

# Unlock the Secrets of Your Skin with EpiSkin

## About this brochure

This brochure is intended for informational purposes only, providing details about epiMedTech Global, the parent company of HKG epiTherapeutics, and its development of EpiSkin—a new method for determining your skin age based on DNA methylation. This information booklet will be used to provide a comprehensive report in the future.

## What You Will Receive

You will receive your skin's age, measured in years, along with the standard deviation from a triplicate experiment. Additionally, we will provide the technical accuracy of the test, expressed as a percentage normalized to the EpiSkin results. This normalization ensures precise accuracy tailored to your specific EpiSkin outcomes. This comprehensive approach guarantees the reliability and precision of your test results.

## Understanding Skin Aging

Aging is a multifaceted process, primarily influenced by an individual's chronological age. Skin aging, specifically, results from both intrinsic and extrinsic factors. Intrinsic factors encompass internal elements such as metabolism, diet, stress, and overall health, which significantly impact the skin's aging process.

Beyond these intrinsic influences, the skin is subjected to external challenges like UV radiation, pollution, drying conditions, and extreme temperatures. These extrinsic factors also play a vital role in accelerating skin aging.

## How Old is Your Skin? Why is Your Skin's Epigenetic Age Important?

Accurately assessing the age of your skin is crucial, and epigenetics provides the most objective method for this. DNA methylation, the programming language of our DNA, plays a key role in determining gene expression. While genes in our

DNA remain unchanged, DNA methylation can either activate or silence specific genes.

For many years, DNA methylation has been the gold standard for age assessment. Traditionally, scientists use saliva or blood samples to determine biological age. While this method provides important insights into our immune system, it does not reflect the condition of our organs.

epiSkin addresses this gap by focusing specifically on skin, offering a precise evaluation of its biological age. The skin is not only a reflection of our appearance but also a major target for cosmetic and surgical procedures aimed at rejuvenation and wrinkle removal. Despite these advancements, we have lacked an objective measure of our skin's age until now.

The discovery of the “epigenetic clock” by Horvath marked a significant shift in age assessment. This clock is based on the measurement of DNA methylation at hundreds of specific sites in the genome, providing a reliable indicator of biological age.

By leveraging the science of DNA methylation, epiSkin offers a groundbreaking approach to understanding and managing the aging of your skin.

## **The Science Behind EpiSkin**

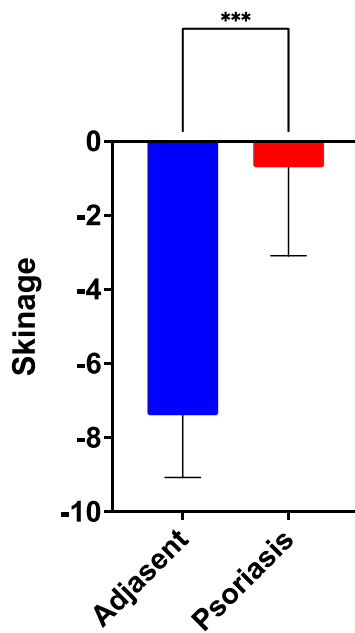
After extensive data mining, we developed a model to measure EpiSkin based on the epidermis of people's outer forearm. This allows us to create a model reflecting skin exposure to environmental factors such as pollution, UV radiation, and other external influences.

We prepare DNA from your skin and measure the level of DNA methylation at several positions in a fragment of your genome using bisulfite conversion followed by next-generation sequencing. A specific computer script calculates the level of DNA methylation. Your DNA methylation results are then inserted into a mathematical equation that calculates the “epigenetic age” as a function of the DNA methylation levels.

## Can EpiSkin Detect Clinical Problems?

Our research indicates that the EpiSkin epigenetic test can demonstrate significant skin age acceleration in individuals with conditions like psoriasis. The epigenetic age acceleration of the skin is determined by subtracting the individual's chronological age from their epigenetic skin age.

In the graph below, we measured two groups of people. Our findings show that individuals with psoriasis have an average skin age acceleration of 6.69 years, with a standard deviation of 7.65 years.



