Date: 16 October 2013

Dear LH

My-gene-diet™ is pleased to attach the results of your gene analysis, which includes our expert advice on the ideal diet for you, along with a tailored exercise plan, both of which take into account your gene analysis.

You inherit your genes from your parents. You have two copies of each gene, one from your mother and one from your father. Either or both of these gene copies might have variations from ‘normal’ (i.e. the most common form of that gene as found in the general population). While you can’t change the genes you’re born with, having the knowledge of variations in your genes could help you with everything from tackling stubborn weight issues to finding a form of exercise you actually enjoy.

We have included an overall description of what types of foods you should eat in order to achieve and maintain your ideal weight.

In addition to diet, we have also examined your exercise genes. Exercise is important for everything, from helping you to maintain a healthy weight, to preventing illness such as heart disease and diabetes.

We wish you every success in using My-gene-diet™ results and recommendations, and please don’t hesitate to contact us if you have any questions or queries about your results.

With best wishes

**The My-gene-diet**™ **Team**

**Test Results, Diet and Exercise Guidance**

**for**

**LH**

|  |  |
| --- | --- |
| **Test conducted on date:**  | **16 October 2013** |
| **Genetic test conducted for:** | **LH** |
| **Age:** | **53** |
| **Height:** | **62 inch** |
| **Weight:** | **162 pound** |
| **BMI:** | **30** |

**Section 1** gives the results of the gene analysis from the swab you supplied to us and summarises the implications of your gene variations.

**Section 2** gives guidance on this type of diet together with some recommended daily diet plans for a 1600 calorie per day diet.

**Section 3** gives additional advice if you intend to lose weight with your new personalised diet.

**Section 4** gives the results of the three gene variations that affect exercise.

**Section 5** gives exercise advice for you based on your gene results. Regular exercise is very important for maintaining overall good health but is especially important for weight management

1. **The Results of Your Gene Analysis**

Your My-gene-diet results from the analysis of the swab sample you supplied us with are given below. We’ve tested five genes for a total of eight variations. The variations are small changes in the structure of the genes which occur in some people. Seven of the variations are known to affect bodyweight in relation to diet. One of the variations affects our muscle structure and our suitability for different types of exercise.

These variations are passed to us in our genes as inherited from our parents. We have two sets of genes: one from our mother and one from our father.

For each of the variations tested, there are three possible results:

**Normal:** You have the form of the gene most common in the population with no variation present.

**Single variation**: One set of your genes, from either your father or your mother, contains the variation.

**Double variation**: Both sets of your genes, from both your father and your mother, contain the variation.

We have summarised what science has discovered in recent years about each of the individual gene variations regarding weight and/or exercise. There is typically a bigger effect if a gene variation has been inherited from both father and mother (double variation) compared to a single variation.

The impact of each gene variation is different. Therefore, our recommendations to you are based on your gene results, the questionnaire you completed and an overall evaluation from our experts.

**FTO Gene**

**The FTO gene codes for *‘fat mass and obesity-related protein’*.**  Variations in this gene, which are quite common, typically cause you to eat more due to a stronger feeling of hunger followed by the inevitable weight gain.

Recent research has shown that when the double variation known as GV3 is present in the FTO gene, levels of the ‘hunger hormone’ *ghrelin* do not decrease as much during meals and rise more quickly after meals which explains the hunger pangs. Brain studies on people with this double variation have shown them to be more attracted to high fat, sweet foods, even after a meal.

We analyse for three variations in this gene.

GV1 (FTOrs1421085) **You have a double GV1 variation in your FTO which significantly increases the tendency to be overweight with increased hunger and low feeling of satiety very likely. This overweight tendency is increased further with intake of saturated fats.**

GV2 (FTOrs11211980) **You have a double GV2 variation in your FTO gene which gives a high chance of you being overweight, with this occurring from an early age**

GV3 (FTOrs9939609) **You have a double GV3 variation your FTO gene which gives you a high chance of poor hunger control, excess food intake and thus being overweight. It has been found that exercise is especially beneficial for weight loss with this variation.**

**ADRB2 gene**

**ADRB2 gene codes for the protein *‘beta-2-adrenergic receptor protein’*.** This occurs in fat cells where it’s involved in the mobilisation of fat for energy production. We analyse for two variations in this gene.

