

The
WellnessTM Gene
DNA OPTIMIZED HEALTH



**ANTI-AGING, BEAUTY
AND WELL BEING**

Powered By  Slim



Personal Info

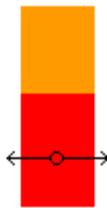
First Name	Sample report
Last Name	20April2012
Gender	?
Date of Birth	00-Dec-0000
Date Sample Taken	20-Apr-2012
Date Sample Received	20-Apr-2012
Date Report Issued	20-Apr-2012

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Results

DERMAGENOMICS - COLLAGEN SYNTHESIS



GENERAL CONCLUSION

This overall genetic profile has been associated with increased susceptibility to premature aging. Skin cells tend to be more prone to structural damages caused by overexposure to sunlight and/or environmental pollutants.

Executive Summary

Cautious exposure to sunlight (15min, 3-4 times every week) is recommended.

If you are smoking it is strongly recommended to quit.

Increase intake of Calcium.

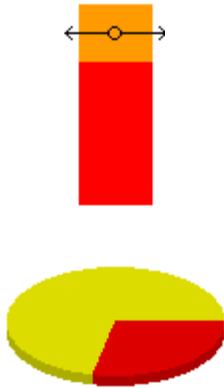
Increase intake of Vitamin D.

Limit caffeine intake.

Your genetic profile indicates a genetic barrier in your skin collagen synthesis to which the following cosmetic product from the genecouture cosmetic line addresses:

COLLAGEN FACIAL CREAM (D2)

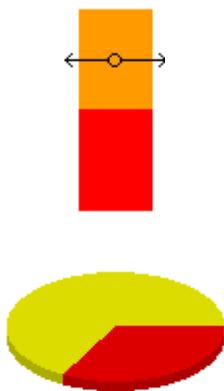
DERMAGENOMICS - SKIN ANTIOXIDATION



GENERAL CONCLUSION

This overall genetic profile has been associated with efficient anti-oxidant protection. It is more likely that the skin cells are able to defend sufficiently against free radicals and are protected by early skin aging.

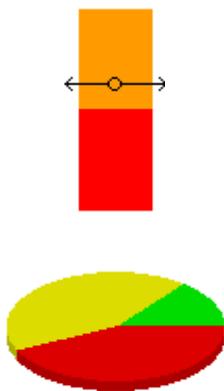
DERMAGENOMICS - SKIN IRRITABILITY



GENERAL CONCLUSION

This overall genetic profile has NOT been associated with increased susceptibility to inflammatory conditions of the skin. It is more likely that the skin will exhibit normal sensitivity to factors like chemicals used routinely (detergents, soaps, etc.).

DERMAGENOMICS - SKIN DETOXIFICATION



GENERAL CONCLUSION

This overall genetic profile has NOT been associated with disruptions in the skin protection against environmental toxins, like tobacco smoke and automobile emissions. The body is more likely to work sufficiently to defend against substances that accelerate skin aging.

DERMAGENOMICS - SKIN CELLS RENEWAL



GENERAL CONCLUSION

This overall genetic profile has been associated with defective metabolism of Vitamin B complex. Individuals, especially those following a diet poor in Vitamins B-complex (folic acid, B6, B12), have increased risk for early skin aging.



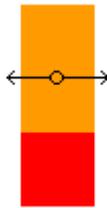
Executive Summary

Have a regular check up of homocysteine levels and folic acid.
 Increase intake of folic acid.
 Increase intake of Vitamins B6 and B12.

Your genetic profile indicates a genetic barrier in your skin replenishment ability to which the following cosmetic product from the genecouture cosmetic line addresses:

SKIN FOLIC ACID CREAM (D6)

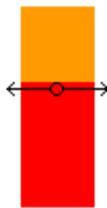
SKIN CANCER - BASAL CELL CARCINOMA



GENERAL CONCLUSION

This overall genetic profile has NOT been associated with increased risk for basal cell carcinoma.

NUTRIGENOMICS - LIPID METABOLISM



GENERAL CONCLUSION

This overall genetic profile has been associated with higher risk for disruptions in lipids metabolism, which can result to elevated lipids in blood circulation.

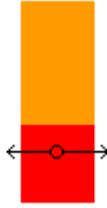
Executive Summary

Regular check up of total cholesterol, HDL cholesterol, LDL-cholesterol, triglycerides, HDL-C, and total cholesterol/HDL cholesterol ratio, glucose levels is strongly recommended.
 Reduce your body weight in case you are overweight.
 Maintain normal body weight or BMI < 24.9.
 If you are smoking it is strongly recommended to quit.
 Regular exercise is strongly recommended. Emphasize duration rather than intensity.
 Increase intake of ω -3 fatty acids.
 Increase intake of dietary fiber.
 Limit intake of saturated fat.
 Limit intake of sugar.
 If you are drinking, limit alcohol consumption.

The following nutritional supplement from the genecouture nutraceutical series is recommended:

POLYUNSATURATED FATTY ACIDS (N2)

NUTRIGENOMICS - FOLIC ACID METABOLISM



GENERAL CONCLUSION

This overall genetic profile has been associated with impaired homocysteine removal, which can have toxic effects in cells. Individuals are more likely to deal with disruptions in Vitamin B complex metabolism that will increase their needs for this Vitamin.

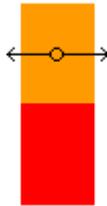
Executive Summary

Have a regular check up of homocysteine levels and folic acid.
 Increase intake of folic acid.
 Increase intake of Vitamins B6 and B12.

The following nutritional supplement from the genecouture nutraceutical series is recommended:

OPTIMUM FRUIT & VEGETABLE MIX (N3)

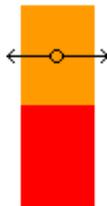
NUTRIGENOMICS - IRON ABSORPTION & STORAGE



GENERAL CONCLUSION

This overall genetic profile has been NOT been associated with higher risk for iron overload.

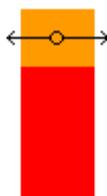
NUTRIGENOMICS - INFLAMMATORY RESPONSE



GENERAL CONCLUSION

This overall genetic profile has NOT been associated with increased susceptibility of individuals to inflammatory conditions.