## The EpiSkin Testing Process

At this stage, we recommend consulting your dermatologist. Properly obtaining a skin sample is crucial. Using tools such as the Integra Miltex Disposable Dermal Curette, which is very sharp, requires careful handling to avoid causing bleeding. Improper use can result in measuring the epigenetic age from blood instead of the skin. Therefore, it is essential to seek the assistance of a dermatologist for this procedure.

### Interpreting Your Results

Understanding the results of your EpiSkin test is crucial for taking actionable steps towards healthier skin. Here's how to interpret your results:

#### 1. Epigenetic Age

- **What It Means:** The epigenetic age represents the biological age of your skin based on DNA methylation patterns. This age may be different from your chronological age, indicating the condition of your skin relative to your actual age.
- **Younger Epigenetic Age:** If your epigenetic age is younger than your chronological age, it suggests that your skin is aging more slowly, potentially due to good lifestyle habits and effective skincare.
- **Older Epigenetic Age:** If your epigenetic age is older than your chronological age, it indicates accelerated skin aging, which may be influenced by factors such as UV exposure, pollution, diet, stress, and overall health.

#### 2. Standard Deviation

- **What It Means:** The standard deviation reflects the variability in your triplicate measurements. A lower standard deviation indicates more consistent results, enhancing the reliability of your epigenetic age determination.

#### 3. Technical Accuracy

- **What It Means:** This percentage indicates the precision of your EpiSkin test results. Higher technical accuracy means greater confidence in the measured epigenetic age.

#### 4. Lifestyle Impact

- **What It Means:** Your results can be influenced by various intrinsic and extrinsic factors. Intrinsic factors include genetics, metabolism, and overall health, while extrinsic factors encompass UV exposure, pollution, and lifestyle choices. Understanding these influences can help you take targeted actions to improve your skin's health and appearance.

## 5. Comparative Analysis

- **What It Means:** Comparing your epigenetic age with others in your age group can provide context for your skin's aging process. If your epigenetic age is significantly higher or lower than the average, it can guide you in adjusting your skincare routine and lifestyle habits.

## 6. Starting Point and Monitoring

- **Consider Your EpiSkin Results as a Score:** Treat your EpiSkin results as a starting point or a score that reflects the current state of your skin's biological age.
- **Monitor Changes Over Time:** After implementing lifestyle changes or specific interventions, you can use follow-up EpiSkin tests to monitor how these actions affect your score. This will help you understand the impact of your efforts on your skin's health and adjust your routine accordingly.

## Next Steps

- **Consultation:** Consider discussing your results with a dermatologist to develop a personalized skincare plan.
- **Lifestyle Changes:** Implement recommended lifestyle changes to improve your skin health, such as using sunscreen, following a balanced diet, staying hydrated, and managing stress.
- **Follow-Up Testing:** Regular testing can help you monitor changes in your skin's biological age and the effectiveness of your skincare regimen.

By understanding and acting on your EpiSkin test results, you can take proactive steps to maintain youthful and healthy skin.

## Lifestyle Recommendations for Healthier Skin

Achieving and maintaining healthy skin involves a combination of good habits and proper skincare practices. Here are some recommendations based on guidelines from respected organizations like the National Institutes of Health (NIH) and the American Academy of Dermatology (AAD):

### 1. Protect Your Skin from the Sun

- Use a broad-spectrum sunscreen with an SPF of 30 or higher. Apply it generously and reapply every two hours, or more often if swimming or sweating.
- Seek shade, especially between 10 AM and 4 PM, when the sun's rays are strongest.
- Wear protective clothing, such as long-sleeved shirts, pants, and wide-brimmed hats. Look for clothing with an ultraviolet protection factor (UPF) label.

## ***2. Avoid Tanning Beds***

- Tanning beds expose you to harmful UV rays, which can increase the risk of skin cancer and accelerate skin aging. The American Academy of Dermatology recommends avoiding tanning beds entirely.

## ***3. Maintain a Healthy Diet***

- Eat a balanced diet rich in fruits, vegetables, lean proteins, and whole grains. Foods high in antioxidants, vitamins, and minerals can promote healthy skin.
- Stay hydrated by drinking plenty of water throughout the day.

