Frequently asked questions

General questions

Q: What are mitochondria and why are they important?

A: Mitochondria are often called the "powerhouses" of the cell, playing a crucial role in producing the energy your body needs to function. However, they do much more than just power your cells. Mitochondria are also responsible for:

- Managing cellular processes like metabolism
- Signaling cell death to remove damaged or unnecessary cells
- Maintaining optimal calcium levels
- Heat production (thermogenesis especially in brown adipose tissue)
- Reactive oxygen species generation and detoxification (ROS can also be signaling molecules)
- Synthesis of key biological molecules (i.e., steroids, heme, iron-sulfur clusters, ketone bodies, amino acid precursors, phospholipids)

Q: What is the connection between mitochondrial dysfunction and poor health?

A: Many non-communicable diseases are linked to mitochondrial dysfunction, including:

- Cardiovascular Diseases (CVDs)
  Examples: Hypertension, heart attacks, strokes, heart failure.
- Cancers
  Examples: Lung cancer, breast cancer, colorectal cancer.
- Chronic Respiratory Diseases
  Examples: Chronic obstructive pulmonary disease (COPD), asthma.
- Diabetes
  Types: Type 1 diabetes, Type 2 diabetes, gestational diabetes.
- Neurological Disorders
  Examples: Alzheimer's disease, Parkinson's disease.
- Mental Health Disorders
  Examples: Depression, anxiety, bipolar disorder.
- Kidney Diseases
  Examples: Chronic kidney disease (CKD).

These conditions are major causes of death in the U.S., and research shows that healthy mitochondria are critical to preventing and managing these conditions.

Q: Why should we care about mitochondrial health?

A: Mitochondrial health is essential because:

- Mitochondria ensure your body functions properly by regulating vital processes.
- If your mitochondria are suboptimal, your body can't perform at its best, leading to fatigue, health issues, and even chronic disease.
- Keeping your mitochondria healthy is key to staying energized and feeling great.
- Mitochondrial health is closely linked to aging. As we age, mitochondria can become less efficient and more prone to dysfunction.
- The brain is an energy-demanding organ that relies heavily on efficient mitochondrial function. Impaired mitochondrial activity is associated with cognitive decline, brain fog, anxiety, depression, and neurodegeneration. Supporting mitochondrial health improves mental clarity, mood, and cognitive resilience.
- During exercise, mitochondria supply ATP to muscles to fuel activity. Improved mitochondrial function can enhance endurance, strength, and recovery time. Mitochondrial dysfunction contributes to exercise intolerance and slower muscle repair.
- Mitochondria are a primary source of reactive oxygen species (ROS) during ATP production. When mitochondria are dysfunctional, they produce excessive ROS, which damages cells, DNA, and tissues. Reducing mitochondrial oxidative stress lowers the risk of inflammation, tissue damage, and related diseases.

General questions

Q: Why is it important to take control of our mitochondrial health?

A: Taking charge of your mitochondrial health is crucial because:

- Mitochondria are vital for overall health and wellness.
- By maintaining mitochondrial health, you can optimize your energy levels and well-being.
- With tools like mescreen™, you can track your progress and work with healthcare providers to improve your health at the cellular level.

Q: How can we measure mitochondrial health?

A: Previously, measuring mitochondrial function required a painful and expensive muscle biopsy, or unreliable blood and urine tests. Now, there's a new, more accessible way. mescreen™ is a new mitochondrial efficiency test that uses a blood sample to simulate mitochondrial function. Developed using scientific methods by NASA, it measures 12 core functions to provide a clear picture of mitochondrial health.

Q: Do I need a prescription from a doctor to get a mescreen™ test?

A: You do not need a prescription to get a mescreen™ test.

Q: Is mescreen™ covered by insurance?

A: No. mescreen™ is for research purposes only and is not covered by insurance.

Q: Is mescreen™ approved by the FDA?

A: mescreen™ is for research only and is not intended to diagnose, treat or cure disease. You should not change medications, diet, exercise regimens or other related health activities without consulting your physician. mescreen™ has not been reviewed by the Food and Drug Administration.

Q: How can we improve mitochondrial health?

A: There are several ways to boost your mitochondrial health. Your personalized mescreen™ results will give you actionable insights and recommendations. As always, consult your physician before making any significant changes. Some common recommendations are:

- Eat mitochondria-friendly foods:
  - Polyphenol-rich foods (blueberries, red and purple fruits, leafy greens)
- Healthy fats (coconut oil, avocados, extra virgin olive oil)
  - Omega-3 fatty acids (wild-caught salmon, sardines)
  - Antioxidants (dark chocolate, foods high in resveratrol)
- Stay active:
  - Regular exercise (walking, high-intensity interval training, Pilates)
  - Cold exposure (cold showers, ice baths)
  - Resistance training at least 3 times a week
- Make lifestyle changes:
  - Practice intermittent fasting
  - Manage stress through meditation, yoga, or spending time in nature
  - Regular exercise
  - Get quality sleep (7-9 hours per night)
  - Avoid environmental toxins ((e.g., pesticides, pollutants, alcohol, smoking)
- Consider supplements:
  - CoQ10
  - Carnitine
  - NAD+ precursors
  - Resveratrol

Q: Is the mescreen™ test privacy protected?

A: Individual mescreen™ results and data provided are protected and not shared. mescreen data is stored on a HIPAA compliant server.

Q: Who should use mescreen™?