NUTRIGENOMICS - ANTIOXIDATION ABILITY

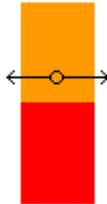


GENERAL CONCLUSION



This overall genetic profile has been associated with satisfactory anti-oxidant protection.

NUTRIGENOMICS - DETOXIFICATION ABILITY

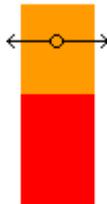


GENERAL CONCLUSION



This overall genetic profile has been associated with satisfactory detoxification ability.

NUTRIGENOMICS - SALT SENSITIVE HYPERTENSION

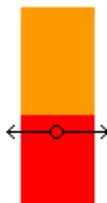


GENERAL CONCLUSION



This overall genetic profile has NOT been associated with increased risk for hypertension, after salt intake through diet.

NUTRIGENOMICS - ALCOHOL METABOLISM



GENERAL CONCLUSION

This overall genetic profile has been associated with slow metabolism of alcohol. Individuals, is more likely to find alcohol pleasant and be prone to increased alcohol consumption.



NUTRIGENOMICS - CAFFEINE METABOLISM

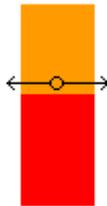


GENERAL CONCLUSION



This overall genetic profile has been associated with fast caffeine metabolism. Coffee has normal or even in cases reduced stimulating effects. Individuals are more tolerant to caffeine consumption.

NUTRIGENOMICS - GLUTEN TOLERANCE



GENERAL CONCLUSION



This overall genetic profile has NOT been associated with increased risk for Gluten Intolerance (Celiac Disease).

INTRODUCTION

Predictive Genomics for Anti-Aging

The Anti-Aging & NutriGenomics Predictive Genomics Test analyzes certain mutations in genes which affect the quality of life, all documented in scientific literature.

The test aims at detecting certain genetic factors for a young and healthy appearance. Genes related to several biological processes - from skin aging and hair loss to metabolism of nutrients - are investigated. Knowledge of your genetic profiles allows a more efficient approach to your personal needs for a youthful appearance. Appropriate guidelines and cosmetic support based on your genetic profile becomes feasible.

Test results also inform you about the way that your genes may interact with lifestyle habits, like caffeine and alcohol consumption. Knowing your tendencies can help you make positive changes to improve the quality of your life.

Read your genes and discover the way to a younger and healthier you!

GLOSSARY

- **Apoptosis** is the programmed death of cells. It is a mechanism of the organism to maintain a relative constant and normal number of cells. It also includes a cascade of biological processes that result to the death of a cell, when it is seriously damaged or infected by a virus.
- **Adipocyte** is the main type of cells that compose adipose tissue and are also known as fat cells, or lipocytes. Their main function is to store energy in the form of fat.
- **Allele** is one member of the pair that makes up a gene. Genes come in pairs and each allele is an alternative form of the gene.
- **Amino acids** are components of proteins. Some are synthesized by the body (nonessential amino acids) and others must be obtained through diet (essential amino acids).
- **Antioxidant** is a substance that can protect the cells from damages caused by conditions of oxidative stress.
- **β (beta)-pancreatic cells** are a type of cells in pancreas which are responsible for the production and secretion of insulin.
- **BMD (Bone Mineral Density)** is a measure of bone density. BMD test is used to define loss of bone mass and detect osteoporosis.
- **BMI (Body Mass Index)** is a statistical measurement, used to estimate whether individuals have normal body weight. It compares weight and height based on the mathematic formula: $BMI = \frac{\text{mass (kg)}}{\text{height}^2(\text{m}^2)}$
- **Carcinogen** is an agent (substance or radiation) that is involved in the development of cancer. Carcinogens can cause serious damage either to the DNA or the metabolic functions of cells.
- **Detoxification** is the process of removing or inactivating toxic substances from the body. It is crucial for cells to maintain their ability to detoxify themselves from substances, which have the potential to cause serious damages.
- **DNA** is a large molecule found in the nucleus of the cell. It contains the essential genetic information for the function of living organisms and has a significant role in the development of all traits that define our individuality. Its molecular structure in place has the shape of a double spiral, called double helix.
- **DNA sequence** is a succession of nucleotides in the DNA molecule.
- **DNA testing** utilizes techniques that enable scientists to define the DNA sequence or detect certain nucleotides at specific positions of the DNA.
- **Carbohydrate** is a compound of carbon, hydrogen and oxygen. It is an important source of energy found in food.
- **Cell** is the smallest functioning unit in the structure of an organism. It is enclosed by a membrane and contains a nucleus and organelles with certain functions (mitochondria, lysosomes, ribosomes).
- **Cell cycle** is the series of events that result to cell division and cell proliferation. A process very important for development, growth, wound healing.

- **Cholesterol** is a waxy, fat-like substance essential for the structure of cell membrane. It is also a component of certain hormones and some Vitamins and is transported with lipoproteins through blood circulation.
- **Chromosome** is a rod-shaped compound of DNA and proteins found in a cell nucleus. The structure serves the DNA package in the nucleus and the control of DNA functions. A human body cell normally contains 46 chromosomes arranged in 23 pairs.
- **Chromatin** is the combination of DNA and proteins which when condensed makes up chromosomes.
- **Enzyme** is a protein that controls biochemical reactions, resulting to either production or inactivation of substances in cells.
- **Genes represent** small segments of the DNA molecule which are the structural units of heredity in all living organisms. They contain the genetic information which can be used by cells. The human genome contains approximately 30,000 genes, which are located at specific positions on chromosomes.
- **Genetic** profile results from analysis of several genes in the DNA of an individual. It can be informative for the genetic tendencies of individuals regarding the trait under consideration.
- **Genotype** describes the constitution of gene (the type of the gene). It refers each time to a specific gene under investigation, describing the alleles that the gene contains. It often refers to the pair of the nucleotides found at a specific position of the DNA sequence.
- **Genome** is the total genetic material of a cell. It is the full complement of genetic information that an organism inherits from parents.
- **Glucose** is a very important carbohydrate in biological systems. It is used by cells as a source of energy and is also an intermediate of metabolism.
- **HDL (High Density Lipoprotein)** transports lipids through blood circulation. Due to its ability to remove cholesterol from arteries to liver and prevent serious damages, it is also called "good cholesterol".
- **Homeostasis** is a state of equilibrium (balance) or the tendency to reach equilibrium. It is the ability of a living organism to regulate its internal environment in order to maintain a stable condition.
- **Homocysteine** is an amino acid, important for the production of another amino acid called Cysteine. Homocysteine metabolism and maintenance of normal levels is crucial for the health, as elevated homocysteine levels in blood associate primarily with problems of the cardiovascular system.
- **HR max (Heart Rate max)** is the maximal number of heartbeats per unit of time. It should be estimated by specialized medical staff before an individual begins an exercise training program.
- **HR reserve (Heart Rate reserve)** describes the difference between a person's HR max and resting Heart rate (heart beats during resting). It is used in some cases of measuring the intensity of physical exercise.
- **Immune response** is the response of the immune system: the mechanism activated to defend against foreign harmful substances that come into the body, pathogens, and tumor cells.
- **Inflammation** is a process by which the body activates certain types of cells to protect us from infections and substances recognized as foreign.
- **Insulin** is a hormone produced in pancreas. It causes cells of fat tissue, liver and muscle to take up glucose from blood and use it as energy source.

