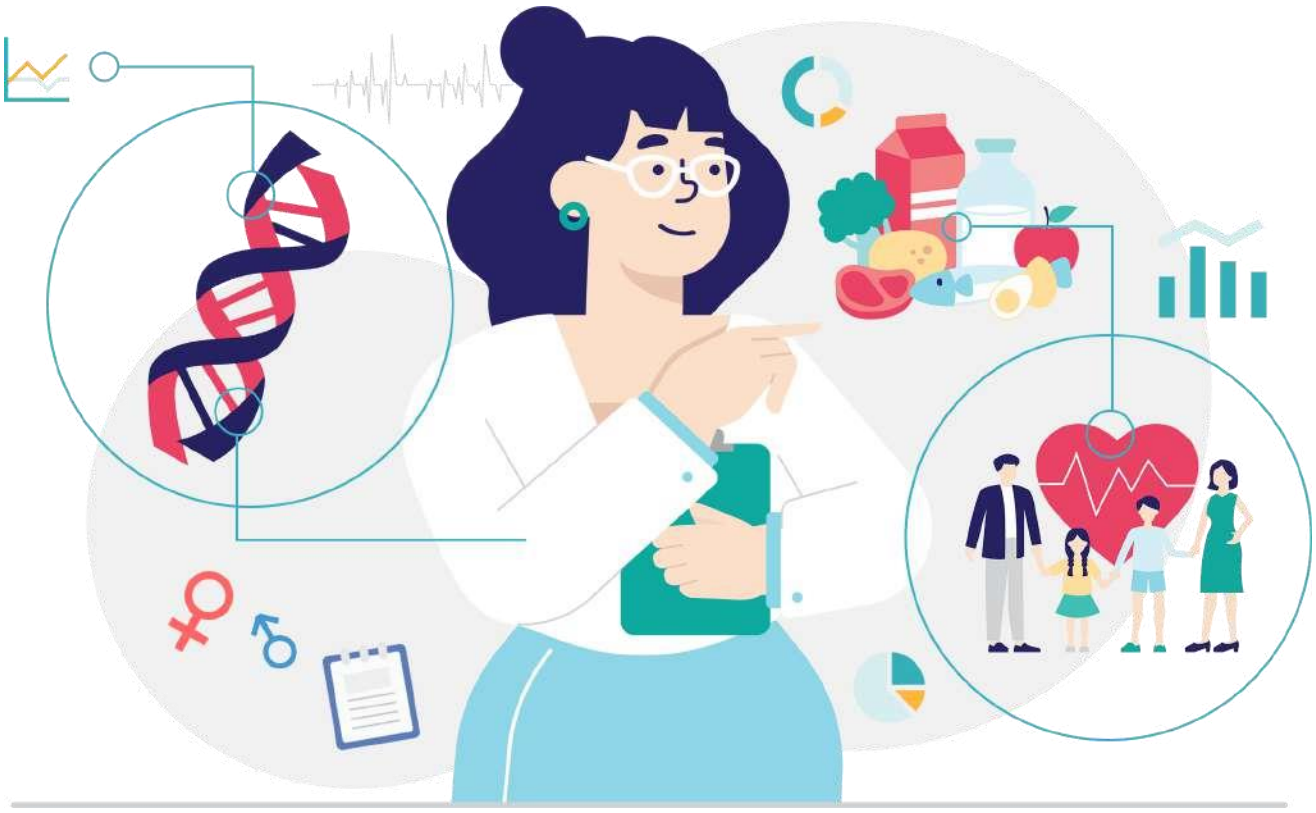
Personal Genomics Report

Customer ID:	**36220513024104**
Date of Birth (DD/MM/YYYY):	**01/01/1970**
Gender:	**/**
Reported Date (DD/MM/YYYY):	**22/08/2024**



Ginekalix laboratory Address: Stevo Crvenkovski No. 32-1, Ext. 2 and 3; 1000, Skopje; North Macedonia
Tel: +389 2 20 30 424 | E-mail:laboratory@ginekaliks.mk

Let us introduce you to the world of DNA

DNA, namely deoxyribonucleic acid, is a complex molecule that is present deep inside cells through all over your body. DNA contains all of the information necessary to build and define you. DNA is written in code to form genes, making you one-of-a-kind on this planet.

The DNA molecule consists of two strands that wind around one another to form a shape known as a double helix. Each strand has a sugar-phosphate backbone loaded with four bases: Adenine (A), Cytosine (C), Guanine (G) and Thymine (T). The two strands spiral about one another by base-pairing: an A with a T, and a C with a G. DNA strands are so long that they must be packed, in the form of chromosome, in order to fit in the nucleus of every cell.

Explore your DNA, know yourself better.

"Genes are like the story, and DNA is the language that the story is written in."

Our service can help you understand your "*stories*" better by exploring through your DNA. You can make a better living with food your body may prefer, or even know what exercise options are safer and effective for you.

