

23/05/2019

EUROGENETICA

EUROFIT[®]

dnad

Personal report:



EuroFIT[®]

Name :	
Date of Birth	
Height	1.65 m
Weight	54 Kg
BMI	19.8

Welcome to the EuroFIT Program!

EuroFIT will make recommendations based on how your body builds muscles, recovers from exercise, and utilizes nutrients according to natural variations in your personal genetic code. By understanding how your genetic profile affects your well-being and fitness potential, **EuroFIT** will help you take charge of optimizing your physical fitness and conditioning by specifying nutritional and lifestyle options related to your genetic profile.

Based on your DNA analysis EuroFIT offers personal advice and recommendations based on the following areas related to fitness and training:

- Endurance / Power profile
- Aerobic potential (VO₂ max)
- Cardiofitness
- Post-Exercise Recovery
- Injury risk
- Body composition
- Nutrition



OVERVIEW

Endurance – Power Profile

In your training mix power and endurance activities to benefit from your intermediate profile.



Aerobic potential (VO₂ max)

Include both performance and power activities in your training program to improve on your intermediate VO₂ max tendency.

Cardiofitness

Monitoring your heart rate and blood pressure during exercise is advised.



Recovery Post-Exercise

You have variations in genes important in free radical removal - consume adequate amounts of antioxidants in your daily diet. You have variations in genes related to immune support and recovery, EuroFIT recommends that you include omega 3 fatty acids in your daily diet.

Injury Risk

Your genetic results indicate that you have an overall higher than average risk of a sports related soft tissue injury.



Body Composition

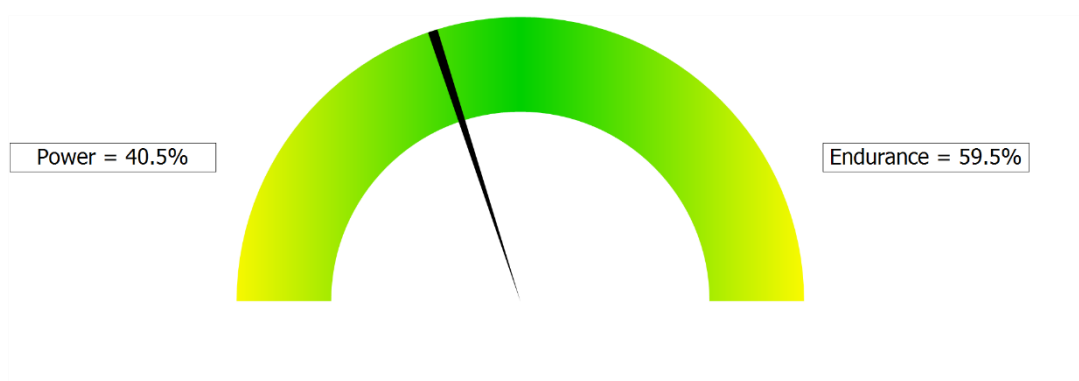
According to your EuroFIT analysis, your Body Mass Index is classified as normal.

Endurance / Power Profile

Endurance is the ability of athletes to exert themselves for relatively long periods of time. The definition of endurance varies according to the type of physical activity the athlete is engaged in. Power athletes exert high amounts of energy in short bursts. High intensity power activities may be measured in minutes, whereas low intensity endurance activities may be measured in hours or days. Understanding your genetic background can help you determine what type of exercise regimen may be most appropriate for you. Athletes at the very top of their “game” tend to have a specific set of genetic variations that are characteristic of endurance and power activities.

Endurance activities = distance running, mountain climbing and distance cycling.

Power activities = short distance sprint runs, short distance swimming, power lifting.