- **LDL (Low Density Lipoprotein)** transports lipids through blood circulation. LDL is often called "bad cholesterol" as elevated LDL levels are harmful for the cardiovascular system.
- **Lipid** is a molecule naturally produced in the body with the main role of energy storage. Certain types of lipids are obtained through diet from fats contained in food. With lipid metabolism, the body synthesizes or degrades the fats to produce lipids with the essential characteristics. Triglycerides and fatty acids belong to lipids.
- **Lipoprotein** is a compound of lipid and protein which transport lipids (fats) and cholesterol around the body through blood circulation. HDL, LDL, and VLDL belong to lipoproteins.
- **Metabolism** is a group of chemical reactions that take place in a living organism to maintain life, develop and reproduce. It includes the processes of constructing components of cells (anabolism) and breaking down compounds (catabolism) to produce energy.
- **Molecule** is the smallest part of a chemical compound which can exist independently. It consists of one or more atoms held together by chemical forces.
- **Mutagen** is an agent which can cause a change in the genetic material of an organism.
- **Mutation** is a change in the genetic material of an organism. Regarding human cells, mutation refers to a change in the sequence of the DNA. Mutations are responsible to a significant degree for the variability of characteristics observed in the human population. Mutations can be beneficial, harmful or even neutral, having no effect. They result to different forms of alleles in genes, and are often called polymorphisms. The effect of mutations is often affected by environmental factors.
- **Nucleotides** are the structural molecules of the genetic material. In DNA each nucleotide is represented by a letter, which can be A, T, C, or G, each defined by the base that the nucleotide contains (Adenine, Thymine, Cytosine, or Guanine). When they are joined together and based on their succession, nucleotides define certain genetic information.
- **Oxidative stress** is caused in cells due to their reduced ability to fight against oxidative factors, which are substances like peroxides and free radicals. These can be either by-products of normal functions of cells or can be produced by environmental toxic substances when they enter the body. In both cases they can have toxic effects as they can damage seriously the components of cells (proteins, lipids, DNA).
- **Pharmacogenomics** is the field of Pharmacology and Genetics, which investigates how the DNA of individuals affects their response to drugs. Based on DNA testing, it aims to identify which drugs have increased efficacy or cause reduced toxicity to an individual.
- **Predictive genomics** is the field of Medicine which identifies mutations in the DNA of an individual in order to predict the likelihood of this individual to develop certain characteristics, abilities or conditions.
- **Proteins** are molecules made of amino acids. They are essential parts of organisms and take part in energy metabolism.
- **Vitamin** is a compound necessary for an organism to function properly. A compound is characterized as Vitamin, when it is essential to be provided by diet as it cannot be synthesized in adequate amounts by an organism.
- **VLDL (Very Low Density Lipoprotein)** transport lipids through blood circulation.
- **VO₂ max** is the maximal oxygen consumption, describing the amount of oxygen transported and used during physical exercise of individuals. It is an important factor for the physical fitness.

- **Xenobiotic** is a chemical which can be found in an organism but it is not normally produced by it nor obtained by diet. Drugs and antibiotics are examples of xenobiotics.

HOW TO READ THE REPORT

In the following pages you will find personal information about your genetic profile. The genes are analyzed independently of sex and age.

Some genes may be analyzed for more than one condition or trait, as one gene can have an important effect on various biological systems.

For some genes, more than one mutation (polymorphism) may be analyzed. You will be able to see the genes analyzed and the results (genotype) of the analysis.

What is the effect of each genotype?

The influence of each genotype is described in colored circles. Based on the color of the circle for each type of the gene, you can see whether a certain genotype shows an increased, an average or a reduced risk always compared to the risk of general population.



The red circle means increased risk.



The yellow circle means average (risk of general population).

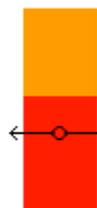


One green circle means reduced risk.

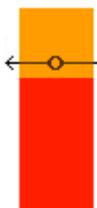
How is your genetic profile evaluated?

The conclusion for your genetic profile in a category is shown at the beginning of the report with a "bar" chart. The region with the **red color** represents the region of **increased risk**, whereas the region with **orange color** represents the region that is **NOT** associated with **increased risk**.

The line with the two arrow heads on the bar graph shows the position of your genetic profile.

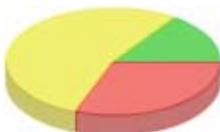


The **lower** this line is found in **red** region the **higher is the risk**.



The **higher** this line is found in **orange** region the **lower is the risk**.

The "pie" chart compares for each category the proportion of genotypes with negative, neutral and positive effect.



The **red** part represents the proportion of **negative** genotypes, the **yellow** part represents the proportion of **neutral** genotypes and the **green** part represents the **positive** genotypes.

The general conclusion for each gene category is drawn according to the importance of each negative genotype. This means that even if there are more green circles or yellow than the red ones, the conclusion for the specific section of the test may show increased risk. The term "increased risk" is compared to the relative risk of general population.

When a type of a gene or a genetic profile is associated with a certain ability or risk, this does not mean that

the trait under investigation will be certainly manifested.