GV4 (ADRB2 gln27glu) **You have a single GV4 variation in your ADRB2 gene. Weight loss by dieting is known to be difficult with this variation. Women, in particular, have difficulty with weight loss and especially when the GV 5 variation is also present.**

GV5 (ADRB2 arg16gly) **You are normal for GV5 in your ADRB2 gene.**

**APOA2 gene**

**APOA2 gene codes for the protein *‘apolipoprotein A-11’* which is involved in the transportation of fats and cholesterol in the blood.** Variation in this gene can result in increased hunger, especially when saturated fat intake is high.

GV6 (APOA2rs5082) **You are normal for GV6 in your APOA2 gene.**

**NMB gene**

**The NMB gene codes for the protein *‘neuromedin B’* which is involved in the control of food intake.** Variation in this gene may cause overeating and subsequent weight problems.

GV7 (NMB) **You are normal for GV7 in your NMB gene.**

**ACTN3 gene**

**ACTN3 gene is expressed in skeletal muscle, and codes for the *‘alpha-actinin-3’* protein.** Variations in this gene determine whether your muscles are most suitable for shorter, higher intensity activities or for longer endurance activities performed at lower intensity.

GV8 (ACTN3rs77x) **Your ACTN3 gene result means that you will have mostly slow twitch muscle fibres which are most suited for endurance exercise, such as swimming, cycling, distance running, aerobics, etc. At a high performance level this would give you some genetic advantage in endurance sports.**

The impact of each gene variation is different. Therefore, our recommendation to you are based on you results, the questionnaire you’ve completed, plus the comprehensive scientific literature about the genes, and then an overall evaluation from our experts.

The diet we recommend for you is:

**Clever Carbs Diet**

**A diet higher in carbohydrates and lower in protein and fat.**

The diet is detailed in Section 2.

1. **Your Ideal Diet**

In your Clever Carbs Diet, about two thirds of the calories you eat should come from carbohydrates. To achieve this, you will need to include a high proportion of carbohydrates at every meal whilst bearing in mind the following.

* Carbohydrate sources should be mostly healthy, slowly digested carbohydrates: that means high fibre whole grain bread or high fibre cereals as opposed to refined, sugary cereals and white bread; potatoes in their skins as opposed to chips or even mash, and include plenty of vegetables.
* Keep sugar consumption low (yes, sugar is also a carbohydrate but should not contribute much to this higher carbohydrate diet). This means minimal cakes, biscuits, and other sweet snacks such as chocolate. Many of these are also high in fat, so could easily push you over your 35g of fat intake, so they need to be eaten in very small quantities, if at all.
* Although your Clever Carbs Diet is slightly lower in protein than some of the other diet variations, you still need to maintain a good protein intake, so try and include protein sources at every meal. That might mean yoghurt at breakfast, tuna or ham in your sandwich at lunch, a few nuts during the afternoon, and then lean meat and fish at dinner.
* This diet is relatively low in fats. Try also to minimise saturated fats are much as possible. Dairy products and processed meat products are particularly high in saturated fats, so use skimmed milk, avoid butter and avoid fatty meat products.

Below you will find examples for meals for three days for your Clever Carbs Diet. These plans are designed to give you the target calorie intake of:

65% calories from carbohydrate

15 % calories from protein

20 % calories from fat

In terms of grams of each food group to reach this calorie ratio, for a 1600 calorie-per-day diet designed for weight loss you should target the following quantities every day:

Carbohydrates 250 grams

Protein 60 grams

Fat 35 grams

So what does this look like in terms of typical day’s eating? Here are example daily meal plans based on the above 1600-calorie intake giving Clever Carbs Diet calorie ratios:

**MGD 1: Sample Day’s Eating**

**Day 1**

***Breakfast*:** 40g of porridge with 220ml skimmed milk

***Snack*:** Large banana

***Lunch*:** Tomato and cottage cheese pitta pockets, made with ½ cup cottage cheese, 2 pitta bread and a large chopped tomato

