



FITgen



Physical fitness is determined by different physiological parameters described below. Polymorphisms in genes affecting parameters such as muscle fiber constitution, energy use, lung and heart capacity as well as motivation have been analysed and your personal results as well as individualized recommendations to optimize your physical fitness are given on the following pages.

ENERGY EXPENDITURE

Energy expenditure refers to the amount of energy a person uses to be physically active. Energy is produced through cellular respiration in mitochondria by breaking down organic compounds taken up via food in order to transform them into chemical energy. Depending on its genetic makeup the human body might have different amounts of energy at its disposal during physical activity.

MOTIVATION

The human brain produces over 100 chemical substances called neuro-transmitters which regulate numerous physical and emotional processes. They have a profound influence on overall health and well-being. When concentration and focus are good a person feels directed and motivated to be physically active. If neuro-transmitter levels are inadequate these motivating signals are reduced, resulting in feelings of sluggishness, stress and lack of control.

MUSCLE CAPACITY

Muscle capacity is the muscle's ability to grow, develop and function properly, and depends on good oxygenation and nutrition. Muscle growth is achieved either through hypertrophy or hyperplasia. Hypertrophy refers to an increase in cell size while hyperplasia refers to an increase in number of cells or fibers.

RECOVERY AFTER INJURY

Undue pressure on muscles, tendons and ligaments during the course of normal physical activity, such as sudden quick heavy lifting while doing sports or performing work tasks, can lead to muscle strain or ligament sprain. The damage can take the form of a pull, a tear, up to a complete rupture. The genes regrouped in this section define susceptibility to injury and the likelihood of a fast recovery.

HEART AND LUNG CAPACITY

Pulmonary capacity is the efficiency of the lungs to provide oxygen to the blood while cardiovascular capacity measures the ability of the heart to transport the oxygenated blood to the cells, so that prolonged physical work can be maintained. An improved capacity goes hand in hand with lower blood pressure, improved cholesterol levels, decreased stress reaction and anxiety, increased heart function and elevated oxygen and nutrient output to the body.

STRENGTH/FORCE VS ENDURANCE

Muscle fibers can be categorized into two main types depending on contraction speed. Slow-twitch fibers are rich in mitochondria and myoglobin and are thus specialized in sustaining aerobic activity. They improve endurance-based physical activity and provide more energy over long, drawn-out activities such as jogging or Nordic walking. In contrast, fast-twitch fibers are specialized in providing power and strength in anaerobic conditions. They are activated during strength involving and fast activities such as weight lifting, golfing or power training.

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Physical performance can be influenced by a number of factors. Training, diet, and other factors play a large role in developing an individual's physical potential, but also the genetic makeup contributes to physical performance. Genes can define up to 80% of trait variations like strength, oxygen intake, cardiac performance, muscle size and muscle fiber composition. Knowing your genes will allow more personalized and effective exercise training by maximizing performance and minimizing the amount of time and health risks.

This panel helps understand whether a person is genetically better suited to endurance or power-based physical activity, or a mixture of the two, by looking at specific genetic variations associated with these two types of activity styles. In addition, the personalized report highlights strength and weaknesses in physical activity-related traits such as muscle capacity, cardiovascular capacity, energy expenditure, motivation to exercise and susceptibility to injuries. Genetic risk factors may in fact increase the chance of an injury or prolong recovery time, or identify an increased susceptibility of developing certain health conditions. Knowledge of all these factors permits to design a training program around an individual's unique genetic profile, with the aim to avoid activity-related injuries and give faster and more targeted results.

Physical activity can be tailored to a person's innate skills and needs.

Due to your genetic background, you present a predisposition for a better physical condition if you exert endurance sports. Your muscle capacity is above average and you may experience some cardiovascular disadvantages.

Sport style selection



- Medium predisposition for endurance-based activities

Cardiovascular capacity



- Better cardiovascular capacity than the average population

Muscle capacity



- Muscle capacity above average

Recovery after injury



- Average recovery after injury

Motivation to exercise



- Slightly less motivated to be physically active

Energy expenditure



- Normal effect of physical activity



Advantage



Average



Disadvantage

Taking into account all the genetic variations determined in this profile, the following figures display bioactive aliments and/or lifestyle activities which are either essential to your physical fitness (**PREFER**) or which should be omitted (**AVOID**).

WHAT YOU SHOULD

PREFER

Endurance sports
(Jogging, swimming, cycling...)

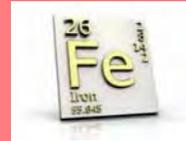


Chromium rich products
(broccoli, artichoke, onions, red wine...)