Information obtained from DNA testing are informative to an important degree for the tendencies of individuals but are neither descriptive nor predict with certainty what will eventually happen.

The company focuses mainly on traits and conditions for which environmental factors play a significant role, so that the possible genetic disadvantages can be to a degree modifiable.

The information supplied to you does not confirm or replace any medical diagnosis or status conferred by a health care professional, a Doctor or a Genetic counsellor.

When feasible, appropriate guidelines will follow according to your genetic profile for the category under investigation. The guidelines may be in cases provided based on the particular genotype of a gene.

Specific medical advice will not be provided, and the company urges you to consult with a qualified physician for diagnosis and for answers to your personal questions.

DERMAGENOMICS - COLLAGEN SYNTHESIS			
Gene	Biological effect	Genotype	
MMP1	Cell growth regulation Collagen breakdown Photo aging	GG	
Individuals who have this type of gene experience significant increased skin sensitivity. More skin degradation takes place and a larger number of wrinkles appear after exposure in sunlight.			
VDR	Regulation of collagen formation Bone formation and replacement Connective tissue degradation	GG	
This type of the gene is associated with impaired use of Vitamin D and reduced absorption of calcium. The skin is prone to structural damages, resulting to increased risk for premature aging, with early development of wrinkles.			
VDR	Regulation of collagen formation Bone formation and replacement Connective tissue degradation	TT	
This type of the gene is associated with impaired use of Vitamin D and reduced absorption of calcium. The skin is prone to structural damages, resulting to increased risk for premature aging, with early development of wrinkles.			
COL1A1	Collagen formation in cartilage, bone, skin connective tissue	GG	
This type of the gene is associated with reduced protection of skin cells against structural damages, mainly when individuals are over-exposed to pollutants and sun. In this case they have increased risk for early skin aging, which can be experienced by development of skin slacking and/or wrinkles.			
COL5A1	Collagen formation in cartilage, bone, skin, connective tissue	TC	
This type of the gene is associated with reduced protection of skin cells against structural damages. Individuals, especially those over-exposed to pollutants and sun, have increased risk for early skin aging, which can be experienced by development of skin slacking and/or wrinkles.			
VDR	Regulation of collagen formation Bone formation and replacement Connective tissue degradation	TT	
Conclusion			
This overall genetic profile has been associated with increased susceptibility to premature aging. Skin cells tend to be more prone to structural damages caused by overexposure to sunlight and/or environmental pollutants.			

DERMAGENOMICS - SKIN ANTIOXIDATION

Gene	Biological effect	Genotype	
SOD2-MnSOD	Free radical removal Anti-oxidative ability	CT	
Individuals who have this type of gene have reduced protection from the super-oxide radicals. They deal with an increased risk for damage in skin cells.			
UCP2	Free radical removal Anti-oxidative ability	CT	
Individuals who have this type of the enzyme have reduced ability to defence against free radicals. They have an increased risk of skin wrinkling and slacking.			
CAT	Free radical removal Anti-oxidative ability	GG	
GPX1	Cellular Aging Detoxification Anti-oxidative ability	CC	
SELS	Free radical removal Anti-oxidative ability	CC	
SOD2-MnSOD	Free radical removal Anti-oxidative ability	TT	
SOD3	Free radical removal Anti-oxidative ability	CC	

Conclusion

This overall genetic profile has been associated with efficient anti-oxidant protection. It is more likely that the skin cells are able to defend sufficiently against free radicals and are protected by early skin aging.

DERMAGENOMICS - SKIN IRRITABILITY

Gene	Biological effect	Genotype	
IL6	Inflammatory Response Bone Recycling Glucose usage	GG	
This type of the gene is associated with increased levels of the inflammation factor IL-6. Individuals who have this type of the gene are at high risk of developing skin inflammation. Their skin is easily irritated by chemicals used routinely, like soaps, detergents or others.			
CRP	Inflammatory Response	TC	
TNF-a	Inflammatory response Insulin response	GG	

Conclusion

This overall genetic profile has NOT been associated with increased susceptibility to inflammatory conditions of the skin. It is more likely that the skin will exhibit normal sensitivity to factors like chemicals used routinely (detergents, soaps, etc.).

DERMAGENOMICS - SKIN DETOXIFICATION

Gene	Biological effect	Genotype	
GSTT1	Detoxification Xenobiotics-carcinogens-mutagens Environmental pollutants	DELDEL	

Individuals who have this type of the gene have significant reduced protection from toxins, which are present in the environment. Their skin has a high risk of damage from environmental pollutants like cigarette smoke, automobile emissions and others. Wrinkles development and skin slacking is highly increased.

EPHX1	Detoxification Xenobiotics carcinogens-mutagens Environmental pollutants	TT	
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This type of the gene is associated with a significant reduced skin protection from environmental toxins. Individuals who are highly exposed to pollutants deal with a risk of developing conditions like skin wrinkling and /or slacking.

GSTP1	Detoxification Xenobiotics-carcinogens-mutagens Environmental pollutants	GA	
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Individuals who have this type of the gene have reduced function of the defence system against environmental pollutants. Cigarette smoke, automobile emissions and other chemicals damage the skin resulting in skin aging and slacking.

GSTM1	Detoxification Xenobiotics-carcinogens-mutagens Environmental pollutants	INS_	
GSTP1	Detoxification Xenobiotics-carcinogens-mutagens Environmental pollutants	CC	
NQO1	Cellular aging Detoxification	CC	
EPHX1	Detoxification Xenobiotics carcinogens-mutagens Environmental pollutants	AA	

Conclusion

This overall genetic profile has NOT been associated with disruptions in the skin protection against environmental toxins, like tobacco smoke and automobile emissions. The body is more likely to work sufficiently to defend against substances that accelerate skin aging.