***Snack*:** 50g flapjack

***Dinner*:** Vegetable stir-fry with rice

**Total Calories 1588 (65% carbohydrates; 15% protein; 20% fat)**

**Day 2**

***Breakfast*:** ½ cup unsweetened muesli with skimmed milk

***Snack*:** Sliced apple, thinly spread with peanut butter

***Lunch*:** Chicken and cherry tomato salad (small chicken breast, handful of cherry tomatoes, green leaves and teaspoon oil with balsamic vinegar) served with a handful of steamed new potatoes (no butter)

***Snack*:** Handful of raisins and 2 squares of dark chocolate

***Dinner*:** Pasta primavera (50g cooked pasta with asparagus tips, spinach leaves, peas and 10g shaved parmesan).

**Total Calories: 1550 (65% carbohydrate; 15% protein; 20% fat)**

**Day 3**

***Breakfast*:** Smoothie (blend a banana with a large teaspoon of honey, a handful of crunchy, like granola-type cereal, a tablespoon yoghurt and 30ml fruit juice)

***Snack*:** Toasted bagel with fruit spread

***Lunch*:** Soup-bowl sized Greek salad (30g feta; handful olives; cubed cucumber; cherry tomatoes and drizzled with olive oil) with 2 slices of wholemeal bread

***Snack*:** Sliced mango with small pot of plain yoghurt

***Dinner:*** Halloumi-stuffed peppers (halve a large red pepper and stuff with 30g cous cous, 50g cubed halloumi cheese, a little veg stock, and a dessertspoon antipasti from jar).

**Total Calories: 1600 (65% carbohydrate; 15% protein; 20% fat)**

The above advice for 1600 calories per day is for a moderately active person of average build wishing to lose weight at a healthy rate (1lb per week). You may need to add calories or take some away, depending on your build, activity levels and the rate at which you burn calories. For more information and to calculate your daily calorie requirements, visit http://www.mygenediet.co.uk/

When it comes to fitting your own recipe ideas and/or eating out in with the diet, this is what you need to know about the three food groups:

**CARBOHYDRATES**

**Good carbohydrates:**

Wholegrain bread, whole wheat pasta, brown rice, pulses and beans, oats, sweet potatoes, fruit, salads, most vegetables (see below for potatoes)

**Carbohydrates to eat in moderation:**

Potatoes, refined grains, white rice, white pasta, white bread

**Carbohydrates to avoid:**

Refined sugar, pastries, sweet treats with added sugar like confectionery and puddings, fatty carbohydrate snacks like crisps and chips

**What does a typical 50g carbohydrate serving look like?**

2 medium-thick slices of bread

2 apples

2 small baked potatoes

1 medium-sized cup of rice

1 large glass apple juice

1 large cup cous cous

¾ cup spaghetti

¼ cup raisins

1 ½ bananas

1 cup kidney beans

80g porridge oats

*To make up your 250 g per day of Carbohydrates, you are allowed five of these servings per day*

**PROTEIN**

**Good protein sources:**

Lean poultry, fish, seafood, pulses, eggs, cottage cheese

**Protein sources to eat in moderation:**

Soya, lean red meat, protein drinks

**Types of protein to avoid:**

Fatty meats, processed meats, fried meat and fish, full fat dairy

**What does a typical 20g serving of protein look like?**

2 small boiled eggs

Small 75g chicken breast

Small 70g steak

Small cod fillet

40g tofu

125g low fat cottage cheese

85g kidney beans

3 grilled rashers bacon

3 slices lean ham

85g tinned tuna

**FATS**

**Good fats:**

Olive oil, sesame oil, avocadoes, nuts, olives, oily fish

**Fats to eat in moderation:**

Higher fat meats or meat with skin on, high fat cheese such as cheddar, butter

**Forms of fat to avoid:**

Commercially-baked pizzas and pastries; chocolate and high fat treats such as ice cream; fried foods

