

MEDIZEN HUMANCARE

GENETIC TEST

Design a smart future with our genetic test

Genetic Test Catalog

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A company that has conducted the largest number of predictive genetic tests in Korea

MEDIZEN HUMANCARE

Medizen Humancare specializes in genetic analysis and is spearheading next-generation total healthcare. We analyze genetic disease risk with individual genetic testing and offers personalized healthcare based on genetic information. We perform genomic research on the basis of a range of factors such as race, gender, age, etc. and possess long-standing know-how about personalized gene-specific content and interpretation of gene expression data.



Boasting the largest data volume in Korea with an estimated 550,000 cumulative genetic tests



Gene testing performed in health examinations for about 400 medical institutions and 500 companies



Selected as a Regulatory Sandbox Special Case for Demonstration by the Ministry of Trade, Industry and Energy



Selected to carry out a DTC genetic testing pilot project by the Ministry of Health and Welfare, Republic of Korea



Obtains the highest "A" rating in genetic testing accuracy every year by the Ministry of Health and Welfare, Republic of Korea



Conducts joint marketing with overseas institutions and companies in Indonesia, Vietnam, Singapore, etc.

Medizen Humancare Research Institute



The Medizen Humancare Research Institute, certified by the Korea Industrial Technology Association, has professional researchers specializing in genetics, molecular biology, medical statistics, clinical pathology, etc.

Our Institute aims to realize a disease prediction system suitable for each ethnic group through continuous genome analysis and disease-specific gene discovery. We focus on disease-specific gene content, discovery of new drug candidate genes and new methodology development for disease prevention and established a proprietary gene and bio-markers system. We are implementing personalized preventive medicine service through genetic disease prediction research.

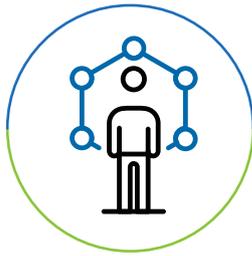
Genetic testing, a choice for your precious life

Modern medicine and healthcare are shifting away from cure to prevention & well-being. “Healthspan” is more important than “lifespan” for many people. The changing areas of interest in healthcare are empowering genetic testing. Get genetic testing to identify individual risks of disease and practice personalized healthcare.



From cure to prevention

Prevention through early disease prediction is better than cure.



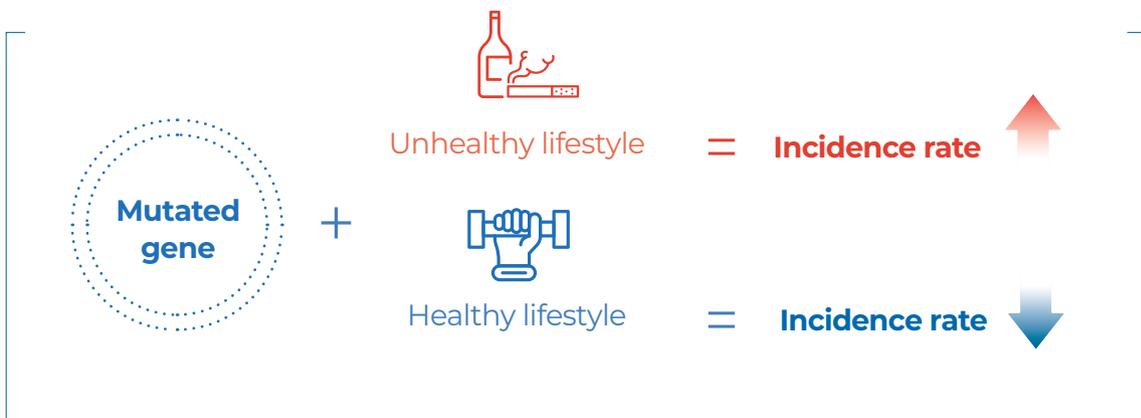
Personalized precision medicine

Characterization of individual genetic traits enables personalized medicine.



For a longer, healthier life

Personalized healthcare through genetic testing can extend healthy lifespan.



The same gene mutation can lead to different risks of disease, depending on the lifestyles. Being aware of risk factors and managing environmental factors such as eating and lifestyle habits can help **prevent or delay disease, leading to a healthier future.**

Medizen Humancare Genetic Testing **M**CHECK

M-CHECK is a specialized genetic testing offered through medical institutions. It is a genetic analysis service for disease prediction based on Medizen Humancare's proprietary gene analysis technology and data.

How to use M-CHECK

Select as an item of health checkup



Genetic testing is performed along with the health checkup to take intensive care of diseases with higher risk of occurrence based on the data of two different types.