POWER			ENDURANCE		
Gene	Result	Effect	Gene	Result	Effect
ACE	ID	+	ACE	ID	+
AGT	CT	-	ADRB2	GG	-
ACTN3	CT	+	ACTN3	CT	+
TRHR	CA	-	BDKRB2	TT	++
PPARA	GG	-	COL5A1	CT	-
VEGF	CC	+	NRF	AA	-
VDR	TC	-	PPARGC1A	AA	-
IL6	GC	-	PPARA	GG	++
			CRP	CT	+
			VEGF	CC	++

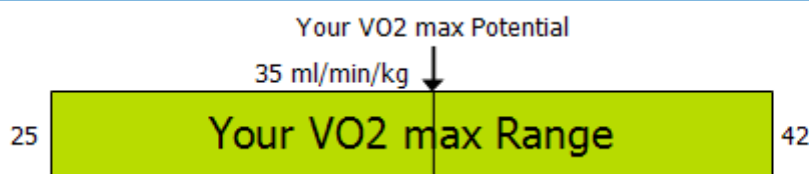
Your EuroFIT assessment has determined that your genetic profile is almost equally balanced between power and endurance activities, based on variations in your genes. In your training mix power and endurance activities to benefit from your intermediate profile.

The meter gives you an indication of where you fall in the power-endurance spectrum based on your personal genetics. Training only for endurance can have a negative impact on the ability to exert strength unless an individual also undertakes resistance training and training solely for power activities can have a negative impact on the ability to sustain exercise for longer lengths of time, so it's important to balance these types of exercise with cross-training programs. You can use your results to find an optimal balance between resistance and endurance exercises during your training routine

Aerobic potential (VO₂ max)

VO₂ max is the highest rate of oxygen consumption attainable during exhaustive exercise, and is considered one of the best measurable indicators of a person's aerobic potential and capacity for endurance activities. Other terms that have been used to describe VO₂ max include aerobic power, aerobic capacity and maximal oxygen uptake. All of these terms refer to the same characteristic, which is the point where your body reaches its maximal capacity for consuming oxygen during strenuous activities.

Oxygen consumption increases as exercise becomes more intense. The VO₂ max for an individual is defined as the point at which oxygen consumption peaks during exercise. Genes have an impact on the body's ability to process oxygen, and your **EuroFIT** analysis can help you to understand your natural VO₂ max capacity. In order to determine your own VO₂ max, you can take measurements at your health club if the equipment is available.



****Your potential VO₂ max score is based on a combination of your genetic variations and a healthy lifestyle with regular exercise and good fitness levels. You may be able to achieve higher VO₂ max levels as your level of fitness improves.**

Gene	Result	Effect
ADRB2	GG	-
CRP	CT	+
PPARGC1A	AA	-
VEGF	CC	++

Your EuroFIT assessment has determined that your genetic profile predicts a tendency towards an intermediate VO₂ max based on variations in your genes. In order to make the most of your natural VO₂ Max capacity, you will need to cross-train by consistently including both endurance and power activities in your training program.

Include both performance and power activities in your training program to improve on your intermediate VO₂ max tendency.

Use this simple 3 minute step test to monitor your VO₂ max:

Step in time up and down on a step at a rate of 22 steps per minute for females, and 24 steps per minute for males. A metronome is helpful in keeping a steady timing during this test. After 3 minutes, remain standing and immediately measure your pulse rate for 10 seconds by lightly pressing your index and middle fingers on your neck or wrist and counting the total number of pulsing beats you feel. (Note: Do not press too firmly on your neck or wrist when feeling for a pulse.)

To get your heart rate, simply count the number of heart beats per minute for 10 seconds and then multiply the number of beats counted by 6, which will give you your standing heart rate.

- Heart Rate = # of beats in 10 seconds x 6.
- Now use the following equations to calculate your VO₂ max:
- Males: VO₂ max = 111.33 – (0.42 X Heart Rate)
- Females: VO₂ max = 65.81 – (0.1847 X Heart Rate)

Simply multiply your heart rate x 0.42 and then subtract that number from 111.33 for males, and multiply your heart rate x 0.1847 and then subtract that number from 65.81 for females = VO₂max.

Cardiofitness

Fitness is the state or condition of being fit. Good health and physical condition are generally a result of exercise and proper nutrition. Cardio fitness refers to your body's ability to get oxygen and blood to the muscles. Many genes can impact your overall cardio fitness by playing a role in how exercise can affect your body's blood flow, HDL levels and glucose balance. Studies have shown that some individuals may demonstrate a greater impact on cardio fitness measures when involved in active exercise programs as compared with other individuals.