Ginekalix laboratory

Address: Stevo Crvenkovski No. 32-1, Ext. 2 and 3; 1000, Skopje; North Macedonia

Tel: +389 2 20 30 424 | E-mail:laboratory@ginekaliks.mk

Fitness Lifestyle

Sport genes analysis helps you discover how your genes influence attributes like physical characteristics, exercise response and injury risk. You can also learn the influences of diet or exercise on weight as well as how to get the most out of your workouts.

Fitness Lifestyle

10 Reports

Exercise Reaction

Heart Rate Improvement	Moderate
Maximal Oxygen Uptake (VO2max) Improvement	Slightly Large
Motivation to Exercise	Moderate
Muscle Endurance Improvement from Exercise	Large
Temperature Increasing Rate During Exercise	Moderate

Physical Characteristics

Explosive Power	Slightly Stronger
Endurance	Moderate

Sport Protection

Anterior Cruciate Ligament (ACL) Injury Risk	Moderate
Achilles Tendon Injury Risk	Slightly Low
Lumbar Disc Injury Risk	Slightly Low

Table of Contents

Exercise Reaction

Heart Rate Improvement

Heart rate is a commonly used measurement for one's cardiorespiratory capacity. More and more evidence proves that regular exercises could improve cardiorespiratory capacity and the speed of heart rate increment during exercises.

My Heart Rate Improvement

Moderate

46.5% of DNAset users are similar to me

Knowledge

Sports and heart rate

During exercise, the heart supplies oxygen to the body by pumping out blood. The higher the exercise intensity, the more oxygen the body needs, and the heart needs to pump blood at a faster speed, thus leading to the pressure of the heart. The specific characterization is that the blood pressure is increased, and the frequency of heartbeat is accelerated (that is, the heart rate is increased).

What is heart rate recovery

Studies have shown that regular exercises can improve heart function. That is to say, when you perform exercises of the same intensity, the increase of the heart rate will be lower than the increase in the untrained stage, and the pressure on the heart will be smaller. This is heart recovery rate.

My Genetic Result Details

Gene locus	Gene name	My genotype	Description
RS2253206	intergenic	AG	helpful for improving heart rate after exercise
RS13387495	ERBB4	TT	not significantly helpful for improving heart rate after exercise

Test details

Applicable situation

The heart recovery rate item uses 2 polymorphic loci on the ERBB4 gene: rs2253206 and rs13387495.

Notification

1. The basis of the test is mainly from the research of Caucasian, other populations are for reference only.

2. The test may not cover all genes or loci that related to heart recovery rate.

Scoring model

According to the frequency of the reference sample and the control sample carrying the corresponding genotype in the literature, the weight of each locus is divided. Finally, the item is scored according to the detected genotype and the weight of the locus itself. The average score of all users and the distribution of scores are obtained through the algorithm, and the user is divided into project results accordingly.

How to use the test results

Notification

1. The test only evaluates your heart recovery rate at the genetic level, and does not involve consideration of age, gender, and other factors. Therefore, the test result may not be equivalent to your actual heart recovery rate. In addition, the research results based on the detection are only applicable to heart rate improvement under regular submaximal exercises, and not applicable to heart rate changes caused by strenuous

exercise. Therefore, the test result may not be equivalent to your actual heart recovery rate.

2. If necessary, please consult an authoritative sports coach for professional training guidance with the goal of improving heart rate.

Population samples

The basis of the test is mainly from the research of Caucasian.

Limit of detection

The test may not include all loci related to heart recovery rate.

Maximal Oxygen Uptake (VO2max) Improvement

Maximal Oxygen Uptake (VO2max) refers to the maximum volume of oxygen one's body can deliver to skeletal muscle in a given period of time.

My Maximal Oxygen Uptake (VO2max) Improvement Slightly Large

66.9% of DNAset users are similar to me

Knowledge

What can the VO2max reflect

The VO2max can vary greatly between individuals. The VO2max can reflect the aerobic exercise capacity, and a high level of the VO2max often means a high level of aerobic exercise performance. For example, the VO2max of endurance Olympic athletes can reach 75ml/kg/min, while the average person without training can only reach less than 30ml/kg/min.

Genes and VO2max improvement

The VO2max is also used to measure the adaptability of cardio-pulmonary function. Studies have shown that regular training is the most effective way to improve cardio-pulmonary function adaptability. However, for different people, the increase in the VO2max brought about by regular training is also very different. In one study, the researchers performed aerobics sport training on 742 volunteers for 20 weeks. After the training, the average increase of volunteers' VO2max reached 400ml/min. However, there are huge individual differences. Volunteers with low level of increase can only increase less than 100ml/min, while those with high level of increase reach 700ml/min. This is mainly caused by genetic factors.

My Genetic Result Details

Gene locus	Gene name	My genotype	Description
RS6552828	ACSL1	AA	significantly increased maximum oxygen uptake after exercise
RS1535628	intergenic	AA	significantly increased maximum oxygen uptake after exercise
RS4973706	intergenic	TT	no significant increase in maximum oxygen uptake after exercise
RS884736	CAMTA1	CC	no significant increase in maximum oxygen uptake after exercise
RS6090314	intergenic	AG	relatively significant increase in maximum oxygen update after exercise

Test details

Applicable situation

The VO2max improvement item uses genes such as ACSL1, CD44, CAMTA1 and 12 polymorphic loci on these genes: rs6552828, rs1535628, rs884736, rs6090314, and rs10500872.

