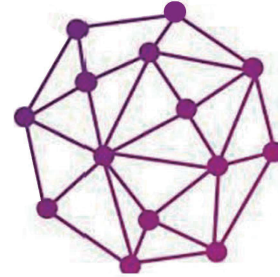




Gene Tox Lab
Solutions



Skin Type Match

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GenoMatchMe™ Skin Match Report



Sample Report



About Skin Match Report

How youthful your skin appears is based on a combination of your genetics (about 60%) and environmental factors (about 40%). However, improper care and negligence often accelerate skin aging, leading to wrinkles, dryness, and pigmentation. These consequences are attributed to elasticity, hydration, antioxidant factors, and glycation protection. Scientists have discovered several key genetic markers (otherwise known as SNPs) that are responsible for these skin characteristics. Our targeted approach can identify your skin's natural strengths and weaknesses to develop a regimen tailored specifically for you. This curated report takes the guesswork out of your skincare, enables you to enhance the vitality of your skin, and accentuate your natural radiance.

A Genetics-based Precision Skincare

Your Result

Skin Characteristics	GENES	SNPS	Alleles	My Result
Antioxidant capacity	GPX1	rs1050450	NA	NA
	SOD6	rs1141718	AA	Your skin is genetically capable of maintaining good antioxidant capacity.
	NQO1	rs1800566	GG	Your skin is genetically capable of maintaining good antioxidant capacity.
	NFE2L2	rs35652124	TC	Your skin has the genetic capability to resist damage from oxidative stress.
	SOD6	rs1141718	AA	Your skin is genetically capable of maintaining good antioxidant capacity.
	NFE2L2	rs6706649	CC	Your skin is genetically capable of maintaining good antioxidant capacity.
	NFE2L2	rs6721961	GG	Your skin is genetically capable of maintaining good antioxidant capacity.
	Overall Score		2.96	Genetic capability for good antioxidant capacity
Skin elasticity	IL6	rs1800795	GG	Your skin is genetically capable of maintaining good elasticity levels.
	MMP3	rs3025058	II	NA
	MMP9	rs3918242	NA	NA
	Overall Score		1.96	Genetic capability for appropriate skin elasticity
Skin hydration	AQP3	rs17553719	TT	Your skin can maintain good hydration levels thanks to polymorphism in genes for aquaporin-3..
Skin Aging	AGER	rs2070600	CC	Your skin is prone to typical aging.

Skin pigmentation	SLC24A5	rs1426654	NA	NA
	OCA2	rs1800414	TC	Your skin has typical melanin levels and slightly high risk of skin pigmentation.
Sun Sensitivity	MC1R	rs2228479	GG	Your skin may tan well and is less likely to get damaged from UV light.
	ASIP	rs1015362	CC	NA
Melanoma	MC1R	rs1805008	CC	Typical risk of skin cancer (melanoma).
Collagen Breakdown	MMP1	rs1799750	II	Increased skin aging and reduced skin elasticity. Fast breakdown and degradation of collagen fibers found in the extracellular matrix of human tissue.

Skin Antioxidant Capacity

The most harmful aggressor to healthy skin is oxidative stress. As the skin ages and is regularly exposed to oxidative stress such as UV radiation and pollution, volatile molecules called free radicals are produced. Free radicals damage the cellular environment of the skin, which leads to wrinkles and uneven skin. Oxidative stress breaks down collagen, damages DNA, triggers inflammatory responses, and hinders cellular renewal stages. Some people have a better biological capability to overcome these forms of oxidative stress, but everyone becomes susceptible to its negative effects after chronic exposure such as the loss of skin antioxidant capabilities. The natural aging process is another factor where skin elasticity and hydration are lost as people enter their 30's. New skin cell are generated at a slower rate, and collagen production and moisture retention are weakened.

Tips for preserving your skin antioxidant capacity

Stay away from the sunlight.

Photo damage from UVA/UVB rays contributes to 80% of damaged skin and decreased antioxidant capacity. UVA rays are strong enough to penetrate through tinted windows and can damage skin cells at the molecular level, which can cause irreversible damage. Look for sunscreens that contain both UVA and UVB protection.