Resting Pulse Rate:

Your resting pulse rate is a good measure of your basic fitness level. In general, high resting pulse levels can mean reduced cardio fitness levels.

Your resting pulse rate chart (bpm):

Female							
AGE	POOR	BELOW AVERAGE	AVERAGE	ABOVE AVERAGE	GOOD	EXCEL'T	ATHLETE
46-55	84+	78-83	74-77	70-73	66-69	61-65	54-60

Gene	Result	Effect
ACE	ID	*
AGT	CT	-
ADRB2	GG	-
PPARGC1A	AA	**
PPARA	GG	-
BDKRB2	TT	-

Your EuroFIT assessment has identified variations in your [ACE, PPARGC1A] gene(s) that suggest you would benefit from monitoring your heart rate and blood pressure during and after exercise.

Heart Rate:

Understanding your Maximum Heart Rate and your Target Heart Rate will support your cardio fitness program.

To find your maximum heart rate, which is the maximum number of times your heart can beat in one minute, subtract your age from 220.

$$220 - (\text{your age}) = \text{Your Maximum Heart Rate}$$

Target Heart Rate:

Your Target Heart Rate is the range of heart beats per minute that you should aim for when exercising for cardio fitness. The Target Heart Rate range is usually between 60% and 80% of your Maximum Heart Rate.

Recovery Post-Exercise

Recovery is one of the most important aspects of any athlete's training program. When you regularly push your body to extremes by training and competing, it is important to refuel and repair muscles so your body is ready for the next event or training session. If you neglect post-exercise nutritional support and recovery time, you risk running low on energy during your next training or athletic event.

Trainers and athletes know that carbohydrates are the preferred fuel for muscles before and after intense exercise. The body uses carbohydrates during intense training and competition. Intense exercise depletes your body's stored carbohydrates. Your muscles are most receptive to replenishing carbohydrates within the first 30 minutes to 2 hours after exercise. There is also growing evidence of the importance of antioxidants to help remove free radicals that are formed when you are physically active. Free radicals can accumulate and lead to increased fatigue and longer recovery times. Omega-3 fatty acids are also important in exercise recovery programs because they can help promote normal recovery times.

Gene	Result	Effect
GSTM1	D	**
GSTT1	I	-
SOD2	TC	*
IL6	GC	*
IL6R	CA	*
CRP	CT	-
TNF	GG	-

Your EuroFIT assessment has determined that you have variations in gene(s) important in free radical removal [GSTM1, SOD2]. In order to support your genetic profile, EuroFIT recommends that you consume adequate amounts of antioxidants in your daily diet. Your EuroFIT assessment indicates variations in gene(s) related to immune support and recovery [IL6, IL6R]. In order to complement this genetic component, EuroFIT recommends that you include omega-3 fatty acids in your daily diet.

Nutrient	Il Tuo obiettivo
Vitamin A	5,000 IU / 1500 µg day
Beta carotene	7 mg mg/day
Vitamin C	250 mg/day
Vitamin E	200 IU / 180 mg IU/day
Cruciferous vegetables	3-4 servings per week
Omega-3	2 g/day
Alpha Lipoic Acid	150 mg mg/day

Injury Risk

Injuries are a risk of sport and training but some people seem to be more predisposed than others, and some of this is based on genetics. The most frequent injuries occur in connective tissue, especially tendons – the genetic research is on-going but there is good evidence from several high quality published research studies that particular genetic variants can affect injury risk. EuroFIT analyses these genes and in addition also looks at variants associated with processes, such as inflammation, that are involved in recovery from injury.