Notification

1. The basis of the test is mainly from the research of Caucasian, other populations are for reference only.

2. The test may not cover all genes or loci that related to VO2max improvement.

Scoring model

According to the frequency of the reference sample and the control sample carrying the corresponding genotype in the literature, the weight of each locus is divided. Finally, the item is scored according to the detected genotype and the weight of the locus itself. The average score of all users and the distribution of scores are obtained through the algorithm, and the user is divided into project results accordingly.

How to use the test results

- Notification

1. The test only evaluates your VO2max improvement at the genetic level, and does not involve consideration of age, gender, and other factors. Therefore, the test result may not be equivalent to your actual VO2max improvement.
2. In addition, due to the difference of the study population, the VO2max improvement value range in the literature is for reference only.
3. If necessary, please consult an authoritative sports coach for professional training guidance with the goal of improving VO2max.

- Population samples

The basis of the test is mainly from the research of Caucasian.

- Limit of detection

The test may not include all loci related to VO2max improvement.

Motivation to Exercise

Motivation to exercise refers to a person's subjective initiative to exercise.

My Motivation to exercise

Moderate

34.8% of DNAset users are similar to me

Knowledge

The benefits of exercise

Prolonged sitting for a long time can lead to a series of health problems such as obesity, type 2 diabetes, and cardiovascular diseases. Exercise can bring benefits such as lowering blood pressure, reducing the level of low-density lipoprotein cholesterol levels in plasma, increasing the level of high-density lipoprotein cholesterol in plasma, and improving heart function, etc. It is considered to be a kind of help in the way of cardiovascular health.

Genes and motivation to exercise

In the past, people believed that participation in exercise was a trait influenced by environmental factors. Now, twin studies have shown that genes also play a very important role in the matter of adult participation in exercise. In a recent study, researchers conducted a genome-wide association study (GWAS) on a large sample of nearly 3,000 people. By analyzing the results of genetic testing of people who exercise frequently in their leisure time and people who lack exercise, they found genetic loci that were significantly associated with leisure-time exercise behavior.

My Genetic Result Details

Gene locus	Gene name	My genotype	Description
RS10887741	PAPSS2	CC	poor motivation to exercise, not inclined to exercise in spare time
RS12612420	intergenic	AG	slightly high motivation to exercise, tends to participate in exercise in spare time
RS8097348	intergenic	AA	relatively sensitive to saturated f poor motivation to exercise, not inclined to exercise in spare time

Test details

Applicable situation

The exercise motivation item uses the PAPSS2 gene and 3 polymorphic loci of gene: rs10887741, rs12612420, and rs8097348.

Notification

1. The basis of the test is mainly from the research of Caucasian, other populations are for reference only.
2. The test may not cover all genes or loci that related to exercise motivation.

Scoring model

According to the frequency of the reference sample and the control sample carrying the corresponding genotype in the literature, the weight of each locus is divided. Finally, the item is scored according to the detected genotype and the weight of the locus itself. The average score of all users and the distribution of scores are obtained through the algorithm, and the user is divided into project results accordingly.

How to use the test results

Notification

The test only evaluates your exercise motivation at the genetic level, and does not include the influence of other factors such as the environment and whether you are injured. Therefore, the test result may not be equivalent to your actual participation in exercises.

Population samples

The basis of the test is mainly from the research of Caucasian and Asian.

- Limit of detection

The test may not include all loci related to saturated fat sensitivity.

Muscle Endurance Improvement from Exercise

This value is used to measure the significance of a person's increase in muscle endurance from exercise. The smaller the increase in muscle endurance, the more care should be taken not to blindly increase the intensity of exercise.

My Muscle Endurance Improvement from Exercise

Large

19.1% of DNAset users are similar to me

Suggestions

- The strength of muscle endurance increasing with a variety of Gene Mutations, and your overall muscle endurance is Great
- Post-exercise muscle soreness can significantly improve after a sustained period of exercise
- The following methods may help with soreness in addition to regular exercise:
    - Healthcare should be carried out after exercise, such as proper stretching massage, timely hydration and protein intake, and repeated ice bath
    - Eat more Protective Foods such as watermelon, cherries, sports supplements containing glutamine, etc
    - Wearing high-performance clothing to help stabilize muscles, prevent minor injuries, improve circulation and speed up the recovery
    - Get more sleep because the body will produce growth hormone to help tissues grow and repair during sleep

Knowledge

What is muscle endurance

Muscle soreness and fatigue will follow after a long time of exercise (such as an 800-meter race) due to the shift of supply energy to the anaerobic system (phosphagen and glycolytic for energy supply) and the production of lactic acid with the increase of exercise intensity. Critical value at which lactic acid begins to accumulate is lactate threshold, also named anaerobic threshold. The higher of lactate threshold, the later muscle soreness occurs after exercise and the muscle endurance is higher.