Add Omega-3 fatty acids to your diet.

Good sources of Omega-3 fatty acids are fatty fish such as salmon, flaxseeds, and Omega-3 supplements. These essentially “good” fats are known to rebuild collagen.

Take collagen supplements.

Research shows that regular intake of collagen helps build tissue structure, which helps retain skin moisture.

Apply topical antioxidants

The most potent antioxidants are Vitamins C and E, and they have synergistic effects when used together as topical applications. Vitamin C rebuilds collagen, and Vitamin E protects cell membranes from oxidative stress. Keep in mind that there is a plethora of antioxidants available, and it is best to try out different antioxidants that are compatible with your skin.

Drink and apply green tea to your face.

Green tea provides a myriad of benefits whether sipped as a drink or applied directly onto the skin. The EGCG content in green tea is a known antioxidant that helps the skin protect itself from sun damage and reactivates skin cells.

Antioxidants perform even better together.

Antioxidants have a synergistic effect, where benefits are multiplied when used or applied together. Putting on sunscreen, applying a few different types of antioxidants to the face, and drinking green tea is much more effective than just one method alone.

Tips for increasing and maintaining good skin elasticity

**Avoid losing a large amount of weight in a short amount of time.**

While losing weight is almost always a New Year's resolution, sudden and drastic weight loss may leave you with sagging skin.

**Drink plenty of water.**

Water nourishes all the cells in the body, including our skin cells. Without adequate hydration, your skin will appear dull and dry.

**Avoid excess sun exposure and apply sunscreen.**

Exposure to UVA and UVB rays is the main cause of skin structural damage and quicker aging. Do not forget to apply sunscreen before going outside, and make sure your sunscreen protects against both UVA and UVB rays.

**Exercise regularly.**

At least thirty minutes of aerobic exercise improves circulation to the skin, which helps the skin remove waste products more efficiently.

**Eat your proteins.**

Proteins make up the structure of our skin cells and play an important role in collagen production and elasticity.

**Eat and apply Vitamin C and Vitamin E.**

Vitamins C and E are known to build collagen and improve skin elasticity.

Tips for keeping your skin hydrated and moisturized



Stay away from soap and detergent based cleansers.

Try to use gel or oil type of cleansers that do not strip away the skin's protective barrier that provides hydration.



Use skincare products that target skin dryness.

Not all skincare products are made the same. Check labels and ingredients carefully and look for moisture-retaining ingredients such as hyaluronic acid.



Take collagen supplements.

Research shows that regular intake of collagen helps build tissue structure and retain moisture. and look for moisture-retaining ingredients such as hyaluronic acid.



Avoid hot water.

Hot water is extremely drying for the skin as it breaks down the lipid barrier that keeps your skin hydrated and protected. Make sure to take lukewarm baths to avoid moisture loss.



Use humidifiers.

Humidifiers can reintroduce moisture back into the air especially during the wintertime. Use them around the house to help your skin retain moisture.

Skin Aging (Glycation)

Glycation is a hot and trending buzzword in the world of skincare because this is one of the leading causes of premature skin aging. In short, glycation is a natural process in your body where the sugar molecules in your bloodstream attach to good proteins in your skin (e.g. collagen) and form new harmful molecules called Advanced Glycation End products (AGEs). These AGEs break down the collagen and elastin in your skin, which causes a multitude of skin problems below:



The more AGEs you have, the quicker your skin ages. Where does genetics come into play? 50% of people are genetically predisposed to experiencing more glycation than others. These people must be more careful in how they take care of their skin and what they eat to reduce these effects. Overconsumption of sugar is the main trigger that speeds up glycation and should be avoided.

AA and AC

You have an increased risk for advanced glycation. This means you are genetically more susceptible to dry and hardened skin. Other effects of glycation include acne, skin thinning, loss of elasticity, and loss of your skin's ability to regenerate. Many people with your genotype experience accelerated skin aging due to glycation, and it is important to take extra care to inhibit glycation. Although glycation cannot be completely stopped, you can take steps to slow it down and see a noticeable difference in your skin.