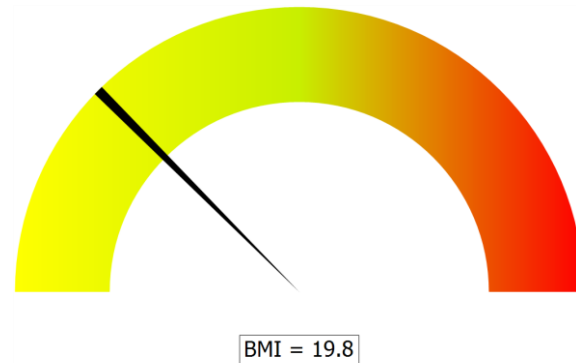
Gene	Result	Effect
GDF5	CT	*
COL1A1	GG	*
COL5A1	CT	*
IL6	GC	*
IL6R	CA	*
CRP	CT	-
TNF	GG	-

Your genetic results indicate that you have an overall higher than average risk of a sports related soft tissue injury. This should be taken into consideration when planning training schedules and the information should be communicated to your personal trainer.

Your Fitness assessment indicates variations in gene(s) related to general inflammation – should you suffer from a soft tissue injury your levels of inflammation could have an impact on recovery. You are advised to inform your therapist about this possibility

Body Composition

Body composition is an essential indicator of health and fitness for athletes, as well as the general population. Almost any weight management program considers body fat composition as a key measurement of health. Body composition is a ratio that compares your percentage of body fat in relation to your lean body mass. Currently, you can calculate body fat percentage by using body fat scales or calipers. You can also calculate your BMI (body mass index) using a BMI chart or a BMI calculator. Although all these types of measurements are effective, none of these body composition measurements use genetic information to help regulate body composition.



According to your EuroFIT analysis, your Body Mass Index is classified as normal. In order for you to manage your weight effectively, EuroFIT recommends that you utilize a program of combined diet and exercise due to variations in your [ACE, PPARGC] gene(s). Individuals with variations in these genes have better results when a regular exercise program is incorporated into their weight management programs.

Endurance / Power profile & VO2 max potential

Gene	Variation	Result	Effect
ACE	rs4646994	ID	Endurance / Power mix
ADRB2	rs1042713	GG	Lower VO2 max capacity
AGT	rs699	CT	No measured impact
ACTN3	rs1815739	CT	Advantage for sprint and power profile, OK for endurance
BDKRB2	+9/-9 INDEL	TT	Associated with endurance
COL5A1	rs12722	CT	No measured impact on Power/Endurance
CRP	rs1205	CT	Exercise positive for VO2 max / Endurance profile
IL6	rs1800795	GC	No measured impact on Power/Endurance
NRF	rs7181866	AA	No measured impact on fitness
PPARA	rs4253778	GG	Associated with endurance
PPARGC1A	rs8192678	AA	Lower VO2 max, lower endurance profile
TRHR	rs16892496	CA	No measured impact on fitness
VEGF	rs2010963	CC	Higher VEGF production, associated with increased benefits for both power and endurance training
VDR	rs731236	TC	No measured impact on fitness

Cardiofitness

Gene	Variation	Result	Effect
ACE	rs4646994	ID	Monitor heart rate
AGT	rs699	CT	Exercise has positive impact on blood flow
BDKRB2	+9/-9 INDEL	TT	No measured impact
PPARGC1A	rs8192678	AA	Blood flow monitoring during exercise recommended
PPARA	rs4253778	GG	No measured impact

Post Exercise Recovery & Injury Risk

Gene	Variation	Result	Effect
CRP	rs1205	CT	Regular exercise has positive impact on recovery
GSTM1	INDEL	D	Nutritional support to promote recovery and neutralize free radicals
GSTT1	INDEL	I	No measured impact on fitness
IL6	rs1800795	GC	Nutritional support to promote recovery, lower endurance
IL6R	rs2228145	CA	Associated with intermediate fatigue and longer recovery times
SOD2	rs4880	TC	Nutritional support for antioxidant function
TNF	rs1800629	GG	Regular exercise has positive impact on recovery
COL1A1	Rs1800012	GG	May be more prone to ligament injury
COL5A1	rs12722	CT	Associated with increased tendinopathy risk
GDF	rs143383	CT	Intermediate tendinopathy risk