Sample report

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Fitness Report

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Disclaimer

This report is based on your DNA predisposes obtained from your uploaded DNA file. Genomelink select key genes that are associated with fitness.

Any assertions or recommendations in the report as to an exercise regime or fitness recommendation, whether specific or general, are based on the following assumptions:

- that you are in a good state of health and do not have any medical problems that you are aware of;
- that you have not had any recurring illness in the past few months;
- that no medical practitioner has ever advised you not to exercise;
- that you are not on any prescribed medication that may affect your ability to exercise safely or your diet;
- that there is no other reason why you should not follow the assertions or recommendations in the report.

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Fitness recommendation

Aerobic training

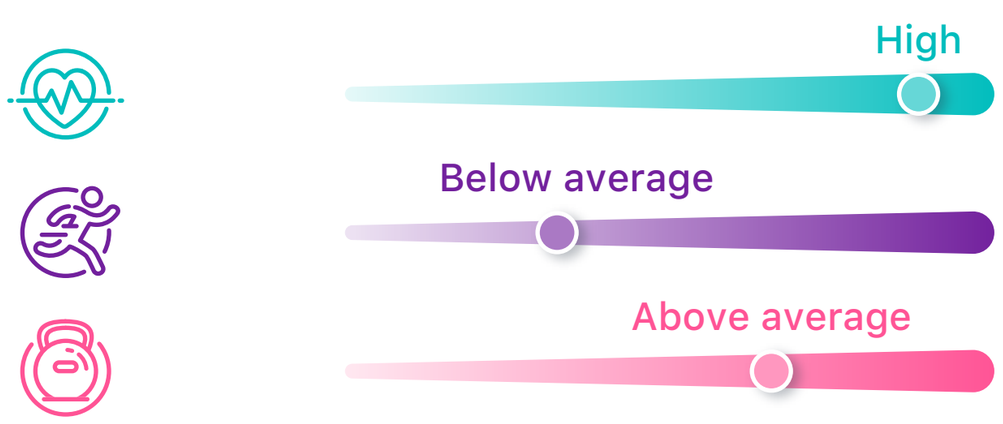
Resistance training for power

Resistance training for building muscle size

Predominantly		
(two times a week) **80-100%**	(two times a week) **moderate**	(two times a week) **moderate**
Additionally		
(one time a week) **70-80%**	(one time a week) **heavy**	(one time a week) **light**
High-intensity interval training as a sole type of training can be effective only for amateur level, elite endurance athletes should also use moderate – and low-intensity types of aerobic training.	Light weights can be lifted > 15 times. Moderate weights can be lifted 8-12 times. Heavy weights loads can be lifted 3-7 times. Low-intensity training can be effective for building muscle size, but for the improvement of strength it's recommended to train at high and moderate intensities.	Light weights can be lifted >15 times. Moderate weights can be lifted 8-12 times. Heavy weights can be lifted 3-7 times.

Maximum heart rate formula Women: 206 - (0.88 * age) Men: 220 - age

These results are based on your 4 fitness phenotypes



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Endurance performance

Endurance is the ability to sustain repeated contractions against a resistance for an extended period. There are two main types of training to improve endurance:

1. Continuous aerobic training with low- to moderate-intensity (heart rate around 60-85% of your maximum); examples: long-distance running, mountain climbing, road cycling

2. Aerobic **interval** training which involves high-intensity bouts of work followed by lower intensity bouts of work, or rest, that is repeated for a specific number of repetitions depending on the fitness level of the individual (heart rate may reach 90-95% of your maximum).

Your result

Genetic score

Level	East Asian
Low	0-45.5
Below average	46.6-50.0
Average	50.9-55.5
Above average	56.4-60.0
High	**60.9-100**

High

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Recommendation

High-intensity interval training involves high-intensity bouts of work followed by lower intensity bouts of work, or rest, that is repeated for a specific number of repetitions (from 4 to 8) depending on the fitness level of the individual (heart rate may reach 90-95% of your maximum);

You have good potential to become professional endurance athlete and able to develop endurance in a shorter period than individuals with other profiles.
To improve your endurance, choose predominantly continuous aerobic training with low- to moderate-intensity. Around two-thirds of your training days should include this type of training. One-third of your training days may involve high-intensity interval training.

Continuous aerobic training involves comparatively easy work performed for a relatively long period. Cycling at a slow to moderate speed (heart rate around 60-85% of your maximum) for 30-60 minutes is one example of continuous training. Other examples: long-distance running, mountain climbing, rowing, swimming, skiing, skating.

