

개인 유전체 기반 다이어트

최 경 환
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심포지엄 : 건강기능식품, 어떻게할 것인가?

Contents

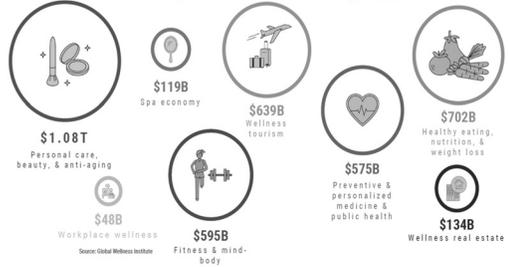
- Chapter 01. The Future of Wellness
- Chapter 02. Genomic data in Life style
- Chapter 03. Beyond the clinical, Go to real life
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- Chapter 05. Opinions



What's Next in Wellness?

A \$4.2 TRILLION MARKET

The wellness economy is a **multi-market mega opportunity**



Source: CBREIGHTS

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Wellness, Why now?

DEVELOPED & EMERGING MARKETS
...embrace wellness



MILLENNIAL POPULATION
...go hyper-health conscious



HEALTHCARE SYSTEM
...in crisis



SOCIAL MEDIA MARKETING
...amplifies wellness



Source: CBREIGHTS

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What is a choice to better way?



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The wellness landscape is vast

Personalized nutrition typically involves creating customized products or services based on factors such as one's genetic makeup, lifestyle, or environment.

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Personalizing Diet

Wearables and apps are helping to track nutrient intake

"At-home testing kits take off"

Personalized pills look to boost wellness

Customized food and beverage gains traction

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What determines your health?

Our DNA is believed to be one of the most important parts in understanding our health

40% Consumer Behaviors: TOBACCO USE, DIET & EXERCISE, ALCOHOL USE, SLEEP HABITS, SOCIAL CONNECTEDNESS

30% Genomics

20% Socioeconomic & Environmental Factors: EDUCATION, JOB STATUS, FAMILY/SOCIAL SUPPORT, INCOME, COMMUNITY SAFETY

10% Health Care

Image source: NEJM 2007

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What determines your health?

The key is not new information
It's going back to the "root information"

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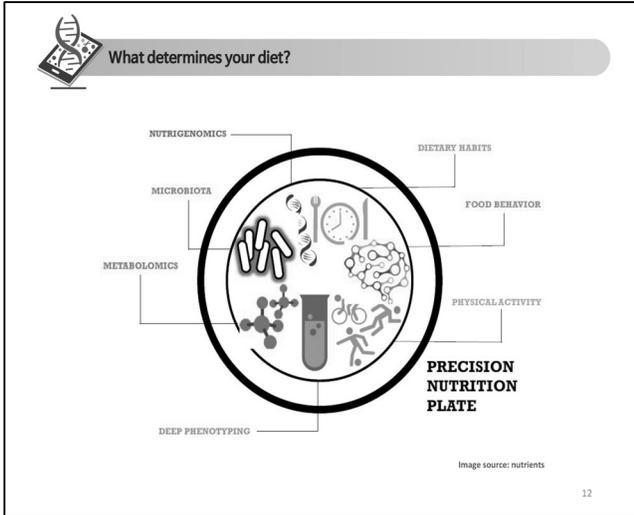
What determines your health?

GENOMICS: Our genes can suggest what diseases we might be predisposed to, but it's an incomplete picture of human health.

PHENOTYPE: A snapshot of the current state of health that can be used to prevent, diagnose and treat disease or improve health.

LIFESTYLE/ENVIRONMENT: External factors like diet, exercise, medications, microbiota and even where we live influence our metabolic state.

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Genomics information Can Help to

CLINICAL UTILITY
When a patient or provider meaningfully uses genetic data to help make a clinical decision

LEGEND
 ■ Utility is applicable
 ■■ Utility will soon be applicable

CLINICAL
Genetic variants that are linked to diseases and potential health risks and provide clinical information for family planning

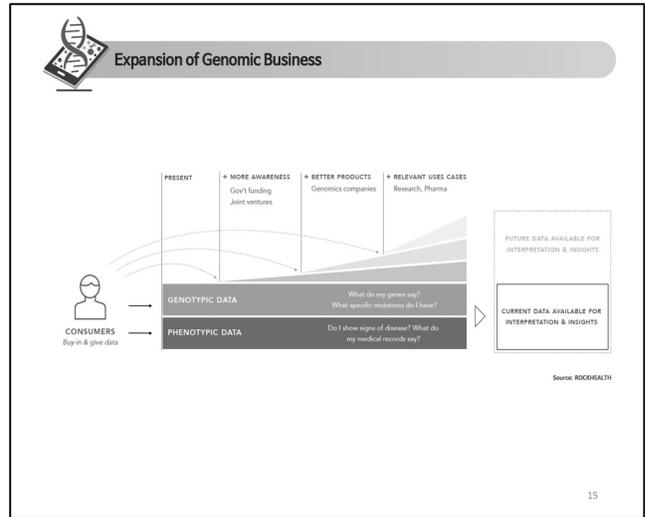
WELLNESS
Genetic variants that can influence personal characteristics and lifestyle and environmental factors

LIFESTYLE
Genetic variants that can influence personal characteristics and attributes

PERSONAL UTILITY
When a consumer derives satisfaction or value from knowing the results of a genetic test

Source: ROCCHALTH

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Personal Diet based on Genetic information: EDGC - mygenplan