DERMAGENOMICS - SKIN CELLS RENEWAL

Gene	Biological effect	Genotype
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COMT	Homocysteine Metabolism	AA	
<p>This type of the gene is associated with defective homocysteine metabolism and reduced skin replenishment, due to the fact that folic acid and Vitamin B are required for nucleotide synthesis and DNA replication, which are crucial for the constantly dividing skin cells. Individuals, especially those following a diet poor in Vitamins B-complex (folic acid, B6, B12), have increased risk for skin cells death that causes early skin aging, with increased development of wrinkles.</p>			
MTRR	Folic Acid Metabolism Vitamin B12 Metabolism	GG	
<p>This type of the gene is associated with defective metabolism of folic acid and Vitamin B12. This results to reduced skin replenishment, due to the fact that folic acid and Vitamin B are required for nucleotide synthesis and DNA replication, which are crucial for the constantly dividing skin cells. Individuals, especially those following a diet poor in Vitamins B-complex (folic acid, B6, B12), have increased risk for skin cells death that causes early skin aging, with increased development of wrinkles.</p>			
TCN2	Homocysteine concentration	GG	
<p>This type of the gene is associated with defective Vitamin B metabolism. This results to reduced skin replenishment, due to the fact that folic acid and Vitamin B are required for nucleotide synthesis and DNA replication, which are crucial for the constantly dividing skin cells. Individuals, especially those following a diet poor in Vitamins B-complex (folic acid, B6, B12), have increased risk for skin cells death that causes early skin aging, with increased development of wrinkles.</p>			
MTHFR	DNA Synthesis & Repair Folic Acid Metabolism Homocysteine Metabolism	AC	
<p>This type of the gene is associated with defective metabolism of folic acid. This results to reduced skin replenishment, due to the fact that folic acid and Vitamin B are required for nucleotide synthesis and DNA replication, which are crucial for the constantly dividing skin cells. Individuals, especially those following a diet poor in Vitamins B-complex (folic acid, B6, B12), have increased risk for skin cells death that causes early skin aging, with increased development of wrinkles.</p>			
MTHFR	DNA Synthesis & Repair Folic Acid Metabolism Homocysteine Metabolism	CT	
<p>This type of the gene is associated with defective metabolism of folic acid. This results to reduced skin replenishment, due to the fact that folic acid and Vitamin B are required for nucleotide synthesis and DNA replication, which are crucial for the constantly dividing skin cells. Individuals, especially those following a diet poor in Vitamins B-complex (folic acid, B6, B12), have increased risk for skin cells death that causes early skin aging, with increased development of wrinkles.</p>			
MTR	Folic Acid Metabolism Homocysteine Metabolism	AA	
<p>This type of the gene is associated with defective metabolism of folic acid. This results to reduced skin replenishment, due to the fact that folic acid and Vitamin B complex in general, are required for nucleotide synthesis and DNA replication, which are crucial for the constantly dividing skin cells. Individuals, especially those following a diet poor in Vitamins B-complex (folic acid, B6, B12), have increased risk for skin cells death that causes early skin aging, with increased development of wrinkles.</p>			
CBS	Homocysteine Removal Vitamin B6 Metabolism	AG	
<p>Conclusion</p>			

This overall genetic profile has been associated with defective metabolism of Vitamin B complex. Individuals, especially those following a diet poor in Vitamins B-complex (folic acid, B6, B12), have increased risk for early skin aging.

SKIN CANCER-MELANOMA

Gene	Biological effect	Genotype	
MC1R	UV damage repair Sun sensitivity	CC	

SKIN CANCER - BASAL CELL CARCINOMA

Gene	Biological effect	Genotype	
PADI6	Posttranslation enzyme Cancer development	AG	

This type of the gene is associated with increased risk for basal cell carcinoma.

TERT	Telomeres Length (protective regions at the end of chromosomes) Genomic integrity	CT	
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This type of the gene is associated with deregulation of the TERT enzyme and increased susceptibility to basal cell carcinoma. The risk is not high when this gene is independently examined, but increases significantly when it is combined with other genetic factors and environmental carcinogens.

1q42	Genetic locus associated with the condition	TT	
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Conclusion

This overall genetic profile has NOT been associated with increased risk for basal cell carcinoma.

MALE PATTERN BALDNESS

Gene	Biological effect	Genotype	
AR	Male sexual development Hair growth (males & females) Sexual drive (males & females)	AA	

NUTRIGENOMICS - LIPID METABOLISM

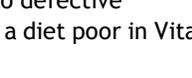
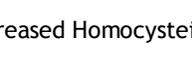
Gene	Biological effect	Genotype	
APOE	Cholesterol Level Regulation	E4E4	

This type of the gene is associated with impaired lipid metabolism and a significant increase of lipids in blood, in particular triglycerides and cholesterol.

APOA5	Lipid Metabolism	GG	
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Individuals who have this type of the gene have impaired lipid metabolism and significant increased levels of lipids in blood, especially triglycerides.

APOC3	Triglyceride Metabolism	GG	
This type of the gene is associated with impaired lipid metabolism and significant increased levels of triglycerides in blood.			
CETP	Cholesterol Metabolism HDL Metabolism	TC	
This type of the gene is associated with impaired cholesterol metabolism and reduced levels of HDL.			
LIPC	Lipid Metabolism	AG	
This type of the gene is associated with impaired lipid metabolism when the intake of animal fat is high.			
LPL	Lipoprotein Metabolism Triglyceride Metabolism	CC	
This type of the gene is associated with increased levels of VLDL and triglycerides in blood, especially when animal fat intake is high.			
PON1	HDL synthesis	AT	
This type of the gene is disadvantageous regarding lipid metabolism, as it is associated with increased levels of blood LDL (Low Density Lipoprotein) and reduced levels of blood HDL (High Density Lipoprotein).			
PON1	HDL synthesis	GA	
This type of the gene is disadvantageous regarding lipid metabolism, as it is associated with increased levels of blood LDL (Low Density Lipoprotein) and reduced levels of blood HDL (High Density Lipoprotein).			
APOA5	Lipid Metabolism	AA	
APOB	Lipid Metabolism	GG	
APOC3	Triglyceride Metabolism	TT	
FABP2	Intestinal absorption of fatty acids Lipid metabolism	GG	
GJA4 (CX37)	Lipid metabolism	CC	
HMGCR	Lipid metabolism	CC	
APOA1	Lipid Metabolism	GG	