Example of a 20-min high-intensity interval training:

5:00 min	cycling warm-up
0:30 min	intense cycling (sprint #1)
3:00 min	active rest (cycling at low speed)
0:30 min	intense cycling (sprint #2)
3:00 min	active rest (cycling at low speed)
0:30 min	intense cycling (sprint #3)
3:00 min	active rest (cycling at low speed)
0:30 min	intense cycling (sprint #4)
4:00 min	cycling cool-down

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Scientific details

List of calculated gene and your genotype (22)

Gene	SNP	Genotypes	Phenotype
ACE	rs4341	CC	↑
		CG	—
		GG	↓
ADRB2	rs1042713	AA	↑
		AG	—
		GG	↓
AQP1	rs1049305	CC	↑
		CG	—
		GG	↓
BDKRB2	rs1799722	TT	↑
		CT	—
		CC	↓
COL5A1	rs12722	TT	↑
		CT	—
		CC	↓
GABPB1	rs7181866	GG	↑
		AG	—
		AA	↓
GABPB1	rs12594956	AA	↑
		AC	—
		CC	↓
GALNTL6	rs558129	CC	↑
		CT	—
		TT	↓
GSTP1	rs1695	GG	↑
		GA	—
		AA	↓
HFE	rs1799945	GG	↑
		CG	—
		CC	↓
HIF1A	rs11549465	CC	↑
		CT	—
		TT	↓
KCNJ11	rs5219	CC	↑
		CT	—
		TT	↓
KDR	rs1870377	AA	↑
		AT	—
		TT	↓
NACC2	rs4409473	CC	↑
		CT	—
		TT	↓
NFIA-AS2	rs1572312	GG	↑
		TG	—
		TT	↓
NOS3	rs1799983	GG	↑
		GT	—
		TT	↓
NOS3	rs2070744	TT	↑
		CT	—
		CC	↓
PPARA	rs4253778	GG	↑
		GC	—
		CC	↓
PPARGC1A	rs8192678	CC	↑
		TC	—
		TT	↓
UCP2	rs660339	AA	↑
		AG	—
		GG	↓
UCP3	rs1800849	AA	↑
		AG	—
		GG	↓
VEGFA	rs2010963	CC	↑
		GC	—
		GG	↓

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Speed performance

Speed is the ability to move quickly across the ground or move limbs rapidly to grab or throw.

Speed can be improved with power training which is identified as high intensity exercise performed quickly, but over shorter time periods. Speed is crucial for such sports events as: sprint running, speed skating, sprint swimming, sprint cycling, jumping events, ice hockey, boxing, bobsledding/luge, soccer etc. Here are some examples of types of sprint training: sprinting drills, acceleration, plyometrics, resistance training, overspeed training etc.

Your result

70.3

Genetic score

Level	East Asian
Low	0-45.5
Below average	46.6-50.0
Average	50.9-55.5
Above average	56.4-60.0
High	60.9-100

Below average

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Recommendation

You are predisposed to middle and long distances in sprint (for example, 200-400 min running, 100 min swimming) and thus may benefit from moderate- and low-intensity training.

You are predisposed to short and middle distances in sprint (for example, 100-200 min running, 50 min swimming) and thus may benefit from high- and moderate-intensity training.

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Scientific details

List of calculated gene and your genotype (20)

Gene	SNP	Genotypes	Phenotype
ACE	rs4341	GG	↑
		CG	—
		CC	↓
ACTN3	rs1815739	CC	↑
		CT	—
		TT	↓
ADRB2	rs1042714	GG	↑
		CG	—
		CC	↓
ADRB2	rs1042713	GG	↑
		GA	—
		AA	↓
AGT	rs699	CC	↑
		CT	—
		TT	↓
AHSG	rs4917	CC	↑
		CT	—
		TT	↓
AMPD1	rs17602729	GG	↑
		GA	—
		AA	↓
CKM	rs8111989	CC	↑
		TC	—
		TT	↓
CNTFR	rs41274853	AA	↑
		AG	—
		GG	↓
CPNE5	rs3213537	CC	↑
		CT	—
		TT	↓
GALNT13	rs10196189	GG	↑
		AG	—
		AA	↓
IGF1	rs35767	AA	↑
		AG	—
		GG	↓
IGF2	rs680	CC	↑
		CT	—
		TT	↓
IL6	rs1800795	GG	↑
		CG	—
		CC	↓
MTHFR	rs1801131	GG	↑
		GT	—
		TT	↓
NOS3	rs2070744	TT	↑
		TC	—
		CC	↓
PPARA	rs4253778	CC	↑
		CG	—
		GG	↓
PPARG	rs1801282	GG	↑
		CG	—
		CC	↓
SOD2	rs4880	GG	↑
		GA	—
		AA	↓
TRHR	rs7832552	TT	↑
		TC	—
		CC	↓