**NB: Your gene analysis recommends very little saturated fat in your diet so you should try to minimise all animal fats, high fat dairy products including butter and cheese; processed foods with high saturated fats (you will find this information on the packaging).**

**What does a typical 10g serving of fat look like?**

Half medium avocado (12% of fat is saturated)

15 g nuts (16% of fat is saturated)

1 tuna steaks (30% of fat is saturated)

75 g sardines (13% of fat is saturated)

Half large mackerel fillet (25% of fat is saturated)

2 small pork sausage (30% of fat is saturated)

20g cheddar cheese (60% of fat is saturated)

1 tbsp olive oil (14% of fat is saturated)

1 egg (30% of fat is saturated)

250 ml whole milk (60% of fat is saturated)

3 litres skimmed milk (60% of fat is saturated)

NB: If your gene analysis recommends very little saturated fat in your diet, then you should try to minimise all animal fats, high fat dairy products including butter; processed foods with high saturated fats (you will find this information on the packaging) to give you a saturated fat intake of less then 10 grams per day.

**3. IF YOU WISH TO LOSE WEIGHT**

If you wish to lose weight, it’s important that you not only choose the most appropriate foods but also that you cut your calorie intake.

To lose one pound in weight in a week you need to eat about 500 fewer calories every day.

Increasing exercise will also help by burning off more calories as discussed below and exercise is important for your overall health. However, to lose weight by increased activity and exercise alone you need to do a LOT more exercise every day: to burn off an extra 500 calories per day you would need to walk about 5 miles extra every day.

The ideal solution, therefore, to significant weight loss is a combination of cutting calories in food and drink (500 calories per day reduction or more) *and* to increase your activity and exercise levels.

As a general guide for a moderately-active overweight person to lose weight they should target a calorie intake of around 1,600 calories per day until they reach their target weight.

So, how best to do this?

**Food and Exercise Diaries**

Maintaining a food and exercise diary is an excellent way to monitor the calories you’re consuming and the calories you burn through exercise to help you meet your weight loss targets. The online options such as [www.myfitnesspal.com](http://www.myfitnesspal.com) are convenient to use and also give you your carbohydrate/fat/protein calorie balance.

**Portion Control**

A useful way to control the calories you eat is to use a smaller plate. Then when you portion your food, vegetables or salad items should take up about half the space and the rest should be divided between potatoes/rice/pasta/bread and fish/meat. And don’t be afraid to weigh portions while you get used to new, smaller sizes!

**Eating Regularly**

We recommend that you eat little and often, including three main meals per day. If you do feel the need to snack we recommend that you do so BUT choose items which are modest in calories such as fruit (apples and bananas), raw vegetables, a boiled egg, oatcakes or rye bread with hummus or cottage cheese or a small portion of mixed nuts.

**Avoid Alcohol**

Do remember that alcohol is high in calories and can also drive you to eat more. One glass of wine contains 125 calories, one shot of vodka 45 calories and one pint of beer or lager around 180 calories

Alcohol is not really a carbohydrate, protein or fat, so if you do drink alcohol, you should reduce your calories from food accordingly but stick to the same balance of carbohydrates, proteins and fats that we have advised.

**The Hunger Problem**

As you change diet and/or cut calories from what your body is used to, hunger is likely to become a significant issue and can derail the diet if you’re not careful.

You could consider an aid to assist you in keeping hunger under control and helping you to eat less. My-gene-diet™ strongly recommends the herbal weight loss aid **Zotrim**. This product, available as a tablet, has excellent evidence of helping to control hunger, reducing food intake (by approximately 20%) and aiding weight loss at 1–2 pounds per week. **Zotrim** is also contained in the drink product **Fibretrim** which has the added benefit of containing the dietary fibre inulin.

To order **Zotrim** and **Fibretrim** go to website [**www.zotrim.com**](http://www.zotrim.com).

**4. Your Gene Result Concerning Exercise**

Being active and exercising regularly is not only important for your health, but it also helps you to manage your weight more effectively. Exercise both burns calories directly and increases your metabolic rate. It can also help build muscle mass which can help counteract the bad effects of some of our gene variations.