Gene and muscle endurance improvement

Exercise can improve muscle endurance. However, research shows that different people have different effects on improving muscle endurance after exercise, which may be related to PPARD and PPARGC1A gene. Mitochondrial function and the types of muscle fibers in different populations lead to the differences in muscle endurance increasing (i.e. lactate threshold increased).

My Genetic Result Details

Gene locus	Gene name	My genotype	Description
RS2267668	PPARD	AA	significantly increased muscular endurance after exercisetes
RS8192678	PPARGC1A	CC	significantly increased muscular endurance after exercise

Test details

Applicable situation

The improvement of muscle endurance item uses two polymorphic loci on the PPARD and PPARGC1A gene: rs2267668 and rs8192678.

Notification

1. The basis of the test is mainly from the research of Caucasian, other populations are for reference only.

2. The test may not cover all genes or loci that related to the improvement of muscle endurance.

Scoring model

According to the frequency of the reference sample and the control sample carrying the corresponding genotype in the literature, the weight of each locus is divided. Finally, the item is scored according to the detected genotype and the weight of the locus itself. The average score of all users and the distribution of scores are obtained through the algorithm, and the user is divided into project results accordingly.

How to use the test results

Notification

The test evaluates your muscle endurance improvement at gene levels and does not include the influence of training and other factors. Therefore, the test result may not be equivalent to the increase in muscle endurance after actual exercises.

Population samples

The basis of the test is mainly from the research of Caucasian and Asian.

Limit of detection

The test may not include all loci related to carbohydrate sensitivity.

Temperature Increasing Rate During Exercise

The speed at which body temperature increases during exercise reflects how efficiently body temperature increases during exercise of the same intensity. In general, the higher the indicator, the faster the optimal exercise temperature is reached, that is, a shorter warm-up time is required.

My Temperature Increasing Rate During Exercise

46.9% of DNAset users are similar to me

Moderate

Knowledge

Brief introduction

During aerobic exercise, the body will produce a series of physiological changes, such as increased heart rate, blood pressure, temperature. One 2012 study has revealed that increased temperature is related to heredity during exercise.

Research finding

200 participants completed a 30-minute submaximal (exercise intensity is the same as 65% maximal oxygen capacity) aerobic exercise on the treadmill, then researchers measured their ear temperature before exercise, 10 minutes, 20 minutes and 30 minutes after exercise. The result shown that people with rs2253206 in the CREB1 gene had minimum temperature change after exercise, while people with AA and AG genotype had larger temperature change.

My Genetic Result Details

Gene locus	Gene name	My genotype	Description
RS2253206	intergenic	AG	slightly fast increase in body temperature during exercise, requires a slightly short warm-up

Test details

Applicable situation

The temperature increasing rate during exercise item uses one polymorphic locus on the CREB1 gene: rs2253206.

Notification

1. The basis of the test is mainly from the research of Caucasian, other populations are for reference only.

2. The test may not cover all genes or loci that related to the temperature increasing rate during exercise.

Scoring model

According to the frequency of the reference sample and the control sample carrying the corresponding genotype in the literature, the weight of each locus is divided. Finally, the item is scored according to the detected genotype and the weight of the locus itself. The average score of all users and the distribution of scores are obtained through the algorithm, and the user is divided into project results accordingly.

How to use the test results

Notification

The test evaluates the temperature increasing rate during exercise at gene levels and does not include the influence of environment and other factors. Therefore, the test result may not be equivalent to the temperature increasing after actual exercises.

Population samples

The basis of the test is mainly from the research of Caucasian.

- Limit of detection

The test may not include all loci related to the temperature increasing rate during exercise.

Explosive Power

Skeletal muscle can generate massive power and strength in a short period of time. In sports like sprint, one's ability to generate such power is extremely important.

My Explosive Power

Slightly Stronger

49.7% of DNAset users are similar to me

Suggestions

- The strength of explosive force is related to a variety of Gene variation, your comprehensive explosive power is Stronger.
- You can have a better training response to high intensity resistance training. It is recommended that this type of training may account for a greater proportion
- Studies have shown that testosterone levels in men are associated with explosive force, and Increasing testosterone levels may increase explosive force to some extent.

* If you need to use additional dietary supplement, it is recommended that you consult an authoritative health professional or clinician for help.

Knowledge

What is explosive powe

Explosive power is the ability of skeletal muscle to burst out huge energy in a short time, which is an important athletic ability. In short time and high intensity speed and power events such as sprint, short distance swimming and so on, explosive power is the key. In addition to training and nutrition, genetics also play an important role in explosive exercise performance.

Genes and explosive power

It is found that gene polymorphism has a great influence on explosive power. For example, ACTN3 directs the synthesis of α-actinin-3. This gene is located on human chromosome 11. Under normal circumstances, the 577th nucleotide of exon 16 is C, which directs the encoding of ACTN3 protein. When C base mutates to T base and the arginine chain codon at position 577

changes to stop codon, the loss of α-actinin-3 will affect muscle stretching speed and reduce explosive power.

