worldwide. MitoQ is very well tolerated at the recommended dose with very few adverse events reported. Reported adverse events are mild and transient in nature e.g. mild GI disturbances and insomnia. A full battery of preclinical toxicology studies has been conducted as well as a phase 1 dose escalation study. No serious adverse events have been reported through post-marketing surveillance or during clinical trials.

MitoQ molecules are positively charged and the power of magnetism is used to pull them inside the mitochondria, where they activate at very high levels. This keeps the conditions inside the mitochondria optimised, so they can continuously produce the energy the cells need to perform at their very best.

“When our cells are high performing, we are empowered to pursue our passions with more energy and focus. That must be good for individuals, communities and the planet.”

## MitoQ: Target Market

Our body’s cells are at the core of our health and wellness system: every thought, action and dream begin at the cellular level. The company believes that anyone who has a full and active life and who takes a proactive view to investing in a balanced and high performing health system is a target customer for MitoQ. MitoQ is a cellular health optimiser. It is a patented, bio-engineered antioxidant, uniquely designed for high absorption and potency, which targets the mitochondria, helping improve energy levels and resilience inside the body’s ~37 trillion cells.

## Success Factors

### Team and Reputation

- Key members of MitoQ’s founding team are majority shareholder Gary Lane, and pharmacist Dr Ken Taylor. Gary Lane is Chairman of the Antipodean Board of Directors and Chairman of Lane Capital Limited, a New Zealand Venture Capital firm. He began his financial career with PriceWaterhouseCoopers before successfully establishing several private companies in the food, nutraceutical, boat building and golf course sectors. He was the former owner of Lanes Biscuits, Hansells and Healtheries.



CEO Dr Ken Taylor has a doctorate in Pharmaceutical Chemistry and a Fellowship in Pharmacology and Experimental Therapeutics from The Johns Hopkins University School of Medicine, Baltimore, Maryland. He has held a joint appointment in neurosciences at Princeton University and the Squibb Institute of Medical Research in Princeton, New Jersey. During his professional career he held the position of Managing Director at various global Roche affiliates and converted Syntex into Roche Bioscience research centre;

- The co-founding scientists of MitoQ, Professor Mike Murphy (now at The University of Cambridge) and Professor Rob Smith (formerly The University of Otago, now retired), remain as active advisors to the brand;
- MitoQ's executive team is made up of CEO - Mahara Inglis, previously at McKinsey, Fonterra and BP, and who holds an MBA from the University of California Berkeley, where he was a Fulbright Scholar, CMO - John Marshall, CFO Kate Gardiner, Chief Science Officer William Stow, Head of China Sales Zoe Li, and Business Development Executive Donna Marris, all of whom have global experience in their subject matter fields;
- MitoQ is a highly successful private company that has experienced significant growth and improving profitability as it has moved from start-up phase to high growth stage. It is currently focused on establishing the brand as a global supplement leader, bolstered by a growing body of significant research from the leading institutions;
- MitoQ expects its team to continue to grow as it expands internationally, particularly in the USA and China.

## Intellectual Property

- MitoQ's competitive advantage is its ability to enter the mitochondria. Regular CoQ10 products and most other antioxidants do not get into the mitochondria in meaningful amounts. This technology is covered by multiple patents;
- MitoQ has been used in 9 clinical trials to date and the MitoQ Collaborative Research Programme, set up by the company, continues to validate the link between mitochondrial dysfunction and health and the impact that MitoQ could have on cell, organs and overall wellness. The range of topics within this research programme includes neurological health, cardiovascular health, immunology, kidney health, musculoskeletal health, oncology, and reproductive health. The extensive list of collaborative institutions currently using MitoQ can be found on their website;
- Over the past 7 years MitoQ's original supplement has been expanded into a range of 10 supplements, and its topical product into a range of 5 skin products;
- MitoQ is always seeking opportunities to secure new IP and as an innovative company, continues to seek ways to enhance its products and services;
- MitoQ states that its current shareholders remain committed to the continued growth of MitoQ and to its core purpose to empower the health and ambitions of every body.