**FTO Gene**

**The FTO gene codes for ‘fat mass and obesity-associated protein’.** For people with the GV3 variation in their FTO gene, exercise has been shown to be particularly beneficial for weight loss. Studies have shown that for those with a variation in this gene, that exercise combined with correct diet, can help to overcome the negative effects of the variation.

GV3 (FTOrs9939609) **Having double variation GV 3 in your FTO gene means that exercise is even more beneficial for you for weight loss.**

**ADRB2 gene**

**ADRB2 gene codes for the protein *‘beta-2-adrenergic receptor protein’*.** This occurs in fat cells where it’s involved in the mobilisation of fat for energy production. People with a GV5 variation in this gene might find that lots of exercise can be counterproductive to weight loss and can result in an excess accumulation of abdominal fat (‘belly fat’) especially when combined with a high carbohydrate diet. They are likely to feel tired and crave carbohydrates after a tough workout. If you have a variation in this gene, we recommend moderate lower intensity exercise only.

GV5 (ADRB2 arg16gly) **You are normal for GV5 in your ADRB2 gene.**

**ACTN3 gene**

**ACTN3 gene is expressed in skeletal muscle, and codes for the *‘alpha-actinin-3’* protein.** Variations in this gene determine whether you:

* Have mostly fast twitch muscle fibres which are most suitable for power and speed but which tire rapidly
* Have mostly slow twitch muscle fibres which are most suitable for prolonged exercise and can function for long periods without tiring
* Have a good balance of both types of fast twitch and slow twitch fibres

GV8 (ACTN3rs77x) **Your ACTN3 gene result means that you will have mostly slow twitch muscle fibres which are most suited for endurance exercise, such as swimming, cycling, distance running, aerobics, etc. At a high performance level this would give you some genetic advantage in endurance sports.**

In Section 5, we suggest exercise plans which we believe will suit you best based on your gene results.

**5. Your ideal exercise workout**

**SLOW TWITCH WORKOUTS**

Those with mainly slow twitch muscle fibres and who are mainly suited to endurance exercise are likely to have longer leaner muscles. They have more need for warm-up and are more prone to exercise injury. However, they usually recover rapidly after exercise.

We recommend that you do two types of workouts. Longer aerobic-type sessions to develop your slow twitch muscles and a resistance workout using weights to help tone your muscles and increase your metabolic rate:

**Slow Twitch Aerobic Workout**:

The idea of this workout is that it’s a less strenuous, longer session which will help to develop your slow twitch muscle fibres. This means activities like power walking, running, cycling, swimming, or using cardiovascular machines, such as the cross trainer or stationary bike, are more suitable than sessions that vary intensity such as spinning, circuit training or a game of football.

*Instructions*: Spend 10 minutes warming up at a moderate pace – around 5/10 intensity. This might be brisk walking, cycling at a steady-but-leisurely pace or swimming a slow crawl or breaststroke. Then, up the pace so that you’re working at an intensity of 7/10. Maintain this intensity for 35-40 minutes.

Aim to complete this aerobic session at least 2-3 times per week.

**Slow Twitch Resistance Workouts**

You should also include resistance training (exercises where you’re lifting weights) as this helps to improve muscle tone and raise metabolic rate.

For the following exercises, select a weight that’s not too light but light enough for you to complete 12-20 repetitions of each exercise.

Aim to do these 3 times a week:

**Pulsing Pliés (works hips and inner thighs)**

Start by standing upright and position your feet about 2 feet apart with your toes turned outwards plié style. Hold a weight lengthways in front of you. Slowly lower to the ground, bending your knees and aiming them in opposite directions over your little toes, until your thighs are parallel with the floor - keep knees and ankles aligned. Then, slowly push back half the way up to your standing position before lowering back down again. Repeat this in a gentle pulsing fashion for a count of 20. Rest and repeat.

**Press ups (works chest, backs of arms and shoulders)**

Position yourself on the floor on all fours with your feet crossed over at the ankles. Walk your hands out 2-3ft in front of you and place them just over shoulder width apart. Slowly bend your elbows out to the side, roll forward on to your thighs and lower your hips and upper body down to the floor. Then, straighten your arms and push yourself back up. Do 2 sets of 15-20.