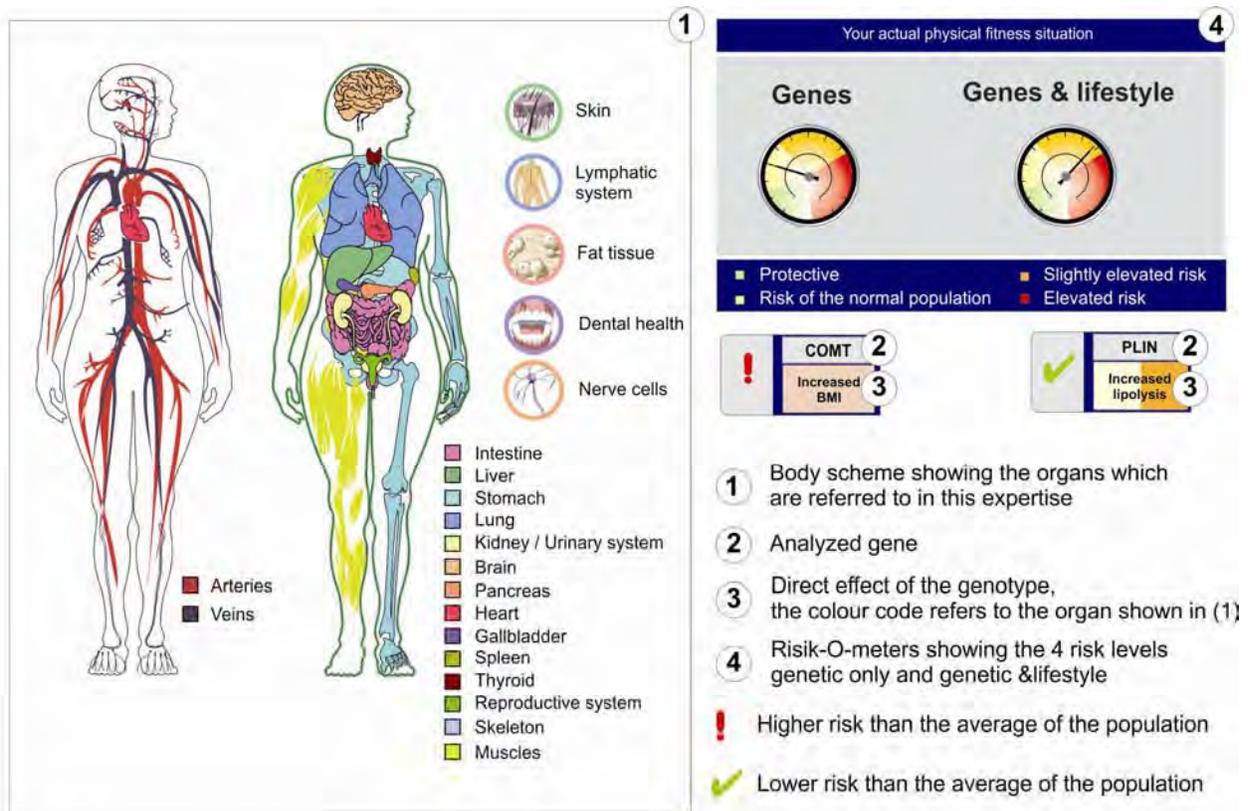
AVOID

Increased iron intake, especially through supplements



FITgen contains:

- a **Result Table**, showing your personal genotyping results for the analyzed genes
- a **Body Scheme**, showing the consequences of your genetic profile. Genes containing variations with a relevant effect are displayed in boxes. The colour of the box indicates on which organ or tissue the variation exerts an effect
- an **Interpretation** of the effects of your genetic profile
- a list of **Specific Recommendations** established on the basis of your personal genetic background that will allow you to improve your physical fitness by adapting your diet and lifestyle. Detailed information about **abbreviations** can be found on page . The compounds followed by a number in brackets (X) are found on page and page .



The number in brackets refers to the previously mentioned compound (e.g. isoflavone for number 5, L-carnitine for number 95). Food and aliments containing these compounds can be found in the appendix section 'Products containing the recommended compounds'. If the compound is usually available as supplement or if supplementation is specifically recommended or preferred (e.g. lotus leaf extract (78), L-carnitine (95)), information about dosage and effect can be found in the appendix section 'table of supplements'.