## Funding

- Approximately NZ\$50m has been spent to date on development and trials. The company is understood to not be currently looking for any additional funding;
- Its majority beneficial shareholder is Gary Lane, a New Zealand businessman and investor;
- No further funding or financial information is currently available.

## MitoQ: success grid

<p><b>Intellectual property:</b> Information for this page is only available within the full report.</p>	<p><b>Team:</b> Information for this page is only available within the full report.</p>	<p><b>Unique value proposition:</b> Information for this page is only available within the full report.</p>
<p><b>Efficacy:</b> Information for this page is only available within the full report.</p>		<p><b>Unfair advantage:</b> Information for this page is only available within the full report.</p>
<p><b>Target:</b> Information for this page is only available within the full report.</p>		<p><b>Runway:</b> Information for this page is only available within the full report.</p>
<p><b>Customer segments:</b> Information for this page is only available within the full report.</p>	<p><b>Channels:</b> Information for this page is only available within the full report.</p>	
<p><b>Inflection point:</b> Information for this page is only available within the full report.</p>		

■ = Positive progress   
 ■ = Work-in-progress   
 ■ = Needs attention



# About us

**The report has been produced by the Market Intelligence Unit of LongevityTechnology – the number one online destination for daily news on the growing longevity market.**

As a brand of First Longevity Limited, we bring together innovators and investors to commercialise the companies that will form the longevity economy.

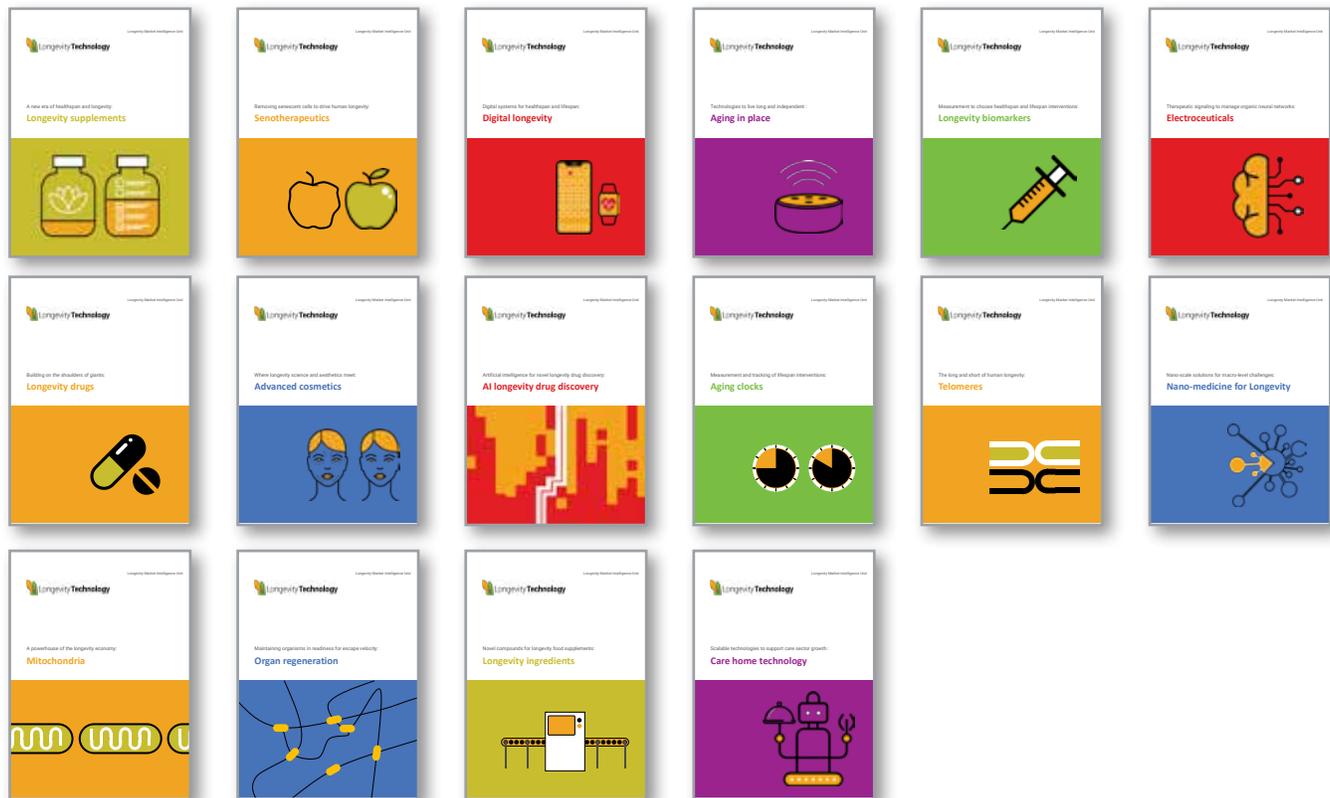
There are already 100+ rejuvenation biotechs working on unique therapies and building R&D pipelines to increase healthspan and lifespan.

