

TERT (Longevity)

Gene Report

REPORT CATEGORY —



LONGEVITY

Sample Client

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Personal information

NAME

Sample Client

SEX AT BIRTH

Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg

DISCLAIMER

This report does not diagnose this or any other health conditions. Please talk to a healthcare professional if this condition runs in your family, you think you might have this condition, or you have any concerns about your results.



How this works

Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



Similarly, our Trait Reports look at how your DNA influences your traits.



Your DNA is like an instruction manual — it contains a lot of information.
You can think of it as a blueprint for your body.

Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



We use artificial intelligence and machine learning to analyze all this information.
We then summarize your results as a risk score or display it on a gauge.

In total, we analyze up to 83 million genetic variants.

When we give a risk score, the risk icon tells you if you are at a higher or lower risk compared to other people:



Genotype color info:

AA

You don't have any risk alleles

AA

You have 1 risk allele

AA

You have 2 risk alleles

Your risk is also displayed as a percentile. This will tell you how your risks compare to our sample population. The lower your percentile number, the lower your risk. The "50th percentile" would be an average risk.

Similarly, the gauge tells you your relative risk score compared to our sample population, or it indicates a specific trait or haplotype you are more likely to have based on your genetic variants.

When applicable, we also list top evidence-based recommendations that may help lower your risk. The focus is on recommendations that may be of benefit to you, based on your genetics.

Our recommendations come in four categories: lifestyle, diet, supplements and drugs.
The following icons tell you which category a recommendation falls into:



Our team of scientists also ranks each recommendation.
We rank based on impact and the strength of evidence in the medical literature.

Impact shows how strongly a recommendation will affect your health in a certain area.
Evidence is how much scientific support there is for the recommendation. Rankings are from 1 to 5 (low to high):



Impact

Impact scores range from 1-5. These scores reflect how much of an effect each recommendation can have. An impact score of 5 predicts the biggest effect.

When a recommendation affects something we can measure, we use those measurements to assign the impact score. For example, a recommendation that decreases cholesterol by 20% will have a higher impact score than one that decreases it by 5%.

Some recommendations affect things that we cannot directly measure, like stress or mood. For these, the impact score is based on how well they work relative to other recommendations and standard treatments. The best ones get the highest scores.

If there is a lot of research that shows a recommendation works especially well for your genotype, the impact score gets increased.

Recommendation Evidence

- 5 / 5
- Recommendations that are considered effective and generally recommended by experts and medical bodies.
-
- 4 / 5
- Recommendations that are considered likely effective and that have multiple independent meta-analyses and a great many studies supporting them.
-
- 3 / 5
- Recommendations that are considered possibly effective and have many studies supporting them
-
- 2 / 5
- Recommendations that have insufficient evidence, with two or several clinical trials supporting them, or many studies but with ambiguous results.
-
- 1 / 5
- Recommendations that have insufficient evidence, with a single clinical trial, or with many studies most of which didn't find support for the recommendation.
-
- 0 / 5
- No evidence in humans.

Genotype-specific Evidence

- High-quality
- Direct evidence that a recommendation helps more in people with your gene variant (many clinical trials, a few large clinical trials, or a meta-analysis).
- Medium-quality
- Direct evidence that a recommendation helps more in people with your gene variant (a few clinical trials or one large clinical trial).
- Low-quality
- Direct evidence that a recommendation helps more in people with your gene variant (a single clinical trial or more trials with inconsistent results).
- Indirect
- A recommendation may help more in people with your gene variant because it targets a specific gene or protein affected by your variant (e.g., MTHFR, dopamine).
- In theory
- A recommendation may help more in people with your gene variant because it targets a specific mechanism affected by your variant (e.g., inflammation, oxidative stress).

Some things to keep in mind:

- Genetics doesn’t play a considerable role in a condition or a trait.
- There is not enough research available to estimate a genetic predisposition.
- There are technical limitations to estimating or presenting a genetic predisposition.
- The topic is sensitive, and a genetic predisposition should only be estimated and presented by a healthcare professional.

Introduction

The [TERT](#) gene codes for hTERT, a part of the [telomerase](#) enzyme. Telomerase can protect DNA essential to the production of proteins (genes), by adding non-essential DNA (telomeres) to the ends of condensed DNA structures (chromosomes). This ultimately prevents genes from becoming damaged [\[R\]](#).