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Anthropometry

Optimize your lipid metabolism:

- Increase your isoflavone intake (5)
- Consider lotus leaf extract combined with L-carnitine supplementation (78, 95)

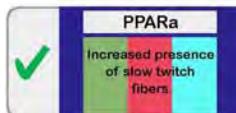
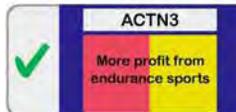
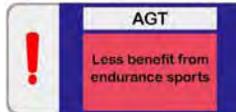
Below are listed all the analyzed genes associated with physical fitness and the corresponding genotypes that you carry in your genome. Some of your genotypes are associated with a positive or negative impact on your physical fitness (illustrated by the color code: red = risk, green = protective) and are shown in detail on the next page.

Physical fitness							
Gene	SNP	Genotype		Gene	SNP	Genotype	
		--	-+ ++			--	-+ ++
Sport style selection				Recovery after injury			
ACE	(I/D)		ID	COL5A1	rs12722	GG	
AGT	(M235T)		MT	COL1A1	(Sp1)	GG	
GNB3	(C825T)	CC		Motivation to exercise			
ACTN3	(exon 15/R57X)		XX	PAPSS2	rs10887741	TT	
HIF1a	(P582S)	PP		DRD2	(C32806T)		CT
PPARa	(G2498C)	GG		AMPD1	(C34T)	CC	
ADRB2	(R16G)	RR					
Muscle capacity							
HFE	(H63D)		HD				
HFE	(C282Y)	CC					
IGF1	(G2750A)	GG					
Cardiovascular capacity							
NOS3	(T-786C)		TC				
APOE	(112/158)	E3/E3					
ADRB1	(R389G)	RR					
SOD2	(A16V)		AV				
EPO	(G>T) rs1617840	TT					
Energy expenditure							
ADRB3	(W64R)	WW					

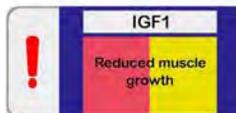
The figure below shows the consequences of the detected genotypes on your body.

Indications about the parameter (e.g. enzyme activity) that is changed, the effects of the genetic variations on the metabolism, the risk associated with the genetic variations and the specific organ or tissue that is affected are given in the colored tabs. Your current sensitivity according to your genetic profile as well as your relative risk, taking into account your genetic profile, is shown on the "riskometer".

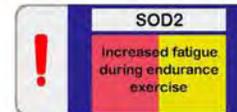
Sport style selection



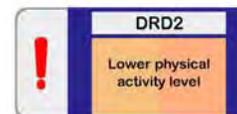
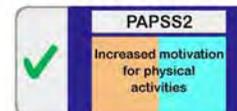
Muscle capacity



Cardiovascular capacity



Motivation to exercise

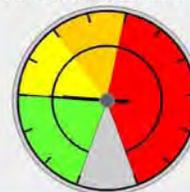


Your actual physical fitness situation

Genetic



Genetic & actual life style



■ Protective
■ Risk of the normal population

■ Slightly elevated risk
■ Elevated risk

Your current situation according to your genetic profile is as follows:

In regard to **sports style selection** your genotyping results indicate that you may profit from doing endurance sports.

Due to detected variation impacting on **muscle capacity** you may display reduced muscle and capillary growth. However, you may also show increased iron levels in your body assuring good muscle oxygenation during physical activity.

Concerning your **cardiovascular capacity**, you may be more likely to benefit from lower systolic arterial pressure during exercise. However, you might experience increased fatigue while physically active.

Furthermore, certain detected variations involved in the sulfate activation pathway and dopamine metabolism might affect your **motivation to exercise**.

All analyzed polymorphisms as well as gene-gene interactions have been taken into account in order to compile your personal recommendations. These allow you to counterbalance the effects of a sub-optimal physical fitness, which may influence your feeling of well being.

Sport style preference

Following your genotyping results, endurance sports will allow you to obtain the best results concerning health and fitness improvement. Endurance sports are those that primarily rely on the aerobic system to provide energy. In general, you should perform sports involving physical activity for an extended period of time such as jogging, cycling, hiking or swimming which activates your slow-twitch muscle fibres.