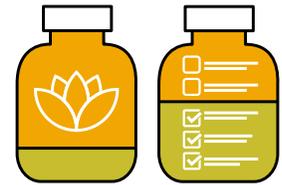
At the same time, all around the world, innovators are releasing nanobots, reprogramming nerve signals and applying AI to create exciting and scalable contributions to human longevity.

As a team we look beyond rejuvenation therapies to embrace other technologies that participate in the longevity investment category: agetech, xenotransplantation, biomarkers, AI, bioprinting, neuroceuticals, GRAS supplements ... over the coming period we will be publishing regular reports.

There are multiple technologies that contribute to the reduction of morbidity and the extension of lifespan: they will provide investors and innovators with both risks and returns. We're here to help analyse, report and educate.

You can find information about our next reports by visiting: <https://longevity.technology/product-category/analysis/>





**We bring together innovators  
and investors to commercialise  
the companies that will form  
the longevity economy.**

**[www.Longevity.Technology](http://www.Longevity.Technology)**

Copyright 2021 First Longevity Limited. All rights reserved. Longevity.Technology and its associated logo is a trademark of First Longevity Limited and the subject of trademark applications or registrations in various countries around the world. All other trademarks are the property of their respective owners.

Disclaimer: First Longevity Ltd publishes market research reports on various industry sectors. All reports purchased via the website, email or over the phone are subject to the following disclaimer. A purchase automatically indicates acceptance of the disclaimer. The information on this document is provided for information purposes only. It does not constitute any offer, recommendation or solicitation to any person to enter into any transaction or adopt any investment strategy, nor does it constitute any prediction of likely future movement in market activity or timing. Users of this document should seek advice regarding the appropriateness of investing in any securities, financial instruments or investment strategies and should understand that statements regarding future prospects may not be realised. Opinion and estimates are subject to change

without notice. We, at First Longevity, gather information from various sources such as face-to-face interviews, paid databases, annual reports, surveys and media releases. This information is collated in good faith and used an as-is-and-as available basis by us. Our reports should only be construed as guidance. We assert that any business or investment decisions should not be based purely on the information presented in our reports. We will not be responsible for any losses incurred by a client as a result of decisions made based on any information included in the reports. We do not guarantee or take responsibility for the accuracy, completeness, reliability and usefulness of any information. In many cases, the opinion expressed in the reports is our current opinion based on the prevailing market trends and is subject to change. The information provided by us is for the sole use of the authorised recipient(s). No part of the information or service may be duplicated or transmitted in any manner or by any medium without prior permission from First Longevity. Any such act will be considered as the breach of the multi-user licence under which the report has been purchased.