Advice on exercise

With strong explosive power, it is easier to perform well in speed and power sports. When it comes to exercise, the benefits are more pronounced after more intense resistance exercises (such as weight lifting).

My Genetic Result Detail

Gene locus	Gene name	My genotype	Description
RS11549465	HIF1A	CC	not significantly helpful for explosive power performance
RS17602729	AMPD1	GG	significantly helpful for explosive power performance
RS1800795	intergenic	GG	significantly helpful for explosive power performance
RS1801131	MTHFR	GT	helpful for explosive power performance
RS1801282	PPARG	CC	not significantly helpful for explosive power performance

Test details

Applicable situation

The explosive force item uses 10 polymorphic loci on ACTN3, AGT, NOS3 gene: rs1815739, rs2070744, rs1801282, rs11549465, and rs17602729.

Notification

1. The basis of the test is mainly from the research of Caucasian, other populations are for reference only.

2. The test may not cover all the genes or loci that related to the explosive force.

Scoring model

According to the frequency of the reference sample and the control sample carrying the corresponding genotype in the literature, the weight of each locus is divided. Finally, the item is scored according to the detected genotype and the weight of the locus itself. The average score of all users and the distribution of scores are obtained through the algorithm, and the user is divided into project results accordingly.

How to use the test results

- Notification

The test only evaluates your explosive force at the genetic level, not including age, gender, BMI and other factors. Therefore, the test results may not be the same as your actual display of explosive force.

- Population samples

The basis of the test is mainly from the research of Caucasian.

- Limit of detection

The test may not include all loci that related to the effect of exercise on weight.

Endurance

Endurance refers to one's ability to conduct heavy physical activities in a relatively long period of time. Endurance is critical for sports like marathon or skiing.

My Endurance

Moderate

31.1% of DNAset users are similar to me

Suggestions

- Strength of endurance is related to a variety of Genetic variation, your endurance is Medium.
- Your response to higher intensity Aerobic exercise training is ordinary and it is not recommended to focus on this type of training.
- In addition to targeted training, the following methods may help improve endurance:
  - Studies have shown that ingestion of certain Caffeine can improve performance in sports such as swimming.
  - Food rich in Nitrate, such as beetroot juice, can reduce the exercise oxygen consumption of 5.4%, extending running time about 15%.
  - Participating in meditation or yoga can reduce the level of pressure and improve endurance performance slightly.

* If you need dietary supplement, it is recommended that you consult an authoritative health professional or clinician for help.

Knowledge

What is endurance

Endurance refers to the endurance ability of the body to carry out intense physical activities for a long time. It is an important athletic ability. Endurance is especially important in marathon, skiing and other long-time and moderate-intensity endurance events. In addition to training and nutrition, genetics also play an important role in endurance performance.

Genes and endurance

Studies have found that gene polymorphism has a great influence on tolerance. For example, ADRB2 encodes the adrenergic β2 receptor, which is involved in the negative regulation of smooth muscle cell contraction, the positive regulation of skeletal muscle, and the positive regulation of muscle contraction and tube relaxation. Research shows that ADRB2 may affect tolerance performance by mobilizing fat in fat cells and participating in energy metabolism.

Advice on exercise

Strong endurance is more likely to perform well in long-time and moderate-intensity endurance sports. When you exercise, you will benefit more from moderate-intensity aerobic exercise (such an erobic monotherapy, etc.).

My Genetic Result Details

Gene locus	Gene name	My genotype	Description
RS1042713	ADRB2	AG	helpful for endurance performance
RS17602729	AMPD1	GG	significantly helpful for endurance performance
RS1799945	HFE	CC	not significantly helpful for endurance performance
RS1800849	UCP3	GG	not significantly helpful for endurance performance
RS1815739	ACTN3	CT	helpful for endurance performance

Test details

Applicable situation

The muscle endurance improvement item uses the 9 polymorphic loci on ADRB2, PPARA gene: rs1799945, rs1800849, rs1042713, rs17602729, and rs2016520.

Notification

1. The basis of the test is mainly from the research of Caucasian, other populations are for reference only.

2. The test may not cover all genes or loci that related to endurance.

Scoring model

According to the frequency of the reference sample and the control sample carrying the corresponding genotype in the literature, the weight of each locus is divided. Finally, the item is scored according to the detected genotype and the weight of the locus itself. The average score of all users and the distribution of scores are obtained through the algorithm, and the user is divided into project results accordingly.

How to use the test results

- Notification

The test only evaluates your endurance at the genetic level, and does not involve consideration of age, gender, BMI and other factors. Therefore, the test result may not be equivalent to your actual endurance.

- Population samples

The basis of the test is mainly from the research of Caucasian.

- Limit of detection

The test may not include all loci that related to the effect of diet on weight.

Anterior Cruciate Ligament (ACL) Injury Risk

Knee anterior cruciate ligament (ACL) prevents the tibia from moving forward to the femur, so it often breaks during intense torsional movement and ACL injury is very common among athletes. People with risk of ACL injury should avoid sudden change of direction in movement during exercises.