CETP	Cholesterol Metabolism HDL Metabolism	GG	
Conclusion			
This overall genetic profile has been associated with higher risk for disruptions in lipids metabolism, which can result to elevated lipids in blood circulation.			
NUTRIGENOMICS - FOLIC ACID METABOLISM			
Gene	Biological effect	Genotype	
COMT	Homocysteine Metabolism	AA	
This type of the gene is associated with significant reduced inactivation of the hormones called catechol-estrogens. It is also involved in defective Homocysteine removal.			
MTRR	Folic Acid Metabolism Vitamin B12 Metabolism	GG	
This type of the gene is defective regarding folic acid metabolism and is associated with increased levels of Homocysteine, especially when individuals follow a diet poor in Vitamin B complex.			
TCN2	Homocysteine concentration	GG	
This type of the gene is associated with increased levels of Homocysteine, especially when individuals follow a diet poor in Vitamin B-Complex.			
MTHFR	DNA Synthesis & Repair Folic Acid Metabolism Homocysteine Metabolism	AC	
This type of the gene is associated with reduced function of the investigated factor. This results to defective metabolism of folic acid and increased levels of Homocysteine, especially when individuals follow a diet poor in Vitamins B-complex (folic acid, B6, B12).			
MTHFR	DNA Synthesis & Repair Folic Acid Metabolism Homocysteine Metabolism	CT	
This type of the gene is associated with reduced function of the investigated factor. This results to defective metabolism of folic acid and increased levels of Homocysteine, especially when individuals follow a diet poor in Vitamins B-complex (folic acid, B6, B12).			
MTR	Folic Acid Metabolism Homocysteine Metabolism	AA	
This type of the gene is associated with defective folic acid metabolism and is associated with increased Homocysteine levels, especially when individuals follow a diet poor in Vitamin B Complex (B6, B9, B12).			
CBS	Homocysteine Removal Vitamin B6 Metabolism	AG	
Conclusion			

This overall genetic profile has been associated with impaired homocysteine removal, which can have toxic effects in cells. Individuals are more likely to deal with disruptions in Vitamin B complex metabolism that will increase their needs for this Vitamin.

NUTRIGENOMICS - IRON ABSORPTION & STORAGE

Gene	Biological effect	Genotype	
HFE	Iron Absorption & Storage Hereditary Haemochromatosis	GC	

This type of the gene is associated with a disability to reduce iron absorption, when iron levels in body are increased. Consequently, individuals deal with the risk for iron overload and a condition called Haemochromatosis. Iron is stored in the body as ferritin, which breaks down to hemosiderin. Iron overload results to high levels of Hemosiderin, which are toxic for tissues.

Individuals with increased risk for Haemochromatosis have reduced risk to exhibit footstrike haemolysis after daily intensive exercise.

HFE	Iron Absorption & Storage Hereditary Haemochromatosis	AA	
HFE	Iron Absorption & Storage Hereditary Haemochromatosis	GG	

Conclusion

This overall genetic profile has been NOT been associated with higher risk for iron overload.

NUTRIGENOMICS - INFLAMMATORY RESPONSE

Gene	Biological effect	Genotype	
IL6	Inflammatory Response Bone Recycling Glucose usage	GG	

This type of the gene is associated with increased levels of the inflammation factor IL-6. Individuals have increased susceptibility to inflammatory conditions.

CRP	Inflammatory Response	TC	
TNF-a	Inflammatory response Insulin response	GG	

Conclusion

This overall genetic profile has NOT been associated with increased susceptibility of individuals to inflammatory conditions.

NUTRIGENOMICS - ANTIOXIDATION ABILITY

Gene	Biological effect	Genotype	
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SOD2-MnSOD	Free radical removal Anti-oxidative ability	CT	
This type of the gene is associated with reduced anti-oxidant function of the investigated factor. Reduced protection from free radicals can result to damages in cells.			
UCP2	Free radical removal Anti-oxidative ability	CT	
This type of the gene is associated with reduced anti-oxidant function of the investigated factor. Individuals, especially those following a diet poor in anti-oxidants, have a risk for increased damages in cells. This type of the gene is also associated with impaired energy metabolism and insulin resistance.			
CAT	Free radical removal Anti-oxidative ability	GG	
GPX1	Cellular Aging Detoxification Anti-oxidative ability	CC	
SELS	Free radical removal Anti-oxidative ability	CC	
SOD2-MnSOD	Free radical removal Anti-oxidative ability	TT	
SOD3	Free radical removal Anti-oxidative ability	CC	
Conclusion			
This overall genetic profile has been associated with satisfactory anti-oxidant protection.			
NUTRIGENOMICS - DETOXIFICATION ABILITY			
Gene	Biological effect	Genotype	
GSTT1	Detoxification Xenobiotics- carcinogens-mutagens Environmental pollutants	DELDEL	
The investigated detoxifying agent is absent and protection from toxins relies on other enzymes. Individuals, especially those consuming a diet poor in anti-oxidants, have increased risk for serious cell damage. This risk is further increased when the defective types of genes GSTM1 and GSTP1 are present. The negative effects of this gene can be diminished by applying appropriate lifestyle and nutritional guidelines, especially increase of anti-oxidant intake.			
EPHX1	Detoxification Xenobiotics carcinogens-mutagens Environmental pollutants	TT	
This type of the gene is associated with reduced protection from environmental pollutants, especially from substances found in traffic emissions, tobacco smoke and grilled meat. Individuals, especially those consuming a diet poor in anti-oxidants, deal with an increased risk for conditions related to oxidative damages to cells.			
GSTP1	Detoxification Xenobiotics- carcinogens-mutagens Environmental pollutants	GA	

This type of the gene is associated with reduced function of the investigated detoxifying factor. Individuals, especially those who follow a diet poor in anti-oxidants, have increased risk for cell damage. This risk is further increased when the defective types of genes GSTM1 and GSTT1 are present. The negative effects of this gene can be diminished by applying appropriate lifestyle and nutritional guidelines, especially increase of anti-oxidant intake.

GSTM1	Detoxification Xenobiotics-carcinogens-mutagens Environmental pollutants	INS_	
GSTP1	Detoxification Xenobiotics-carcinogens-mutagens Environmental pollutants	CC	
NQO1	Cellular aging Detoxification	CC	
EPHX1	Detoxification Xenobiotics-carcinogens-mutagens Environmental pollutants	AA	

Conclusion

This overall genetic profile has been associated with satisfactory detoxification ability.