Muscle capacity
Improve your muscle capacity:

- Prefer a diet low in saturated fats and sugar, but rich in whey protein and dairy products
- Eat creatine-rich food or choose creatine supplementation (99)
- Go for brief but intense exercise
- Avoid increased iron intake, especially through supplements

Cardiovascular capacity
Reduce oxidative stress:

- Consume antioxidant-rich food containing high concentrations of vitamin C and E, as well as some trace elements involved in enzyme composition such as manganese, zinc, copper and selenium (34, 35, 41, 44, 43, 48)
- Drink pomegranate juice
- Prefer aliments boosting melatonin (oats, sweet corn, rice) and glutathione levels (broccoli, spinach, tomatoes, asparagus, garlic, avocado)

Motivation to exercise
Increase your motivation to exercise:

- Stick to a prepared schedule and record progress
- Develop an interest or hobby that requires physical activity
- Exercise with friends
- Eat lightly before trying to exercise
- Increase your taurine intake to reduce exercise-induced muscle fatigue (98)
- Prefer a low-fat, low-sugar diet and avoid refined food
- Increase your L-tyrosine intake (55)
- Consume velvet beans (*Mucuna pruriens*) which contain levodopa, a direct precursor of dopamine

References: 1, 2 (p.23)

Table of supplements

The following table displays a list of supplementations that may have benefic effects on your health. If you follow a well balanced diet, some of these supplementations may prove unnecessary. If however, you dislike certain nutrient-rich products afore mentioned, supplementations can help you reach the necessary nutrient intake. Please make sure you do not present a hypersensitivity to a supplement and discuss eventual contraindications (in case of certain diseases and medications) with your physician.

Supplement	Dosage	Indication	Function	
Vitamin C *	0.1 – 1 g/day T. r.: up to 25 g	Bone health, cardiovascular health, detoxification, skin and dental health	promotion of collagen synthesis, maintenance of cartilage, bones, and teeth, iron absorption, antioxidant, support of immune system	34
Vitamin E *	15 – 300 mg/day T. r.: up to 2 g	Cardiovascular health, skin health	antioxidant, maintenance of skin moisture, anti-inflammatory (osteoarthritis), reduction of cholesterol, regulation of retinol (vitamin A) level	35
Vitamin B2 Riboflavin	1.4 – 200 mg/day T. r.: up to 500 mg	Physical fitness	tissue respiration, energy production , growth and repair, protection of nervous system	26
Vitamin B9 Folic acid	0.4 – 1 µg/day T. r.: up to 20 mg	Cardiovascular health, Weight control	DNA synthesis, energy production, haemoglobin production, maintenance of emotional and mental health, neurotransmitter synthesis	31
Vitamin B12	3 µg/day T. r.: up to 10 mg	Bone health, cardiovascular health, weight control	red blood cell formation, DNA synthesis, maintenance of neurological functions, methionin synthesis, homocysteine conversion	33
Manganese	5 – 11 mg/day T. r.: up to 200 mg	Mental fitness, bone health, detoxification	essential for smooth functioning of the brain, bone health and the production of certain enzymes	41
Copper	3 – 5 mg/day	Bone health, physical fitness, detoxification	red blood cells formation, major component of the outer coating of nerve fibres and collagen, prevention of bone loss, antioxidant enzyme production	43
Zinc	10 – 25 mg/day T. r.: up to 250 mg	Skin health, detoxification	involvement in numerous aspects of cellular metabolism; cofactor of detoxification enzymes	44
Iron	8 – 15 mg/day T. r.: up to 900 mg	Physical fitness	essential component of proteins involved in oxygen transport, regulation of cell growth and differentiation	46
Selenium	55 – 200 µg/day T. r.: up to 2 mg	Detoxification	GST enzyme precursor, increase phase II detoxification, antioxidant	48
L-tyrosine	up to 1 g/day	Mental fitness	increase in memory performance	55
L-arginine	0.5 – 2 g/day	Physical fitness, cardiovascular health, bone health	wound healing, improvement of blood flow, protein synthesis and boosting the immune and nervous system, increase in growth hormone levels	57

Table of supplements

Green/white tea extract (55% EGCG & 90% polyphenol)	400 mg/day	Mental fitness, detoxification, weight control, physical fitness	antioxidant, increased metabolism, fat burn, reduction of mental distress, immune enhancement	68, 69
Guarana	0.8 – 3 g/day	Weight control, physical fitness, cardiovascular health	stimulant, appetite suppressant	73
L-taurine	1.5 – 3 g/day T. r.: up to 5 g	Physical fitness, weight control, mental fitness	fat digestion, fat-soluble vitamin absorption, brain and nervous-system function, transportation of electrolytes	98
L-creatine	5 – 10 g/day	Physical fitness, cardiovascular health	enhancement of activities requiring short periods of high-intensity power/strength, reduction of homocysteine	99
D-ribose	3 – 5 g/day T. r.: up to 30 g	Physical fitness	enhancement of muscular energy	104

* Vitamin C supplementations should always be taken together with vitamin E in order to prevent the oxidation of vitamin C and the formation of oxalate crystals capable of damaging the kidneys.

