

Mitochondria in Longevity and Space Medicine Q3 2021

Aging Analytics Agency Provides Insights into the 100 Companies, 120 Investors, 30 R&D Centres Applied Mitochondrial Biomarkers in Longevity and Space Medicine

LONDON, UNITED KINGDOM, August 23, 2021 /EINPresswire.com/ -- Aging Analytics Agency, in cooperation with SpaceTech Analytics and Deep Pharma Intelligence, subsidiaries of Deep Knowledge Group, releases joint, open-access, 70-page report – [Mitochondria in Longevity and Space Medicine](#) – that contains information about the Top Companies developed mitochondria-related approaches, organising into 7 main categories: Reactive Oxygen Species, Energetic Process, Apoptosis, Mitochondria Transfusion, Oxidative Phosphorylation, Mitochondrial Dynamics, and mtDNA Instability. The analytical case study provides a full scope of their historical and current performance and engagement strategies with the Longevity Industry.



Mitochondria in Longevity and Space Medicine Q3 2021 summarises key observations on the new trends on the market and research area that engage in the Longevity Industry”
Aging Analytics Agency

Link to the Report: www.aginganalytics.com/mitochondria-in-longevity

Link to the Interactive MindMap: mindmaps.aginganalytics.com/mitochondria-in-longevity

Growing scientific and commercial interests in mitochondria as a key target in the Longevity Industry are noticeable from the early 2000s. Experts predict that the number of companies targeting aging as a root cause of disease and not as a symptom will increase in the next five years. Nowadays, approximately 9.5% of anti-aging programs address mitochondrial dysfunction – a major hallmark of ageing – with a total capitalisation volume of around \$5.5B.

There is a niche intersection between mitochondrial programmes and Space Medicine.

Successful space exploration requires understanding and addressing the underlying causes of health problems observed in astronauts who have spent long periods away from Earth. Numerous studies and clinical trials have led experts to believe that mitochondrial dysfunction is the main culprit behind astronauts' systematic health deterioration and premature ageing.



The analytical case study offers:

- A comprehensive analysis of BioTech, Pharmaceutical companies, Healthcare companies, and R&D institutions and their partnerships, predicting the development of the relevant market and determining the degree of technological relevance.
- Rankings of different treatment and diagnostic approaches proposed by R&D and BioTech companies.
- A comparison between the changes of a mitochondrial biomarker in astronauts after space flights and the same changes in older people with healthy ageing.

Major business takeaways from the report include the following:

- Perhaps ~100 BioTech companies and startups are carrying out work that may lead to a form of rejuvenation or are focused on interventions that target the mechanisms of ageing.
- Most of the bioengineering solutions for astronauts are focused on adverse age-related degenerative conditions, space-related disorders, and in situ amino acid production. Five percent are dedicated directly to Human Longevity in space. In particular, a new venture capital fund called SP8CEVC is directing a laser-like focus on the intersection between SpaceTech and Human Longevity.
- By far, the country with the largest number of companies conducting mitochondria research is the United States, which accounts for 50% of the whole range of companies analysed in the report.
- More than half of the investors in mitochondria research (around 57%) are from the United States. Another 32% of investors are from Europe; this includes 10% located in the UK, 6% each in France and Switzerland, and 5% in Germany, 5% in other European countries. Only around 8% of investors are from Asia.

Some of the key points from the analysis include the following:

- Mitochondria-targeting approaches have produced robust results in ophthalmology. The first human trials have been completed with promising results, and more are currently in progress.
- The most popular direct and indirect approaches of mitochondria targeting are in active development; these approaches include mitochondrial antioxidants, mTOR inhibitors, NAD+ enhancers, and so on.

- The most reliable diagnostic mitochondrial biomarkers – such as concentration of amino acids, creatinine level, lactate, and SOD in biological samples – constitute a “gold standard” for clinical trials. The new diagnostic biomarkers are GDF15 and FGF21.
- The mitochondrial biomarkers, as SOD, Bcl-2, LDH, Complex I, and Complex II, are confirmed in astronauts after space flights (>6 months) and have the same changes as healthy aging.
- Some outstanding approaches are being developed: mitochondria transfusion (by Mitotech, Longeveron) and mitochondria targeting drug delivery (Columbia University).

Despite a relatively small number of programs of mitochondria in aging and mitochondria in Space Medicine, there is a noticeable overlap between the two that is of particular importance for this analytical case study. Being at the intersection of two frontiers of modern medicine, these programs hold the most promise in discovering how spaceflight conditions reveal the causes of accelerated aging. Mitochondria are powering the future of space biology and longevity research – pointing the way toward discoveries that will help astronauts live safely in orbit and beyond, as well as helping Earth-bound people suffering from mitochondrial dysfunction.

About Aging Analytics Agency

Aging Analytics Agency is the world’s premier provider of industry analytics on the topics of Longevity, Precision Preventive Medicine, the Economics of Aging, and the convergence of technologies such as AI, Blockchain, and Digital Health and their impact on the healthcare industry.

About SpaceTech Analytics

SpaceTech Analytics is a strategic analytics agency focused on markets in the Space Exploration, Spaceflight, Space Medicine, and Satellite Tech industries. Its range of activities includes research and analysis on major areas of high potential in the SpaceTech industry, maintaining profiling of companies and government agencies based on their innovation potential and business activity, and providing consulting and analytical services to advance the SpaceTech sector.

About Deep Pharma Intelligence

Deep Pharma Intelligence is a leading strategic and investment intelligence agency focused on the emerging markets in the Pharmaceutical, BioTech, and Healthcare Tech industries. DPI produces regular analytical reports on major areas of high-potential in the pharmaceutical and healthcare industries, maintaining ratings of companies and governments based on their innovation potential and business activity in the BioTech space, and providing strategic consulting and investment intelligence services to top-tier clients.

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