NUTRIGENOMICS - SALT SENSITIVE HYPERTENSION

Gene	Biological effect	Genotype	
AGTR1	Regulation of lipogenesis Blood pressure regulation	AC	

This type of the gene is associated with abnormalities in blood pressure regulation. Individuals have increased risk for hypertension.

CYP11B2	Renal Sodium Resorption Regulation of blood pressure	TC	
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This type of the gene is associated with disruption in sodium balance, due to increased sodium reabsorption in kidneys caused by aldosterone. Individuals have increased risk for disruption in blood pressure regulation and particularly for hypertension.

ACE	Blood Pressure regulation Muscle performance Lipids & Glucose levels	INSDEL	
ADD1	Sodium Retention in Cells Blood Pressure regulation	GG	
AGT	Regulation of blood pressure Electrolyte balance	CC	
AGT	Regulation of blood pressure Electrolyte balance	TT	

Conclusion

This overall genetic profile has NOT been associated with increased risk for hypertension, after salt intake through diet.

NUTRIGENOMICS - ALCOHOL METABOLISM

Gene	Biological effect	Genotype	
ADH1B-ADH2-(ADH2-2)	Alcohol metabolism Acetaldehyde clearance levels	GG	
This type of the gene is associated with slow activity of the enzyme responsible for the alcohol metabolism. Individuals are prone to increased alcohol consumption.			
ALDH2	Alcohol metabolism Acetaldehyde clearance levels	GG	
OPRM1	Alcohol cravings	AA	
ADH4	Alcohol metabolism Acetaldehyde clearance levels	AC	
ADH1C-ADH3	Alcohol metabolism Acetaldehyde clearance levels HDL levels	CC	

Conclusion

This overall genetic profile has been associated with slow metabolism of alcohol. Individuals, is more likely to find alcohol pleasant and be prone to increased alcohol consumption.

NUTRIGENOMICS - CAFFEINE METABOLISM

Gene	Biological effect	Genotype	
CYP1A2-1C	Caffeine metabolism	GG	
CYP1A2-1F	Caffeine metabolism	AA	

Conclusion

This overall genetic profile has been associated with fast caffeine metabolism. Coffee has normal or even in cases reduced stimulating effects. Individuals are more tolerant to caffeine consumption.

NUTRIGENOMICS - LACTOSE TOLERANCE

Gene	Biological effect	Genotype	
MCM6	Lactose Metabolism	TT	

This type of the gene is associated with the condition of lactose intolerance. It is more likely that individuals with this gene variant are incapable of metabolizing lactose properly in the small intestine, due to the inactivation of lactase.

After consumption of milk and dairy products in general, lactose will pass to colon, where it will be fermented by enteric bacteria. Possible abdominal symptoms include cramps, bloating and flatulence.

NUTRIGENOMICS - GLUTEN TOLERANCE

Gene	Biological effect	Genotype	
IL21	Regulation of Immune Response	GG	
This type of the gene has been associated with importantly increased risk for Gluten Intolerance (Celiac Disease).			
IL18RAP	Immune Response Pro-Inflammatory Cytokine	AA	
This type of the gene has been associated with increased risk for Gluten Intolerance (Celiac Disease).			
LPP	Cell Shape and Motility Immune Response	TG	
This type of the gene has been associated with importantly increased risk for Gluten Intolerance (Celiac Disease).			
RGS1	Immune Response B-cells activation & proliferation	TT	
This type of the gene has been associated with increased risk for Gluten Intolerance (Celiac Disease).			
SH2B3	Immune Response Activation of T-cells	CT	
This type of the gene has been associated with increased risk for Gluten Intolerance (Celiac Disease).			
CCR3	Migration of immune system cells	CC	
HLA-DQ	Antigen Presenting Molecule Immune Response	GG	
IL12A	Immune Response Growth factor for T and Natural Killer cells	AA	
TAGAP	Immune Response T-cells activation	GG	

Conclusion

This overall genetic profile has NOT been associated with increased risk for Gluten Intolerance (Celiac Disease).

GENERAL CONCLUSION

DERMAGENOMICS - COLLAGEN SYNTHESIS

This overall genetic profile has been associated with increased susceptibility to premature aging. Skin cells tend to be more prone to structural damages caused by overexposure to sunlight and/or environmental pollutants.

Medical guidelines

Cautious exposure to sunlight (15min, 3-4 times every week) to help Vitamin D and collagen synthesis.

If you are smoking it is strongly recommended to quit.

Nutritional guidelines

Increase intake of foods rich in Vitamin D. Good sources include oily fish, eggs, fortified foods such as margarine, breakfast cereal or powdered milk. Liver and liver products are also good sources of vitamin D but they are also rich in vitamin A, so you may avoid using them very often.

Increase intake of foods rich in Calcium by consuming dairy foods such as yogurt, milk, egg, cheese (yellow, ricotta, cheddar, mozzarella, feta cheese etc.), milk shakes, pudding.

Nondairy foods also contain calcium. Good sources of nondairy foods are Salmon, sardines, spinach, okra, broccoli, peas, sesame seeds, almonds, tofu.

Calcium-fortified foods include: Calcium-fortified breakfast cereal, calcium-fortified orange juice, instant oatmeal.

Reduce caffeine intake (less than 3 cups /day).

DERMAGENOMICS - SKIN CELLS RENEWAL

This overall genetic profile has been associated with defective metabolism of Vitamin B complex. Individuals, especially those following a diet poor in Vitamins B-complex (folic acid, B6, B12), have increased risk for early skin aging.

Medical guidelines

Do regular check up of homocysteine levels and folic acid.

Nutritional guidelines

Increase dietary intake of foods high in folic acid such as liver, green leafy vegetables (e.g. spinach, broccoli, asparagus, whole wheat products, avocado, legumes, and citrus fruits).

Also increase dietary intake of foods high in Vitamins B6 and B12 such as yeast extracts, long grain rice, seeds, egg yolk, beef, seafood and dairy products.

NUTRIGENOMICS - LIPID METABOLISM

This overall genetic profile has been associated with higher risk for disruptions in lipids metabolism, which can result to elevated lipids in blood circulation.