	Compound	Food sources	
Flavonoids	Catechins	<u>Highest in:</u> unfermented green tea, oolong tea, black tea <u>Others:</u> barley, raisins, red wine, rhubarb, dark chocolate, berries, apples, nectarines, apricots, pears, cherries, broad beans	1
	Anthocyanins and Anthocyanidins	<u>Highest in:</u> aubergine, berries, cherries, red grapes <u>Others:</u> jam, red wine, fruit juice, sweet potatoes, radishes, red onions, cabbage, apples, purple corn, mango, avocado, olives, oranges	3,4
Unsaturated fatty acids	Omega-3 fatty acids	<u>Highest in:</u> flaxseeds, flaxseed oil, wild salmon (Chinook) <u>Others:</u> Coldwater fish, halibut, sardines, soybeans, tuna, walnuts, pumpkin seeds	18
	Omega-6 fatty acids	Blackcurrants, safflower oil, sunflower oil, sesame butter, corn, sunflower seeds, sesame seeds, flaxseeds, Brazil nuts	19
	Omega-7 fatty acids	Macadamia oil, sea buckthorn oil, milk cheese, yogurt	20
	Omega-9 fatty acids	Nuts, olive, walnuts, almonds, pine nuts	21
	Conjugated fatty acids	Butter, milk, cheese, kangaroo meat, grass-fed cattle meat, eggs	22
Vitamin B	Vitamin B2 (riboflavin)	<u>Highest in:</u> yeast extract (marmite), liver <u>Others:</u> brewer's yeast, broccoli, amaranth, yogurt, eggs, sorghum, mushrooms, wild rice, soybeans, milk, mustard greens, raspberries, almonds, mackerel, cheese, sun-dried tomatoes, trout, paprika	26
	Vitamin B9 (folic acid)	<u>Highest in:</u> yeast extract (marmite), liver <u>Others:</u> adzuki beans, sunflower seeds, Chinese cabbage, sour cherries, papaya, amaranth, beets, mango, mustard greens, parsnips, broccoli, sea vegetables, lentils, chickpeas, asparagus, avocado, spinach, rice, liver	31
	Vitamin B12 (cobalamin)	<u>Highest in:</u> clams, oysters, mussels, liver <u>Others:</u> salmon, cod, mahimahi, red snapper, tuna, lobster, shrimps, lamb, venison, halibut, fish, beef, pork, miso, poultry, brewer's yeast, shiitake mushrooms, soy sauce, plain yogurt	33
Vitamin C & E	Vitamin C	<u>Highest in:</u> acerola, rosehip extract <u>Others:</u> honeydew melon, kohlrabi, kale, peppers, fruit drinks, chives, broccoli, kiwis, oranges, strawberries, blackcurrant, Brussels sprouts, mango, citrus fruits, parsnips, sweet potatoes, collard greens, watermelons, plums, cabbage	34
	Vitamin E	<u>Highest in:</u> almonds, wheat germ oil, sunflower seeds <u>Others:</u> Swiss chard, mustard green, papaya, nuts, buckwheat, olive oil, asparagus, sunflower oil, palm oil, kale, hazelnuts, spinach, broccoli, collard greens, sweet potatoes	35
Minerals	Calcium	<u>Highest in:</u> dried herbs, parmesan <u>Others:</u> hijiki, sesame seeds, sardines, tofu, amaranth, collard greens, almonds, salmon, hazelnuts, quinoa, buckwheat, raisins, kale, fortified mineral water, sea vegetables, beans, molasses, dairy products	38
	Magnesium	<u>Highest in:</u> rice bran, dried coriander <u>Others:</u> carob, Swiss chard, lettuce, raisins, rye, mustard greens, artichoke, pork, cabbage, flaxseeds, chocolate, halibut, almonds, cashews, soybeans, spinach, potatoes, brown rice, avocado, lentils, peanuts, bananas, quinoa, parsnips, beans, peas, tofu, mango, figs, watermelon, buckwheat	40