Within our bodies, cells constantly divide to produce more cells. Unfortunately, there isn't enough telomerase in adult tissues to keep up with cell division. Gradually, over the course of our lifespans, our telomeres get shorter and shorter, and more and more of our cells enter senescence. Thus, older people can't grow and regenerate their tissues as effectively as younger people [\[R\]](#), [\[R\]](#).

Short telomeres have also been linked with degenerative diseases and premature aging in humans. In this light, many researchers have attempted to discover whether activating telomerase and elongating telomeres can prevent or delay aging in humans and animals [\[R\]](#), [\[R\]](#), [\[R\]](#).

TERT Genetics and Longevity

The *TERT* gene has a lot of known variations. Most people will probably have a mix of variations that increase and decrease relative telomere length, so it’s important to look at as many SNPs as possible to see which way you lean. The following variants have been associated with an increased telomere length, potentially increasing longevity while reducing the risk of neurodegenerative diseases [\[R, R, R, R, R, R\]](#):

- ‘T’ at [rs2736108](#)
- ‘A’ at [rs7705526](#)
- ‘C’ at [rs2736100](#)
- ‘A’ at [rs7705526](#)
- ‘T’ at [rs4449583](#)
- ‘G’ at [rs33961405](#)
- ‘C’ at [rs10069690](#)
- ‘A’ at [rs13167280](#)
- ‘A’ at [rs2075786](#)
- ‘G’ at [rs2242652](#)
- ‘A’ at [rs2735940](#)
- ‘C’ at [rs2736098](#)
- ‘A’ at [rs2853669](#)
- ‘A’ at [rs2853672](#)
- ‘C’ at [rs2853676](#)
- ‘A’ at [rs2853677](#)
- ‘C’ at [rs4975605](#)



TYPICAL ACTIVITY

Likely typical TERT activity based on 17 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
SLC6A3	rs2736108	CC
TERT	rs4449583	CC
TERT	rs2075786	GG
TERT	rs7705526	CA
TERT	rs2736100	AC
TERT	rs10069690	CT
TERT	rs13167280	AG
TERT	rs2242652	GA
SLC6A3	rs2735940	GA
TERT	rs2853672	AC
TERT	rs2853676	CT
TERT	rs2853677	AG
TERT	rs4975605	CC
TERT	rs33961405	GG
CLPTM1L	rs2853669	AA
TERT	rs2736098	CC

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Your Recommendations

Your recommendations are prioritized according to the likelihood of it having an impact for you based on your genetics, along with the amount of scientific evidence supporting the recommendation.

You'll likely find common healthy recommendations at the top of the list because they are often the most impactful and most researched.

DOSAGE		DOSAGE	
1	Exercise At Least One Hour a Day	1 hour	
2	Aerobic Exercise (Cardio)	1 hour	
3	Strength Training	1 hour	

1



Exercise At Least One Hour a Day

IMPACT

5 / 5

EVIDENCE

5 / 5

How to implement

Dedicate a minimum of 60 minutes to moderate-intensity activities such as brisk walking, swimming, or cycling. Do this most days of the week, aiming for at least 5 days to optimize benefits.

TYPICAL STARTING DOSE

1 hour

Description

[Exercise](#) can do wonders for your health. It can help you lose weight, improve your heart health, boost your mood, and more [\[R\]](#).

There are many ways you can be active. You can walk, run, swim, dance, or play team sports. **Everything counts, and it's never too late to start!**

Try to get at least **60 minutes of moderate physical activity on most days**, including walking. **Getting a mix of cardio (min 150 min/day) and strength training (min 2 times a week) may be optimal.**

How it helps

A sedentary lifestyle is linked to reduced longevity. For example, spending hours watching TV every day may be harmful [\[R, R, R, R, R, R\]](#).

In line with this, **getting more exercise may increase lifespan.** The more people exercise, the more longevity tends to improve [\[R, R, R, R, R\]](#).

Both cardio and resistance exercises may help. Some studies suggest that higher-intensity exercise may be more beneficial [\[R, R, R, R, R\]](#).

In line with this, elite athletes tend to live longer [\[R, R, R\]](#).

Fortunately, you don't have to be an athlete to benefit from physical activity. Moving more as part of daily living is linked to increased lifespan. Activities that may help include [\[R, R, R\]](#):

- Cycling to work
- Playing recreational sports
- Gardening and yard work
- Walking or hiking

Exercise may help by improving and maintaining physical, heart, and lung performance [\[R, R, R, R\]](#).