My Anterior Cruciate Ligament (ACL) Injury Risk

Moderate

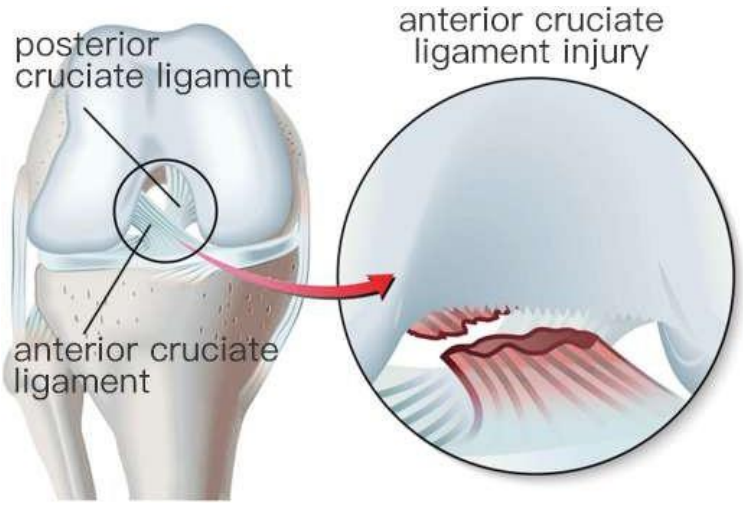
23.9% of DNAset users are similar to me

Knowledge

Physiological structure

Ligaments are flexible elastic connective tissue that attaches to the movable part of the bone, connecting the bone and limiting its range of activity to avoid injury.

The anterior cruciate ligament, also known as the anterior cruciate ligament, is located at the knee joint. It starts from the front of the tibial intercondylar bulge, and attaches to the medial surface of the lateral femoral condyle obliquely backward and upward, connecting the femur and tibia. The anterior cruciate ligament prevents the tibia from moving forward to the front of the femur. When the knee joint is fully bent, the anterior cruciate ligament stretches most tightly. When the ligament is stretched beyond the threshold, injury may occur. If the anterior cruciate ligament of the knee joint is injured, it will greatly affect the stability of the knee joint and may lead to the injury of meniscus and other structures.



Causes of injury

The risk of knee anterior cruciate ligament injury is significantly related to genes encoding disaccharide chain protein and collagen. In addition to genetic factors, the rapid change of direction or excessive torsion of tibia during exercise can easily lead to the injury of anterior cruciate ligament. Anterior cruciate ligament injury of the knee is more common among skiers, footballers, and basketball players.

My Genetic Result Details

Gene locus	Gene name	My genotype	Description
RS1107946	intergenic	CC	significantly helpful for acl protection
RS1126499	BGN	CT	helpful for acl protection
RS1570360	VEGFA	AG	not significantly helpful for acl protection
RS1800012	COL1A1	CC	not significantly helpful for acl protection
RS1800255	COL3A1	GG	significantly helpful for acl protection

Test details

Applicable situation

The knee anterior cruciate ligament injury risk item uses nine polymorphic loci on genes such as COL3A1, COL12A1 and BGN: rs1800255, rs1042103, rs970547, rs679620, and rs1570360.

Notification

1. The test is mainly based on the research of Caucasian, and other populations are only for reference.

2. The test may not cover all genes or loci that related to the risk of knee anterior cruciate ligament injury.

Scoring model

According to the frequency of the reference sample and the control sample carrying the corresponding genotype in the literature, the weight of each locus is divided. Finally, the item is scored according to the detected genotype and the weight of the locus itself. The average score of all users and the distribution of scores are obtained through the algorithm, and the user is divided into project results accordingly.

How to use the test results

Notification

1. The test only evaluates the possibility of your knee anterior cruciate ligament injury from the genetic level, and does not include other factors such as age, environment, external force impact and so on.

2. If you think you may have knee problems, please consult an authoritative health expert or clinician in time.

Study population

The basis of the test is mainly from the research of Caucasian.

Limit of detection

The test may not include all loci related to the risk of knee anterior cruciate ligament injury.

Achilles Tendon Injury Risk

If people have risk of Achilles tendon injury, they should warm up and pay attention to protecting the ankles when running or performing movements that require a bigger load on the Achilles tendon.