내 유전형질 결과

내성	CA	CB	CC
중성	BA	BB	BC
민감	AA	AB	AC

내 유전형질 해석

유전형질	해석	영양
CA	지방산 대사 관련 유전형질 결과	지방산 대사 관련 영양소 섭취
CB	지방산 대사 관련 유전형질 결과	지방산 대사 관련 영양소 섭취
CC	지방산 대사 관련 유전형질 결과	지방산 대사 관련 영양소 섭취
BA	지방산 대사 관련 유전형질 결과	지방산 대사 관련 영양소 섭취
BB	지방산 대사 관련 유전형질 결과	지방산 대사 관련 영양소 섭취
BC	지방산 대사 관련 유전형질 결과	지방산 대사 관련 영양소 섭취
AA	지방산 대사 관련 유전형질 결과	지방산 대사 관련 영양소 섭취
AB	지방산 대사 관련 유전형질 결과	지방산 대사 관련 영양소 섭취
AC	지방산 대사 관련 유전형질 결과	지방산 대사 관련 영양소 섭취

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Personal Diet based on Genetic information: 23andMe + Lark

Lose Weight with 23andMe and an AI App!

23andMe has partnered with Lark Health to offer a new type of automated coaching program that uses artificial intelligence to help you make healthy lifestyle choices.

By Peter Shanks | 10.23.2019 | BIOLOGICAL TIMES

Healthy lifestyle choices. Lark provides two options: average your 23andMe genetic information using a Just to clear: This "training program" is an app, all factors, including a "talk-in-personal assistant, who chat but takes notes very annoying. The Diabetes 1 money.

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Personal Diet based on Genetic information: Nurtigenomix

The answer may be in your genes

In 480 BC, Hippocrates noted that "positive health requires knowledge of man's primary constitution". This was just an ancient way of saying that we cannot achieve optimum health without knowing about our genes. We now know that specific variations in our genes can explain how we will respond to the foods, beverages and supplements we consume.

Learn how your genes can affect:

- Cardio-metabolic Health
- Nutrient Metabolism
- Weight Management
- Food Intolerances
- Eating Habits
- Physical Activity
- Injury Risk

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Personal Diet based on Genetic information: Nurtigenomix

Eating Between Meals

Starch

1in2 Your Results

1in10 Your Results

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Personal Diet based on Genetic information: DNAfit

DNAfit

Diet Fit

Listen to your genes. Shape up your meals.

Learn More

Diet Insights

Reports Include

- Optimal Diet Type
- Carbohydrate & Fat Response
- Anti-Oxidant & Omega 3 Need
- Folate, Vitamin B & D Need
- Salt, Alcohol & Caffeine Sensitivity
- Lactose Tolerance
- Coeliac Predisposition
- Phase 1 & Phase 2 Detoxification

Personalised Meal Plans

MealPlanner includes

- Recipes built around your tastes, genetics and target weight
- Ingredients list linked to an online shopping basket

15 Reports

Personalised Meal Plans

1 Coaching Call

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Personal Diet based on Genetic information: DNAfit

A BRIEF OVERVIEW OF YOUR KEY RESULTS

Optimal Diet Type for Weight Management

Low Carbohydrate Plan

Your Recommended Nutrient Overview

Increase: Folate, Acid, Vit B6 & B12, Coenzyme Q, Omega 3, Fibre

Decrease: Salt, Saturated Fats, Refined carbs / sugars, Grilled meat

Lactose Intolerance: Lactose tolerant

Coeliac Predisposition: Negative

Individual Food Sensitivities

Salt Sensitivity: Interspersed sensitivity to salt, <math>< 200 \text{ mg / day sodium}</math>

Alcohol Response: Positive effect of alcohol on diastolic

Caffeine Sensitivity: Fat metabolism

Carbohydrate Sensitivity

What do carbohydrates mean for you?

VERY LOW	LOW	MEDIUM	HIGH	VERY HIGH
Glucose	20	25	30	35
Fructose	20	25	30	35
Galactose	20	25	30	35
Starch	20	25	30	35
Sucrose	20	25	30	35
Disaccharide	20	25	30	35
Polysaccharide	20	25	30	35

YOUR ACTION POINTS

NOT ALL CARBOHYDRATES ARE CREATED EQUAL

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Personal Diet based on Genetic information: VITA MOJO + DNAfit

VITA MOJO -

Quick food, ultra personalised

The first day in our hands that you pick up on board!

generate

DNAfit

At DNAfit we're all about personalisation.

So we've partnered with Vita Mojo to make personalising your diet easier than ever.

Body Fit: Vita Mojo Special E149 E119

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Personal Diet based on Genetic information: mygenomebox

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Innovation of Global company

Nestle pivots to health research with artificial intelligence and DNA testing for personalised diets

Campbell Soup drops Habit, selling its nutrition company to Viome

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Next step...

Can DNA and blood tests reveal which foods are optimal for and individual's diet?

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There is no way but to go...

Position of the Academy of Nutrition and Dietetics: Nutritional Genomics

DEAD END OPPORTUNITY VS

Effect of personalized nutrition on health-related behaviour change: evidence from the Food4Me European randomized controlled trial

Carlos León-Molina, Katherine H Livingston, Cyril FM Harauz, Anna I. Macready, Rosalind Fallaize, Clare O'Donovan, Clara Woolhead, Hannah Forster, Marianne C Walsh, Santiago Navas-Carretero ... Show more

International Journal of Epidemiology, Volume 46, Issue 2, April 2017, Pages 578-588, <https://doi.org/10.1093/ije/dyw186>

Published: 12 August 2016 Article history ▼

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