**Seated Row (works back)**

Sit on a stool or sofa leaning back very slightly with your knees bent and feet flat on the ground in front of you. Extend your arms out to either side in front of you with a weight in each hand and, keeping your upper arms glued to your sides, bend your elbows and bring the weights back towards your body at chest height, squeezing your shoulder blades as you do so. Stop when the weights reach either side of your chest, then straighten your arms and return to your starting position. Do 15-20 reps.

**Cycling Crunches (works abdominals, including waist muscles)**

Lie flat on the floor with your lower back pressed to the ground. Place hands beside your head. Bring your knees up to a 45-degree angle and slowly go through a bicycle pedal motion - touch your left elbow to your right knee, then bring your right elbow to your left knee and do this 20 times continuously. Rest and repeat.

**Cooling Down, Rest and Recovery**

Try some gentle stretching after your workout - this is a simple and fast way to help your muscles recover. Stretching has been proven to increase circulation, increasing the blood flow and supply of nutrients to muscles and cartilage. Hold stretches for around 30 seconds each.

If you can’t replenish fluid stores during exercise, make sure you rehydrate as soon as you can after exercise. Lost fluid stores should be replaced as soon as possible.

Don’t let everything seize up! Easy exercise, such as walking, improves circulation which helps promote nutrient and waste product transport throughout the body, which should help muscles repair faster.

Allow plenty of time before your next workout. Resting after a workout allows the repair and recovery process to happen at a natural pace.

**The variation GV 8 in the ACTN3 gene shows that you are MOST suited for endurance exercise rather than intense exercise.**

**Keeping Active**: Lastly, don’t forget when it comes to exercise, every little really does help and keeping active throughout the day has big benefits. The following everyday activities burn around 200 calories and also contribute to overall fitness:

* Washing the dishes by hand every day for a week
* Vacuuming every room in the house using as many hoover attachments as you can
* Carrying baskets in the supermarket (instead of using a trolley)
* Running around after children/grandchildren for half an hour
* Playing Frisbee for 30 mins
* Gardening for 45 mins (planting, digging...not sitting on a lawnmower!).
* Walking the dog at a leisurely pace for an hour

**Armed with your new knowledge on your genetic makeup,**

**we wish you every success with your new diet,**

**exercise and weight management.**

If you have any questions regarding your report please contact the My-gene-diet team by emailing: info@my-gene-diet.com.

If you would like ongoing advice on implementing the changes we have recommended you can engage our personal training team led by Laura Williams.

Visit www.my-gene-diet.com for updated information on diet, exercise and fitness.

Join the My-gene-diet Facebook community for discussion, tips and advice.

**Appendix 1**

**LH Report**

|  |  |
| --- | --- |
| **Test conducted on date:** | 16 October 2013 |
| **Genetic test conducted for:** | LH |
| **Age:** | 53 |
| **Height:** | 62 inch |
| **Weight:** | 162 pound |
| **BMI:** | 30 |

In the table on the next pages, you will see the genes we have tested using your swab sample along with the results on your variations. The text in the table gives you information on what science has discovered in recent years about each of the individual gene variations regarding weight and/or exercise. There is typically a bigger effect if a gene variation has been inherited from both father and mother (double variation).

The red text shows the result of your test in each gene. Therefore, it is only the red text that relates to you and the light text is irrelevant to you.

The impact of each gene variation is different. Therefore, our recommendations to you are based on the questionnaire you’ve completed and your results, plus the comprehensive scientific literature about the genes, and then an overall evaluation from our experts.