A: mescreen™ is ideal for anyone interested in improving their energy, preventing health issues, or optimizing their overall health at the cellular level. It's especially useful for individuals experiencing chronic fatigue, unexplained inflammation, or those looking for personalized wellness insights.

Q: How long does it take to complete a mescreen™ test?

A: It only takes a few weeks to complete a mescreen™ test. Your easy-to-use home sample collection kit should arrive within 7 days of your order. Once your sample is returned and arrives in our lab, results are generally available within 2-3 weeks.

Q: How is mescreen™ different from other health tests like DNA or microbiome testing?

A: While DNA and microbiome tests provide genetic or gut health insights, mescreen™ focuses specifically on mitochondrial function, offering a more direct view of your body's energy production and cellular health, which affects all body functions.

Q: How do I collect my sample at home?

A: mescreen™ provides a simple, easy-to-use at-home kit for sample collection. The kit comes with detailed instructions, and once you've collected your sample, you send it back to the lab in a prepaid package. It takes only a few drops of blood and less than 10 minutes.

Q: How often should I perform the mescreen™ test?

A: Experts recommend periodic screening every 3 to 4 months when starting or adjusting a health plan with your practitioner. Once an optimal plan is established, less frequent monitoring is advised—typically every 6 months or longer. However, it is recommended to monitor at least annually once your results fall within the optimal range.

Q: Can mescreen™ help with fatigue or low energy?

A: Yes, by identifying mitochondrial dysfunction or inefficiency, mescreen™ can help explain why you may be experiencing fatigue or low energy. mescreen™ provides tailored recommendations based on your results, as well as access to

Results & dashboard

Q: Who are the scientific advisors behind mescreen™, and how does their expertise ensure the quality of this product?

A: mescreen™ is backed by an elite team of scientific advisors with deep expertise in mitochondrial health, cellular biology, advanced analytics, and personalized medicine. Our advisors include top researchers, clinicians, and scientists who have dedicated their careers to understanding the role of mitochondria in human health. With their guidance, mescreen™ integrates cutting-edge research and proven methodologies to deliver highly accurate, actionable health insights. Their leadership and expertise reinforce the trust in mescreen™, ensuring that every recommendation is based on the latest science and tailored to provide meaningful improvements in your well-being. You can be confident that the technology behind mescreen™ is developed by leaders at the forefront of the health optimization field.

Q: What do I do after I receive my results?

A: Your mescreen™ report includes actionable steps to improve mitochondrial health, such as recommended supplements and lifestyle modifications. You can also schedule a consultation with our mitochondria experts to help you interpret your results and modify your action plan as you progress toward vitality.

Q: What can I learn from the mescreen™ test results?

A: From the mescreen™ test results, you will gain a comprehensive analysis of your mitochondrial efficiency, including insights into your body's energy production and potential risks of mitochondrial dysfunction. mescreen™ evaluates four

core metrics, including your Energy Profile, which tracks mitochondrial health and resilience, and Mito ROS Scores, which measure your ability to manage oxidative stress. You'll also learn about your Mito Network Scores, revealing how your mitochondria handle cellular stress, and Energy Balance Scores, which assess key factors affecting energy equilibrium and recovery. Based on these insights, you'll receive personalized recommendations for optimizing your health through diet, supplements, and lifestyle changes.

Q: Is there a need for more research on basal respiration?

A: Yes, while we understand many aspects of basal respiration and its importance, more research is needed to fully elucidate the complex relationships between basal respiration, mitochondrial function, and human health. Ongoing studies continue to reveal new insights into this crucial aspect of cellular biology.

Q: How can you improve basal respiration?

A: Several strategies can potentially enhance basal respiration and overall mitochondrial health:
Regular exercise, especially activities that improve cardiorespiratory fitness.

- Consuming a balanced diet rich in antioxidants and mitochondrial-supporting nutrients.
- Enhancing vagus nerve function
- Managing stress through various techniques.
- Ensuring adequate, quality sleep.
- Considering mitochondrial-targeted supplements, such as Coenzyme Q10 or NAD+ precursors, under medical supervision.

Q: What is basal respiration?

A: Basal respiration is the minimal rate of oxygen consumption by mitochondria to support basic cellular functions. It represents the threshold below which cells cannot sustain oxidative phosphorylation to meet energy demands. This concept is fundamental to understanding mitochondrial function and its role in cellular health and overall well-being.

Q: Why is basal respiration important for cellular health?

A: Basal respiration is crucial for cellular health for several reasons:

- It reflects the cell's ability to generate ATP, the primary energy currency of cells.
- A healthy basal respiration rate indicates efficient energy production with minimal waste.
- It helps determine the cell's spare respiratory capacity, which indicates how well cells can respond to increased energy demands or stress.
- Alterations in basal respiration can be an early sign of mitochondrial dysfunction, which is associated with various diseases.

Q: How does basal respiration impact overall health?

A: Basal respiration, as an indicator of mitochondrial function, affects overall health in several ways:

- It contributes to better energy production and reduced fatigue.
- Higher mitochondrial function in immune cells is associated with better immune responses.
- Mitochondrial dysfunction and decreased basal respiration are linked to accelerated aging.
- Optimal mitochondrial function may help prevent or mitigate various chronic diseases.

Q: How is basal respiration measured?

A: Basal respiration is one of the key metrics measured in the mescreen™ test and assesses oxygen consumption rates (OCR) in living cells. This measurement provides insights into ATP production, proton leak, and mitochondrial efficiency.

Learn more
mescreen.com