CC

You have normal glycation levels, which means you are more protected from skin damage and aging compared to others with a different genotype. You are not likely to see the visible effects of skin aging right away even if your diet contains large amounts of sugar and carbs. However, glycation is a natural process that occurs in everyone. Therefore, taking many preventative measures early on is recommended to maintain healthy and youthful skin.

Decrease
your refined
carb and
sugar intake

The most important measure that has been scientifically proven to limit glycation and wrinkles is decreasing sugar intake. This includes simple carbohydrates (e.g. white bread and pasta) and all forms of sugar including high fructose corn syrup found in soft drinks and most processed foods. The glucose from the sugar and carbohydrates that you digest enters your bloodstream and attaches to good proteins in your skin that protect you from aging, which creates AGEs. Diabetics show the most signs of premature aging because they go for years with undetected high blood sugar levels.

Your
skincare
products
make a
difference

Biochemists have been researching and creating anti-glycation agents since the 90's. Look for quality products with ingredients that stimulate collagen and fibroblasts. Retinoids and green tea have been proven to significantly slow down glycation.



Drink Green Tea Every Day

Green tea is proven to reduce the formation of Advanced Glycation End products (AGEs) due to its potent antioxidant capacity. White tea and black tea have similar effects. Topical application of green tea extracts also interferes with and slows down the glycation process.



Eat Blueberries

Blueberries are supercharged with antioxidant and anti-inflammatory properties because they contain anthocyanins that naturally avert glycation-induced skin damage, stabilize the collagen matrix, and promote collagen biosynthesis and micro-circulation.



Always wear sun protection

The glycation process is accelerated when your skin is exposed to UV rays, especially after the age of 35. Exposure to sunlight drastically intensifies AGE accumulation.



Supplement with Vitamin B1

Studies show that Vitamins B1 and B6 inhibit glycation and the formation of AGEs.



Avoid barbequed, blackened or charred meat

Searing and barbequing meat form AGEs in food before it is even consumed. Cook your meats medium to medium rare and take it easy on those summer BBQs

Skin Pigmentation and Sun Sensitivity

Although aging and individual skin condition is multifaceted and complex, there are several key skin properties associated with youthful skin that become compromised as we grow older- elasticity, hydration, antioxidant factors, and glycation protection. Scientists discovered several key genetic markers (SNPs) that are associated with these skin predispositions. In this targeted approach, it is possible to identify your skin's natural strengths and weaknesses and create a personalized skincare regimen tailored to you. This takes the guesswork out of skincare and you will be able to address your skin's issues with precision.

More melanin / Skin pigmentation	Less melanin / Skin pigmentation
<p>Based on your DNA, your skin type is associated with thicker skin, better UV protection, less wrinkling, and lower chance of skin cancer. However, you are more likely to experience discoloration or hyperpigmentation, age spots, scarring, and keloids. Microdermabrasion and any other skin treatments that have high potential for scarring skin should be avoided. Discuss with your dermatologist before undergoing any skin resurfacing procedure, piercings, or tattoos. Because your body absorbs less UV rays from the sun, consider adding a Vitamin D supplement to your diet. Wear proper clothing and sunscreen before going outside in the sun.</p>	<p>Your skin type is usually thin and fair and any scars on your skin will heal well. However, you are more likely to burn more easily, have a greater chance of developing skin cancer, and have signs of skin aging appear earlier. Take extra care to protect yourself from the sun and avoid harsh products that exfoliate your skin too much. People with your skin type generally have good results with laser treatments and microdermabrasion.</p>

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Disclaimer

The analysis is based on high throughput sequencing or genotyping data from a testing sample. The report does not provide any medical advice, diagnosis or treatment. The results are for informational purposes only and are subject to change. You should consult your physician if you have questions regarding any medical condition or treatment. The results and analysis presented in this report have not been clinically validated, cleared, or approved by the FDA or similar government institutions. The performance characteristics of this test were developed and determined by the lab. FDA approval is not currently required for use of this test. Lab validation was done as required by the Clinical Laboratory Improvement Amendments of 1988 (CLIA).

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