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Strength performance

Strength is the maximum force that can be exerted by a muscle or group of muscles during a single contraction. Whatever exercise you use, there are four key techniques or types to help you build key aspects of strength:

- training for explosive strength (ability to perform a powerful movement in minimal time)
- training for maximum (absolute) strength (ability to lift or push heavy weights in a relatively slow mode)
- training for muscle hypertrophy (aims to increase the amount of lean muscle in the body)
- training for endurance strength (ability to keep performing a movement for a prolonged period; also useful for weight loss)

Your result

58.0

Genetic score

Level	East Asian
Low	0-45.5
Below average	46.6-50.0
Average	50.9-55.5
Above average	**56.4-60.0**
High	60.9-100

Above average

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Recommendation

You have good potential to become professional strength athlete and able to develop strength in a shorter period than individuals with other profiles. You may benefit from high-intensity resistance training to develop explosive strength. Explosive strength is the ability to display powerful efforts in the shortest amount of time. Examples: Olympic weightlifting, throwing events etc.

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Scientific details

List of calculated gene and your genotype (20)

Gene	SNP	Genotypes	Phenotype
ACTN3	rs1815739	CC	↑
		CT	—
		TT	↓
ACVR1B	rs2854464	AA	↑
		AG	—
		GG	↓
ADRB2	rs1042713	GG	↑
		GA	—
		AA	↓
ADRB2	rs1042714	GG	↑
		GC	—
		CC	↓
AGT	rs699	GG	↑
		AG	—
		AA	↓
AMPD1	rs17602729	GG	↑
		AG	—
		AA	↓
CKM	rs8111989	CC	↑
		TC	—
		TT	↓
CNDP1	rs2887	AA	↑
		AG	—
		GG	↓
COL2A1	rs12228854	TT	↑
		GT	—
		GG	↓
GBF1	rs2273555	AA	↑
		AG	—
		GG	↓
HIF1A	rs11549465	TT	↑
		CT	—
		CC	↓
IGF1	rs35767	AA	↑
		AG	—
		GG	↓
IL6	rs1800795	GG	↑
		CG	—
		CC	↓
LRPPRC	rs10186876	AA	↑
		AG	—
		GG	↓
MLN	rs12055409	GG	↑
		GA	—
		AA	↓
MTHFR	rs1801131	GG	↑
		GT	—
		TT	↓
PPARA	rs4253778	CC	↑
		GC	—
		GG	↓
PPARG	rs1801282	GG	↑
		CG	—
		CC	↓
SOD2	rs4880	GG	↑
		GA	—
		AA	↓
ZNF608	rs4626333	CC	↑
		CT	—
		TT	↓

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Reference papers

https://www.elsevier.com/books/sports-exercise-and-nutritional-genomics/barh/978-0-12-816193-7

Endurance potential

1. **New genetic loci link adipose and insulin biology to body fat distribution.**

   Body fat distribution is a heritable trait and a well-established predictor of adverse metabolic outcomes, independent of overall adiposity. We conduct genome-wide association meta-analyses of

   Lindgren CM, Mohlke KL. 2018

2. **New genetic loci link adipose and insulin biology to body fat distribution.**

   Body fat distribution is a heritable trait and a well-established predictor of adverse metabolic outcomes, independent of overall adiposity. We conduct genome-wide association meta-analyses of

   Lindgren CM, Mohlke KL. 2018

Speed potential

1. **New genetic loci link adipose and insulin biology to body fat distribution.**

   Body fat distribution is a heritable trait and a well-established predictor of adverse metabolic outcomes, independent of overall adiposity. We conduct genome-wide association meta-analyses of

   Lindgren CM, Mohlke KL. 2018

Strength potential

1. **New genetic loci link adipose and insulin biology to body fat distribution.**

   Body fat distribution is a heritable trait and a well-established predictor of adverse metabolic outcomes, independent of overall adiposity. We conduct genome-wide association meta-analyses of

   Lindgren CM, Mohlke KL. 2018

Skeletal muscle potential

1. **New genetic loci link adipose and insulin biology to body fat distribution.**

   Body fat distribution is a heritable trait and a well-established predictor of adverse metabolic outcomes, independent of overall adiposity. We conduct genome-wide association meta-analyses of

   Lindgren CM, Mohlke KL. 2018