Interestingly, exercise may also contribute by extending telomeres through enhanced TERT activity [\[R, R\]](#).

2



Aerobic Exercise (Cardio)

IMPACT

5 / 5

EVIDENCE

5 / 5

How to implement

Engage in at least 150 minutes of moderate-intensity aerobic exercise or 75 minutes of vigorous-intensity activity each week. Distribute this time over at least 3 days per week, avoiding consecutive days of vigorous exercise to allow for recovery.

TYPICAL STARTING DOSE

1 hour

Description

Engaging in regular aerobic exercise, such as running, swimming, or cycling, offers numerous health benefits, including improved cardiovascular fitness, weight management, and mood enhancement. It supports overall physical and mental well-being while reducing the risk of chronic diseases.

Cardio, short for cardiovascular exercise, is any type of physical activity that temporarily increases your heart rate. Examples include **running, cycling, swimming, and brisk walking**.

Regular cardio exercise has many benefits for your overall health. It can help lower your risk of heart disease and diabetes, support weight loss, and improve your mood and energy levels. To get the most out of cardio, try to do it for at **least 30 minutes, 3-5 times a week**.

Interval training is a type of cardio that combines periods of high-intensity training with brief rest periods.

How it helps

A sedentary lifestyle is linked to reduced longevity. For example, spending hours watching TV every day may be harmful [\[R, R, R, R, R, R\]](#).

In line with this, **getting more exercise may increase lifespan**. The more people exercise, the more longevity tends to improve [\[R, R, R, R, R\]](#).

Both cardio and resistance exercises may help. Some studies suggest that higher-intensity exercise may be more beneficial [\[R, R, R, R, R\]](#).

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- Cycling to work
- Playing recreational sports
- Gardening and yard work
- Walking or hiking

Exercise may help by improving and maintaining physical, heart, and lung performance [\[R, R, R, R\]](#).

Interestingly, exercise may also contribute by extending telomeres through enhanced TERT activity [\[R, R\]](#).

How to implement

TYPICAL STARTING DOSE

1 hour

Description

Strength training, also called resistance or *anaerobic* training, contracts the muscles against an external resistance for short periods of time. This helps gain muscle strength, tone, and mass. This can include activities like weight lifting, pushups, and crunches.

Strength training, also known as resistance training, is a type of physical exercise that uses resistance to build strength, anaerobic endurance, and size [R]. Some of the most common strength training methods include [R]:

- Weight lifting
- Bodyweight exercises like push-ups, pull-ups, squats, and lunges.
- Resistance bands
- Plyometrics or explosive force exercises

The benefits of strength training are numerous, and include [R]:

- Increased muscle strength
- Improved bone health
- Reduced risk of injury
- Improved balance and coordination
- Enhanced mood
- Boost metabolism

Consult with a doctor before starting any new exercise program, especially if you have any health conditions.

How it helps

A sedentary lifestyle is linked to reduced longevity. For example, spending hours watching TV every day may be harmful [R, R, R, R, R, R].

In line with this, **getting more exercise may increase lifespan**. The more people exercise, the more longevity tends to improve [R, R, R, R, R].

Both cardio and resistance exercises may help. Some studies suggest that higher-intensity exercise may be more beneficial [R, R, R, R, R].

In line with this, elite athletes tend to live longer [[R](#), [R](#), [R](#)].

Fortunately, you don't have to be an athlete to benefit from physical activity. Moving more as part of daily living is linked to increased lifespan. Activities that may help include [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Cycling to work
- Playing recreational sports
- Gardening and yard work
- Walking or hiking

Exercise may help by improving and maintaining physical, heart, and lung performance [R, R, R, R].

Interestingly, exercise may also contribute by extending telomeres through enhanced TERT activity [R, R].

Next Steps

Remember, your genes only tell one important part of your health story!

Now that you've seen your DNA-based results for this health topic, let's take a look at other contributing factors.

Your lab results

Your lab results are impacted by the combined effect of your genes, environment and lifestyle.

Lab tests will give you the best picture of your current health status, while your genes provide insight into your health predispositions and which recommendations are best for you.

	Vitamin D, 25-Hydroxy, Total	58.59 ng/mL		9 Nov 2025
	Homocysteine	12.84 umol/L		9 Nov 2025