Table of compounds/products

	Manganese	<u>Highest in:</u> cloves, saffron <u>Others:</u> toasted wheat germ, turnips, chestnuts, coconuts, parsnips, mustard greens, dates, Swiss card, clams, maple syrup, strawberries, kale, quinoa, nuts, cabbage, cherries, flaxseeds, blue mussels, hazelnuts, sesame seeds	41
	Copper	<u>Highest in:</u> liver, oysters <u>Others:</u> chestnuts, mango, carob, lobster, dates, turnips, clams, coconuts, mustard greens, parsnips, cocoa powder, mushrooms, Brazil nuts, peppers, crab, wheat bran	43
	Zinc	<u>Highest in:</u> oysters, toasted wheat germ <u>Others:</u> teff, pork, button mushrooms, clams, lamb, oysters, beef poppy seeds, shrimps, beets, crab, almonds, Swiss cheese, fruit yogurt, baked beans, chicken, turkey, coconuts	44
	Iron	<u>Highest in:</u> dried herbs, cocoa powder <u>Others:</u> hijiki, sorghum, curry, clams, oysters, teff, shrimps, peanuts, raisins, flaxseeds, mustard greens, wakame, chickpeas, venison, shiitake mushrooms, beef, turkey, tuna, halibut, soybeans, lentils, spinach, beans	46
	Potassium	<u>Highest in:</u> dried chervil, avocado <u>Others:</u> melon, mahimahi, halibut, pomegranate seeds, red snapper, salmon, tuna, kohlrabi, clams, cantaloupe, molasses, flaxseeds, beans pork, prunes, raisins, dried apricots, dates, pistachios, sunflower seeds, cocoa powder	47
	Selenium	<u>Highest in:</u> Brazil nuts, pacific oysters <u>Others:</u> pork, clams, cod, mahimahi, shrimps, mushrooms, swordfish, lobster, tofu, lamb, barley, beef, halibut, turkey, tuna, spaghetti, eggs, chicken, dates sunflower seeds, Swiss chard, oats, yogurt, venison, rice	48
Other compounds	Tyrosine	Soy products (milk, tofu, cheese, edamame), avocado, almonds, eggs, parmesan, Spirulina, fish, turkey, chicken, yogurt, lima beans, peanuts, sesame seeds, pumpkin seeds	55
	Arginine	Poultry, fish, beef, sunflower seeds, nuts, chocolate, snails, winter squash, wheat germ	57
	Taurine	lean meat, poultry, fish, eggs, energy and sports drinks	98
	Capsaicin	Chili peppers, chilies, cayenne pepper, jalapeno, tabasco	59

In order to control and follow up the effects of the recommendations indicated in this report on your health state, we recommend in the following table certain medical and biochemical tests that will allow you and your physician to evaluate your health progress.

Measure	Control of	Indication	Where and how to perform analyzes

Last Name	Test							
First Name	Jeanne							
Date of birth	04.01.1959							
Personal profile								
Gender	<input type="checkbox"/>	male	<input checked="" type="checkbox"/>	X	female			
Age (years)	52							
Ethnic origin	<input checked="" type="checkbox"/>	Caucasian	<input type="checkbox"/>	African	<input type="checkbox"/>	Asian	<input type="checkbox"/>	Other
Height (cm)	160							
Weight (kg)	55							
Waist circumference (cm)								
BMI	21.5							
Lipid profile								
LDL cholesterol	NA							
HDL cholesterol	NA							
Total cholesterol	NA							
Triglycerides	NA							
Cardiac profile								
Systolic blood pressure (mmHg)	110/70							
General state of health								
Migraines	<input type="checkbox"/>	yes	<input type="checkbox"/>	no				
Mood disorders (e.g. mood changes, depression...)	<input checked="" type="checkbox"/>	yes	<input type="checkbox"/>	no				
Lack of energy	<input type="checkbox"/>	yes	<input type="checkbox"/>	no				
Digestive problems	<input type="checkbox"/>	yes	<input type="checkbox"/>	no				
Nervosity / stress	<input type="checkbox"/>	yes	<input type="checkbox"/>	no				
Family history								
Diabetes	<input type="checkbox"/>	yes	<input checked="" type="checkbox"/>	X	no			
Hypertension	<input type="checkbox"/>	yes	<input checked="" type="checkbox"/>	X	no			
Hyperlipidemia	<input type="checkbox"/>	yes	<input checked="" type="checkbox"/>	X	no			
Obesity	<input type="checkbox"/>	yes	<input checked="" type="checkbox"/>	X	no			
Cancer	<input checked="" type="checkbox"/>	yes: colon	<input type="checkbox"/>	no				
Cardiovascular disease	<input type="checkbox"/>	yes	<input checked="" type="checkbox"/>	X	no			
Osteoporosis	<input type="checkbox"/>	yes	<input checked="" type="checkbox"/>	X	no			
Kidney disease	<input type="checkbox"/>	yes	<input type="checkbox"/>	no				
Thyroid disease	<input type="checkbox"/>	yes	<input type="checkbox"/>	no				
Alzheimer, Parkinson	<input type="checkbox"/>	yes	<input checked="" type="checkbox"/>	X	no			
Allergies	<input type="checkbox"/>	yes	<input type="checkbox"/>	no				
Current disease(s)								
Diabetes	<input type="checkbox"/>	type 1	<input type="checkbox"/>	type 2	<input checked="" type="checkbox"/>	X	no	
Hypertension	<input type="checkbox"/>	yes	<input checked="" type="checkbox"/>	X	no			
Please continue on the next page								