My Achilles Tendon Injury Risk

Slightly Low

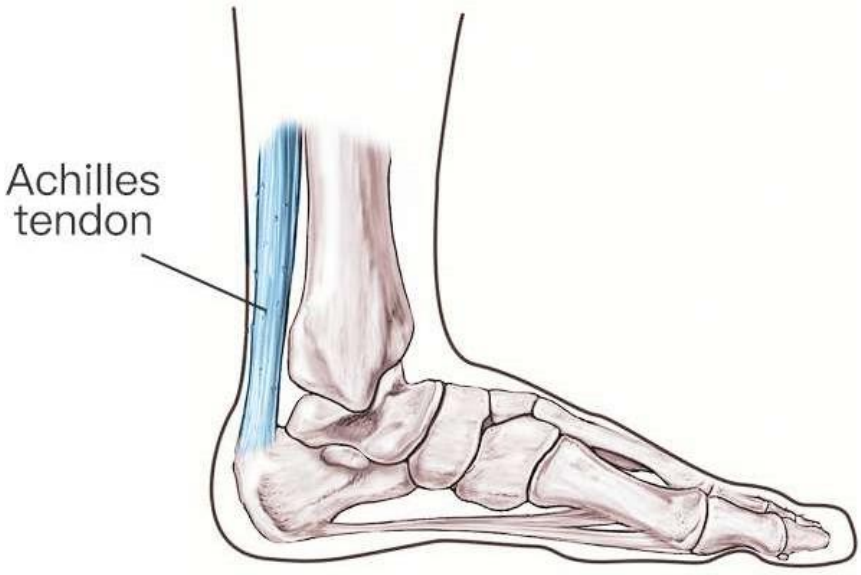
25.3% of DNAset users are similar to me

Knowledge

Physiological structure

Tendons are the connective tissue that connects muscles to bones. The main component of tendons is collagen.

The Achilles tendon is a tendon located on the back of the ankle bone, connecting the heel with the muscles on the back of the calf. The main function of the Achilles tendon is calf flexion and plantar flexion of the foot. The length of the Achilles tendon varies greatly from person to person. The mechanical properties of tendons depend on the diameter and direction of collagen fibers. Collagen fibers are parallel to each other and closely aligned with each other. The collagen fibers in the tendon have a certain degree of flexibility. In addition, since the tendon is a multi-linked structure composed of many independent fibers and bundles, rather than a rod-shaped structure, this property also contributes to its flexibility. When the Achilles tendon is pulled beyond the threshold, injury may occur. The injury of the Achilles tendon can lead to inflammation, and severely rupture, which seriously affects athletic ability. The risk of Achilles tendon injury is significantly associated with genes encoding metalloproteinase 3 and collagen.



Causes of injury

In addition to genetic factors, sports such as sprinting can also easily lead to d Achilles tendon injury. The maximum load on the Achilles tendon is about 3.9 times of the body weight when walking and 7.7 times of the body weight when running. Therefore, Achilles tendon injury is more common in sprinters and hurdlers.

My Genetic Result Details

Gene locus	Gene name	My genotype	Description
RS1045485	CASP8	GG	not significantly helpful for Achilles tendon protection
RS1143627	IL1B	GG	significantly helpful for Achilles tendon protection
RS16944	IL1B	AA	significantly helpful for Achilles tendon protection
RS1800795	intergenic	GG	not significantly helpful for Achilles tendon protection
RS2104772	TNC	AT	helpful for Achilles tendon protection

Test details

Applicable situation

The Achilles tendon injury risk item uses eigth polymorphic loci from genes like COL5A1, TNC and MMP3: rs16944, rs1045485, rs2104772, rs591058, and rs3834129.

Notification

1. The test is mainly based on the research of Caucasian, and other populations are only for reference.

2. The test may not cover all genes or loci that related to the risk of Achilles tendon injury.

Scoring model

According to the frequency of the reference sample and the control sample carrying the corresponding genotype in the literature, the weight of each locus is divided. Finally, the item is scored according to the detected genotype and the weight of the locus itself. The average score of all users and the distribution of scores are obtained through the algorithm, and the user is divided into project results accordingly.

How to use the test results

Notification

1. The test only evaluates the possibility of your Achilles tendon injury at the genetic level, and does not include the influence of other factors such as age, environment, external force impact, etc.

2. If you think you may have Achilles tendon problems, please consult an authoritative health expert or clinician in time.

Study population

The basis of the test is mainly from the research of Caucasian.

Limit of detection

The test may not include all loci related to the Achilles tendon injury risk

Lumbar Disc Injury Risk

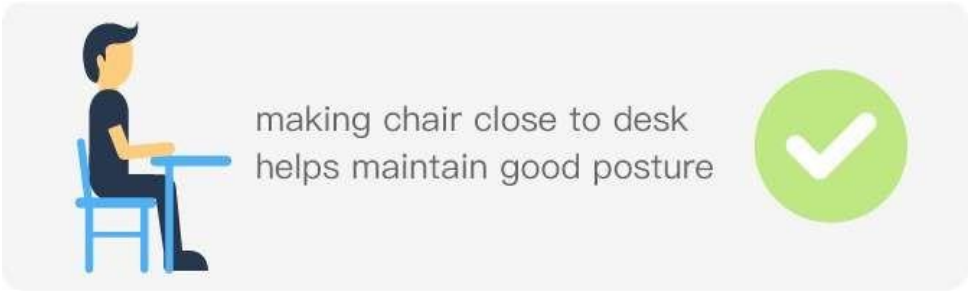
If lumbar disc is likely to develop injury, it is especially important to pay attention to controlling intensity during weightlifting and exercises that put a lot of stress on the waist.