**The Results of Your Gene Analysis**

 (Your results are in **RED**)

|  |  |  |  |
| --- | --- | --- | --- |
| **Genes and variations** | **No gene variation** | **Single gene variation**(You have inherited a gene variation from EITHER your mother or father) | **Double gene variation**(You have inherited a gene variation from BOTH your mother and father) |
| GV1 (FTOrs1421085) | You are normal for GV1 in your FTO gene. | You have a single GV1 variation in your FTO gene which means that you have a tendency to gain weight especially if your diet is high in saturated fat.  | **You have a double GV1 variation in your FTO which significantly increases the tendency to be overweight with increased hunger and low feeling of satiety very likely. This overweight tendency is increased further with intake of saturated fats.** |
| GV2 (FTOrs11211980) | You are normal for GV2 in your FTO gene. | You have a single GV2 variation in your FTO gene which increases your chance of being overweight with this occurring from an early age. | **You have a double GV2 variation in your FTO gene which gives a high chance of you being overweight, with this occurring from an early age** |
| GV3 (FTOrs9939609) | You are normal for GV3 in your FTO gene. | You have a single GV3 variation in your FTO gene which gives a slight risk of being overweight. It has been found that exercise is especially beneficial for weight loss with this variation. | **You have a double GV3 variation your FTO gene which gives you a high chance of poor hunger control, excess food intake and thus being overweight. It has been found that exercise is especially beneficial for weight loss with this variation.** |

|  |  |  |  |
| --- | --- | --- | --- |
| GV4 (ADRB2 gln27glu) | You are normal for GV4 in your ADRB2 gene. | **You have a single GV4 variation in your ADRB2 gene. Weight loss by dieting is known to be difficult with this variation. Women, in particular, have difficulty with weight loss and especially when the GV 5 variation is also present.** | You have a double GV4 variation in your ADRB2 gene. Weight loss by dieting is known to be difficult with this variation. Women, in particular, have difficulty with weight loss especially with this double variation and when a GV 5 variation is also present. |
| GV5 (ADRB2 arg16gly) | **You are normal for GV5 in your ADRB2 gene.** | You have a single GV5 variation in your ADBR2 gene which increases the tendency to be overweight. A high intake of carbohydrate combined with lots of exercise can cause accumulation of abdominal fat ('belly fat'). An appropriate lower carbohydrate diet is known to be particularly beneficial for weight loss. | You have a double GV5 variation in your ADBR2 gene which gives you a high chance for being overweight. A high intake of carbohydrate combined with lots of exercise can cause accumulation of abdominal fat ('belly fat'). An appropriate lower carbohydrate diet is known to be particularly beneficial for weight loss. |
| GV6 (APOA2rs5082) | **You are normal for GV6 in your APOA2 gene.** | You have a single GV6 variation in your APOA2 gene which can lead to increased hunger, a lower feeling of satiety (feeling full during a meal) and thus to being overweight. The overweight tendency is increased with high saturated fat intake. | You have a double GV6 variation in APOA2 gene which can lead to increased hunger, a lower feeling of satiety (feeling full during a meal) and thus to being overweight. The overweight tendency is increased with high saturated fat intake. |
| GV7 (NMB) | **You are normal for GV7 in your NMB gene.** | The single GV7 variation in your NMB gene may cause you to eat more than normal and therefore gain excess weight. | The double GV7 variation in your NMB gene is a very strong indicator of over-eating behavior. This variation my cause you to eat more than normal and therefore gain excess weight. |

|  |  |  |  |
| --- | --- | --- | --- |
| GV8 (ACTN3rs77x) | Your ACTN3 gene result means that you will have mostly fast twitch muscle fibres which are most suited for power and strength for example, sprint, and circuit training workouts with free weights or boot camp-like classes. At a high performance level this variation would give you some genetic advantage in power sports. | Your ACTN3 gene result means you have a mix of fast and slow twitch muscle fibres. In terms of performance you are suited for both intense and endurance exercise and sports. At a high performance level it means that you do not have any genetic advantage or disadvantage in your pursuit. | **Your ACTN3 gene result means that you will have mostly slow twitch muscle fibres which are most suited for endurance exercise, such as swimming, cycling, distance running, aerobics, etc. At a high performance level this would give you some genetic advantage in endurance sports.** |

**Note: There may be counter indications from different genes. Therefore, our experts conducted the final evaluation based on the questionnaire, the scientific literature and the result of the My-gene-diet™ test.**