Current disease(s)				
Hyperlipidemia		yes		no
Obesity		yes	X	no
Cancer		yes :		X no
Cardiovascular disease		yes	X	no
Osteoporosis		yes	X	no
Kidney disease		yes	X	no
Thyroid disease		yes	X	no
Alzheimer, Parkinson		yes		no
Allergies		yes		X no
Food intolerance(s)		Gluten		Lactose Other: no
Current treatment(s)				
Regular use of statines		yes	X	no
Other lipid-lowering drugs		yes :		X no
Hormone replacement therapy	X	yes		no
Oral contraception		yes	X	no
Antihypertensives		yes :		X no
Diuretics		yes :		X no
Other	X	yes		no
Lifestyle habits				
Smoker		yes	X	no
Regular red wine consumption (1-2 glasses per day)		yes		no
Other/additional alcohol consumption (≥ 2 glasses per day)	X	yes		no
Regular coffee consumption ($\geq 1x$ per day)	X	yes		no
Regular tea consumption ($\geq 1x$ per day)		yes	X	no
Regular physical activity (1 h $\geq 2x$ per week)	X	yes		no
Frequent prolonged immobility (surgery, plaster, long flights)		yes		no
Dietary habits				
Vegetarian / vegan		yes		no
Regular consumption (> 4x per week) of:				
Fruits and vegetables	X	yes		no

Please continue on the next page

Regular consumption (> 4x per week) of:					
Carbs with high glycemic index (GI) (e.g. sugar/honey)	X	yes		no	
Carbs with low GI (fruits, legumes, whole grain cereals...)		yes		no	
Dietary fibers (legumes, oats, apples, root vegetables...)		yes		no	
Calcium rich products (milk, dairy products, sardines...)	X	yes		no	
Regular consumption (> 3x per week) of:					
Red meat (beef, pork, lamb, horse, duck, goose, game)	X	yes		no	
White meat (chicken, turkey, rabbit, veal)	X	yes		no	
Cold-water fish (salmon, halibut, mackerel, sardines...)	X	yes		no	
Omega-3 fatty acids (salmon, herring olive oil, linseed oil...)	X	yes		no	
Saturated animal fats (butter, cheese, lard, bacon...)		yes		no	
Salt rich products (chips, pickles, anchovies, cured meat...)		yes	X	no	
Sugar rich food (cakes, pies, ice-cream, cookies, sodas...)		yes		no	
Raw sugar, honey, maple syrup, sweets...		yes		no	
Regular consumption (> 2x per week) of:					
Grilled / smoked food		yes		no	
Deep-fried food (French fries, chips, fried chicken, doughnuts...)		yes	X	no	
"Light" products		yes	X	no	
Supplements :		Vitamin B		Vitamin C	Vitamin D
		Calcium		Selenium	X Other
Environmental habits					
Presence of dental amalgam	X	yes		no	
Regular exposure to pesticides, insecticides, herbicides		yes		no	
Regular exposure to paints, solvents, glues...		yes		no	
Regular exposure to car exhaust fumes (living / working in city...)		yes		no	
Please continue on the next page					