Medical guidelines

Regular check up of total cholesterol, HDL cholesterol, LDL-cholesterol, triglycerides, HDL-C, and total cholesterol/HDL

cholesterol ratio, glucose levels.

Reduction of body weight if overweight.

Maintain normal body weight or BMI < 24.9.

If you are smoking it is strongly recommended to quit.

*Increase aerobic activity (40-60min, or 2 sessions of 20-30min daily for 3-7 days/week), using large muscle activities, at 40-70% of VO₂max, minimum 1000-1200kcal/week as an initial goal, optimal goal 2000-3500kcal/week.

Emphasize duration rather than intensity.

* ACSM Exercise Management for Person with Chronic Disease and Disabilities

Nutritional guidelines

Fat intake should not account for more than 20-25% of total calories. Prefer ω-3 fatty acids (foods like salmon, sardines etc) - and consume fish at least twice every week.

Reduce saturated fat (animal fat) intake must be limited to a maximum of 5-7% of total calories.

Use only olive oil for cooking.

Limit cholesterol intake to 150mg / day or less.

Reduce consumption of sugars or concentrated sweets such as sugar, syrup, jam, crackers, pies, cakes, donuts, sodas, chocolate, fruit punches, pastries, raisin, grapes, pears, apples, watermelon, banana etc.

Use whole grain cereal rather than spaghetti or rice.

Consume seeds and nuts.

Consume garlic.

Moderate alcohol intake (1-2gl of wine/day).

NUTRIGENOMICS - FOLIC ACID METABOLISM

This overall genetic profile has been associated with impaired homocysteine removal, which can have toxic effects in cells. Individuals are more likely to deal with disruptions in Vitamin B complex metabolism that will increase their needs for this Vitamin.

Medical guidelines

Have a regular check up of homocysteine levels and folic acid.

Nutritional guidelines

Increase dietary intake of foods high in folic acid such as liver, green leafy vegetables (e.g. spinach, broccoli, asparagus, whole wheat products, avocado, legumes, and citrus fruits).

Also increase dietary intake of foods high in Vit B6 and B12 such as yeast extracts, long grain rice, seeds, egg yolk, beef, and seafood and dairy products.

NUTRIGENOMICS - ALCOHOL METABOLISM

This overall genetic profile has been associated with slow metabolism of alcohol. Individuals, is more likely to find alcohol pleasant and be prone to increased alcohol consumption.

NUTRIGENOMICS - LACTOSE TOLERANCE

This type of the gene is associated with the condition of lactose intolerance. It is more likely that individuals with this gene variant are incapable of metabolizing lactose properly in the small intestine, due to the inactivation of lactase. After consumption of milk and dairy products in general, lactose will pass to colon, where it will be fermented by enteric bacteria. Possible abdominal symptoms include cramps, bloating and flatulence. Medical guidelines

Bring the results of this DNA profiling to your Doctor's attention, especially if you experience unpleasant symptoms after consuming milk and other dairy products, like abdominal cramps, bloating and diarrhea. Consult a Gastroenterologist.

Recommended clinical evaluations

Blood test-Lactose intolerance test
Hydrogen Breath test
Stool acidity test

Nutritional guidelines

Consume lactose-reduced or lactose-free products.

Restrict or avoid drinking milk. Drink less milk more often. Sip small servings of milk – 2 to 4 ounces (59 to 118 milliliters) at a time.

Save milk for mealtimes. Drink milk with other foods.

Experiment with other dairy products. For example you may be able to tolerate cultured milk products, such as yogurt.

Be careful when consuming foods with 'hidden' lactose like some prepared foods, such as cereal, instant soups, salad dressings, milk chocolate and baking mixes.

Also many medicines contain very small amounts of lactose, affecting only people with severe lactose intolerance.

In case you restrict dairy products, increased consumption of other foods rich in Calcium is recommended, like broccoli, leafy greens, canned salmon, almonds, oranges, certain kinds of tofu, soya milk, calcium-fortified breads juices.

Executive Summary

DERMAGENOMICS - COLLAGEN SYNTHESIS

Cautious exposure to sunlight (15min, 3-4 times every week) is recommended.

If you are smoking it is strongly recommended to quit.

Increase intake of Calcium.

Increase intake of Vitamin D.

Limit caffeine intake.

Your genetic profile indicates a genetic barrier in your skin collagen synthesis to which the following cosmetic product from the genecouture cosmetic line addresses:

COLLAGEN FACIAL CREAM (D2)

DERMAGENOMICS - SKIN CELLS RENEWAL

Have a regular check up of homocysteine levels and folic acid.
Increase intake of folic acid.
Increase intake of Vitamins B6 and B12.

Your genetic profile indicates a genetic barrier in your skin replenishment ability to which the following cosmetic product from the genecouture cosmetic line addresses:

SKIN FOLIC ACID CREAM (D6)

NUTRIGENOMICS - LIPID METABOLISM

Regular check up of total cholesterol, HDL cholesterol, LDL-cholesterol, triglycerides, HDL-C, and total cholesterol/HDL cholesterol ratio, glucose levels is strongly recommended.
Reduce your body weight in case you are overweight.
Maintain normal body weight or BMI < 24.9.
If you are smoking it is strongly recommended to quit.
Regular exercise is strongly recommended. Emphasize duration rather than intensity.
Increase intake of ω -3 fatty acids.
Increase intake of dietary fiber.
Limit intake of saturated fat.
Limit intake of sugar.
If you are drinking, limit alcohol consumption.

The following nutritional supplement from the genecouture nutraceutical series is recommended:

POLYUNSATURATED FATTY ACIDS (N2)

NUTRIGENOMICS - FOLIC ACID METABOLISM

Have a regular check up of homocysteine levels and folic acid.
Increase intake of folic acid.
Increase intake of Vitamins B6 and B12.

The following nutritional supplement from the genecouture nutraceutical series is recommended:

OPTIMUM FRUIT & VEGETABLE MIX (N3)

NUTRIGENOMICS - LACTOSE TOLERANCE

In case your Doctor diagnoses you suffer from lactose intolerance, then the physician can provide you with further instructions regarding certain foods you should avoid.

Due to the heritability of the polymorphisms in the genes analyzed, molecular analyses and genetic counseling for all first degree relatives of individuals with increased risk is recommended for pre-symptomatic diagnosis.