My Lumbar Disc Injury Risk

Slightly Low

35.2% of DNAset users are similar to me

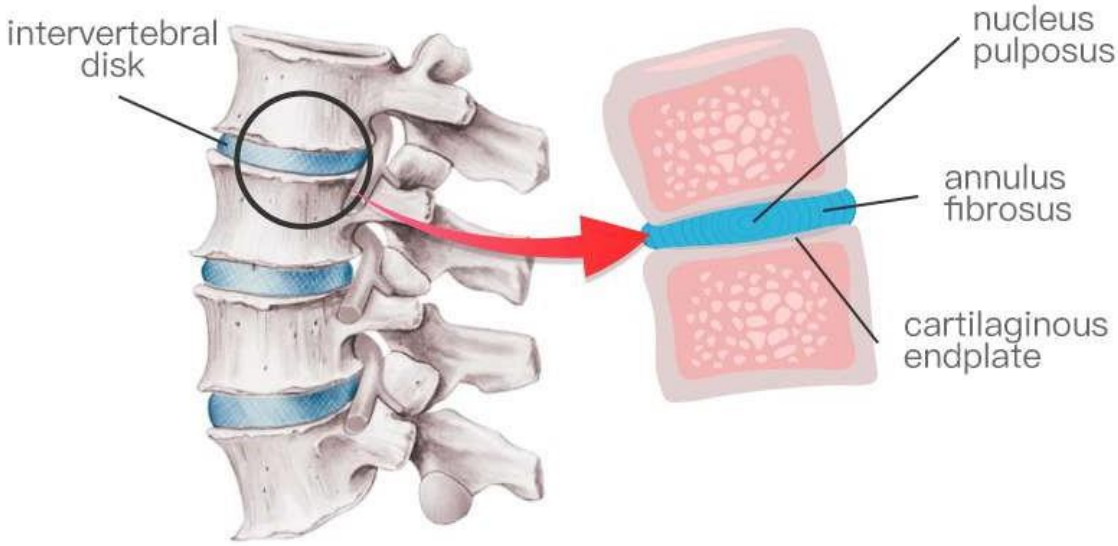
Postures that can reduce pressure on the lumbar spine



Knowledge

Physiological structure

Located between two vertebral bodies, the lumbar intervertebral disc is a structure with hydrodynamic characteristics. It is s composed of cartilage endplate, annulus fibrosus and nucleus pulposus. Nucleus pulposus is an elastic colloidal material, which can alleviate the impact. The annulus fibrosus is composed of multi-layer fibrous cartilage rings arranged in a ring, which surrounds the nucleus pulposus to prevent the nucleus pulposus from protruding outward. The annulus fibrosus connects the adjacent vertebral body so that it can move slightly. However, when the movement reaches a certain limit, the annulus fibrosus becomes tense, which plays the role of controlling the ligament and limiting the rotational movement; The cartilage end plate is located on the upper and lower sides of the intervertebral disc. It is composed of fibrocartilage, one on the upper and one on the lower side of the vertebral body. The cartilage endplate protects the vertebral bone, buffers the pressure, connects the vertebral body and the intervertebral disc, and plays the role of nutrient exchange for the intervertebral disc.



Causes of injury

Excessive lumbar load or lumbar movement can easily lead to the injury of lumbar intervertebral disc. When the lumbar intervertebral disc is seriously injuried, the nerves can be compressed and lead to limb numbness. Therefore, whether standing or sitting, you should keep the back with the tail vertebrae in a straight line as far as possible to avoid lumbar injury.

My Genetic Result Details

Gene locus	Gene name	My genotype	Description
RS1052576	CASP9	CT	helpful for lumbar disc protection
RS11549467	HIF1A	AG	increases lumbar disc protection
RS1800795	intergenic	GG	not significantly helpful for lumbar disc protection
RS1800896	intergenic	TT	significantly helpful for lumbar disc protection
RS2073711	CILP	AA	significantly helpful for lumbar disc protection

Test details

Applicable situation

The lumbar intervertebral disc injury risk item uses twelve polymorphic loci on genes such as COL9A3, VDR and MMP2: rs731236, rs763110, rs917997, rs151058, and rs2287037.

Notification

1. The test is mainly based on the research of Caucasian and Asian, and other populations are only for reference.

2. The test does not cover all genes or loci that related to the risk of lumbar intervertebral disc injury.

Scoring model

According to the frequency of the reference sample and the control sample carrying the corresponding genotype in the literature, the weight of each locus is divided. Finally, the item is scored according to the detected genotype and the weight of the locus itself. The average score of all users and the distribution of scores are obtained through the algorithm, and the user is divided into project results accordingly.

Notification

1. The test only evaluates the possibility of your lumbar intervertebral disc injury from the genetic level, and does not include other factors such as age, environment, external force impact and so on.

2. If you think you may have lumbar spine problems, please consult an authoritative health expert or clinician in time.

Study population

The basis of the test is mainly from the research of Caucasian and Asian.

Limit of detection

The test may not include all loci related to the risk of lumbar intervertebral disc injury.