Skin profile						
Frequent skin contact with hair dye	<input type="checkbox"/>	yes	<input type="checkbox"/>	no		
Regular topical application of substances containing vitamins / antioxidants	<input type="checkbox"/>	yes	<input type="checkbox"/>	no		
Regular topical application of substances containing mineral oils, alcohols, fragrances	<input type="checkbox"/>	yes	<input type="checkbox"/>	no		
Regular topical application of make-up	<input type="checkbox"/>	yes	<input type="checkbox"/>	no		
Skin type (types I – VI)	<input type="checkbox"/>					
Skin condition	<input type="checkbox"/>	oily skin	<input type="checkbox"/>	dry skin	<input type="checkbox"/>	sensitive skin
Frequency of UV exposure	<input type="checkbox"/>	often	<input type="checkbox"/>	sometimes	<input type="checkbox"/>	rarely
Frequency of sunburns	<input type="checkbox"/>	often	<input type="checkbox"/>	sometimes	<input type="checkbox"/>	rarely/never
Skin profile						
Frequent skin contact with hair dye	<input type="checkbox"/>	yes	<input type="checkbox"/>	no		
Regular topical application of substances containing vitamins / antioxidants	<input type="checkbox"/>	yes	<input type="checkbox"/>	no		
Regular topical application of substances containing mineral oils, alcohols, fragrances	<input type="checkbox"/>	yes	<input type="checkbox"/>	no		
Regular topical application of make-up	<input type="checkbox"/>	yes	<input type="checkbox"/>	no		
Skin type (types I – VI)	<input type="checkbox"/>					
Skin condition	<input type="checkbox"/>	oily skin	<input type="checkbox"/>	dry skin	<input type="checkbox"/>	sensitive skin
Frequency of UV exposure	<input type="checkbox"/>	often	<input type="checkbox"/>	sometimes	<input type="checkbox"/>	rarely
Frequency of sunburns	<input type="checkbox"/>	often	<input type="checkbox"/>	sometimes	<input type="checkbox"/>	rarely/never

ACE	Angiotensin-convertin enzyme
ACTN3	Alpha-actinin-3
ADD1	Alpha-adducin
ADRB1	Beta-1 adrenergic receptor
ADRB3	Beta-3 adrenergic receptor
AGT	Angiotensinogen
AMPD1	Adenosine monophosphate deaminase 1
APOE	Apolipoprotein E
BMI	Body Mass Index
COL1A1	Collagen, type I, alpha 1
COL5A1	Collagen, type V, alpha 1
DRD2	Dopamine D2 receptor
EPO	Erythropoietin
GI	Gycemic Index
GNB3	Guanine nucleotide binding protein beta-3
HDL	High Density Lipoprotein
HFE	Human hemochromatosis protein
HIF1A	Hypoxia-inducible factor-1 alpha
IGF-1	Insulin-like growth factor 1
LDL	Low Density Lipoprotein
mg	milligram
NAC	N-acetyl-L-cysteine
NOS3	Endothelial NO-synthase
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyl
PCDF	Polychlorinated dibenzofuran
PAPSS2	3'-phosphoadenosine 5'-phosphosulfate synthase 2
PPAR	Peroxisome proliferator-activated receptor
SAM	S-adenosylmethionine
SNP	Single Nucleotide Polymorphism
SOD2	Superoxide dismutase 2
TG	Triglyceride
wt	Wildtype
vt	Variant

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Genetic and genomic profiles of Laboratoires Réunis primarily address the information needs of genetics professionals and healthcare providers, but also to customers who are advised by competent counselors. The interpretation of the results assumes familiarity with the genetic mechanisms of disease causation and the application of genetic testing to diagnosis, management and genetic counseling of patients. The presented genetic results do not allow to conclude with certainty on a disease or susceptibility as the performed analyses cannot consider all factors contributing to the relative risk for a specific susceptibility or the potential course of a disease. Complex variables such as the level of risk to develop an adverse drug effect or to suffer from multifactorial diseases in which genetic factors are not fully determinant are also relevant. To the fullest extent permitted by applicable law, Laboratoires Réunis make no representations or warranties of any kind, express or implied, regarding the use of the results of this test in a diagnosis in terms of its correctness, accuracy, reliability, or otherwise.



Examples of our Genetic Profiles:

- | | |
|--|--|
| FEMgen: Sporadic breast cancer | MACULAgen: Age-Related Macular Degeneration |
| OSTEOgen: Osteoporosis | LIPIDgen: Lipid metabolism disorders |
| THROMBOgen: Thrombosis | DIABETOgen: Diabetes type II |
| PROSTATEgen: Prostate cancer | COLOgen: Sporadic colon carcinoma |
| DETOXgen: Detoxification capacities | ALOPECIAgen : Androgenetic alopecia |
| DETOXgen heavy metals: Detoxification of heavy metals | EMOgen: Emotional instability |
| OXIgen: Oxidative stress | AUTISMgen: Autism |
| DENTYgen: Periodontitis | SKINgen: Skin health |
| NEUROgen: Neurodegenerative diseases | WEIGHTgen: Weight control |
| CARDIOgen: Cardiovascular diseases | WELL-BEING: Anti-aging |
| | NICOTINEgen: Nicotine addiction |



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