## ***4. Practice Good Skincare***

- Cleanse your skin gently with a mild cleanser and avoid harsh scrubbing.
- Moisturize your skin regularly to maintain its hydration and barrier function.
- Avoid products that contain alcohol or other drying agents, especially if you have sensitive skin.

## ***5. Avoid Smoking***

- Smoking accelerates skin aging and contributes to wrinkles. It also narrows the blood vessels in the outermost layers of the skin, reducing blood flow and depleting the skin of oxygen and nutrients.

## ***6. Manage Stress***

- Chronic stress can trigger skin problems such as acne, eczema, and psoriasis. Practice stress management techniques like yoga, meditation, and regular physical activity to keep your stress levels in check.

## ***7. Get Enough Sleep***

- Quality sleep is essential for skin repair and regeneration. Aim for 7-9 hours of sleep per night to allow your skin to recover and stay healthy.

## ***8. Regular Check-Ups***

- Visit your dermatologist regularly for skin examinations. Early detection of skin conditions and skin cancer can lead to more effective treatment.

## ***References:***

- National Institutes of Health (NIH) [Skin Health](#)
- American Academy of Dermatology (AAD) [Skin Care Tips](#)

Incorporating these lifestyle recommendations can help you achieve healthier, more resilient skin.

## Frequently Asked Questions (FAQ)

### *What is EpiSkin?*

EpiSkin is a test that measures the biological age of your skin using DNA methylation analysis.

### *Why is knowing the biological age of my skin important?*

Understanding your skin's biological age can help you make informed decisions about skincare and lifestyle choices to maintain healthier, younger-looking skin.

### *How does EpiSkin work?*

EpiSkin analyzes DNA methylation levels from a skin sample to determine the biological age of your skin. This is done using bisulfite conversion and next-generation sequencing.

### *What part of the skin is used for the EpiSkin test?*

The EpiSkin test can be performed on any part of the skin that is exposed to the environment, such as the face or outer forearm, to ensure the sample reflects environmental exposure and aging.

### *Do I need a dermatologist to perform the skin sampling?*

Yes, it is highly recommended to have a dermatologist perform the skin sampling to ensure proper technique and avoid contamination with blood.

### *How long does it take to get the results?*

Results are typically available within a few weeks after the sample is received by the laboratory.

### *Is the EpiSkin test painful?*

The test involves a minor skin sampling procedure, which may cause slight discomfort but is generally well-tolerated.

### *Can EpiSkin results be used to diagnose skin diseases?*

No, EpiSkin is not intended to diagnose, treat, or prevent any diseases. It is purely for informational purposes to understand the biological aging of your skin.

### *How accurate is the EpiSkin test?*

The test provides highly accurate results with a technical accuracy rate expressed as a percentage, normalized to the EpiSkin outcomes.

### *How often should I take the EpiSkin test?*

It is recommended to repeat the test periodically, such as annually, to monitor changes in your skin's biological age.

### *What factors can influence my skin's biological age?*

Both intrinsic factors (like genetics, metabolism, and overall health) and extrinsic factors (such as UV exposure, pollution, and lifestyle choices) can influence your skin's biological age.

### *Can I improve my skin's biological age?*

While intrinsic factors cannot be changed, adopting a healthy lifestyle, protecting your skin from UV radiation, and following a proper skincare routine can help improve and maintain your skin's health.

### *Is the EpiSkin test covered by insurance?*

Coverage for the EpiSkin test varies by insurance provider. It is best to check with your insurance company to determine if the test is covered

### *Where can I get the EpiSkin test done?*

The EpiSkin test can be arranged through HKG epiTherapeutics or participating dermatologists and clinics. Contact us for more information on how to proceed.

## **Disclaimer**

The EpiSkin test is not intended to be health information or medical data or to be used to screen, diagnose, treat, prevent, or assess the risk of any disease or condition. The epiaging service is an epigenetic age determination based on the assessment of DNA methylation in your DNA. We are not collecting genetic data. This service has not been cleared or approved by the U.S. Food and Drug Administration.