Manage eating and lifestyle habits



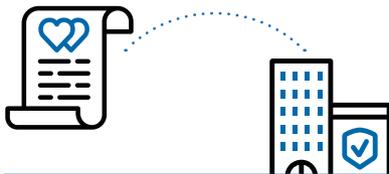
It proposes guidelines on diseases that are greatly affected by eating and lifestyle habits such as diabetes and colon cancer for the prevention of disease.

Take advantage of wellness care



It not only extends a person's lifespan through prevention and control of disease, but also serves as base data for wellness care (data on eating habits, exercise, sleep, etc.)

Features of M-CHECK



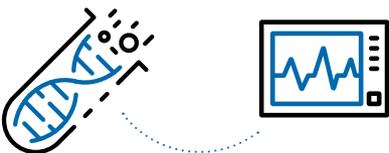
✓ Suggest items for follow-up health examinations and nutritional information

It provides helpful health examination items and nutritional information when genetic testing is finished.



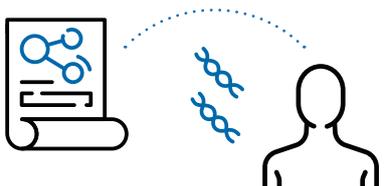
✓ Present customized results

Testing results are presented separately for medical professionals to consult with patients and for the patients themselves.



✓ Identify mutation types by gene

It provides information on mutation types by gene instead of comprehensive gene mutations of selected items, leaving wide room for interpretation.



✓ Leverage a database of 550,000 Koreans

The proprietary database of 550,000 Koreans owned by Medizen Humancare is reflected in statistical data to derive testing results.

135 Items of M-CHECK Genetic Test

16 Common Cancers (Male, Female)	22 Internal Diseases	6 Dermatological Disorders	8 Neurological Disorders
Stomach Cancer	Chronic Hepatitis C	Psoriasis	Epilepsy (Seizure Disorder)
Colorectal Cancer	Tuberculosis	Vitiligo	Amyotrophic Lateral Sclerosis
Liver Cancer	Hyperlipidemia	Atopic Dermatitis	Multiple Sclerosis
Lung Cancer	Ulcerative Colitis	Keloids	Migraine
Thyroid Cancer	Impaired Glucose Tolerance	Acne	Early-Onset Alzheimer's Disease
Pancreatic Cancer	Gallstones	Androgenetic Alopecia	Dementia
Esophageal Cancer	Rheumatic Heart Disease		Vascular Dementia
Kidney Cancer	Chronic Kidney Disease	4 Immune System Disorders	Parkinson's Disease
Oral Cancer	Obesity	Lupus	
Diffuse-Type Gastric Cancer	Non-Alcoholic Fatty Liver Disease	Asthma	25 Drug Sensitivity Items
Skin Cancer	Alcohol Metabolism	Behçet's Disease	Anesthetics (Propofol)
Bladder Cancer	Lactose Intolerance	Rheumatoid Arthritis	Immunosuppressants (Thiopurine)
Biliary Tract Cancer	Food Hypersensitivity		Anticoagulants (Warfarin)
Head and Neck Cancer	Dyslipidemia	12 Ophthalmological Disorders	Antihyperlipidemic Agents (Statins)
Non-Hodgkin's Lymphoma	Type 1 Diabetes	Glaucoma	Antihypertensives (Clonidine)
Acute Myeloid Leukemia	Type 2 Diabetes	Cataract	Antihypertensives (Carvedilol)
	Crohn's Disease	Pathological Myopia	Antihypertensives (Diuretics)
4 Female Cancers	Gout	Hyperopia	Antihypertensives (Calcium Channel Blockers)
Ovarian Cancer	Triglyceride Level	Astigmatism	Antihypertensives (Vasodilators)
Breast Cancer	Obstructive Pulmonary Disease	Xerophthalmia	Antiplatelet Agents (Clopidogrel)
Cervical Cancer	Pneumonia	Age-Related Macular Degeneration	Anticancer Drugs (Mercaptopurine)
Endometrial Cancer	Pulmonary fibrosis	Diabetic Retinopathy	Anticancer Drugs (Irinotecan)
		Retinal Detachment	Anticancer Drugs (Busulfan)
2 Male Cancers	7 Orthopedic Disorders	Retinitis Pigmentosa	Antidiabetic Drugs (Metformin)
Testicular Cancer	Ankylosing Spondylitis	Fuchs' Dystrophy	Antidiabetic Drugs (Sulfonylureas)
Prostate Cancer	Scoliosis	Keratoconus	Hepatitis C Treatment (Interferon/Ribavirin)
	Lumbar Herniated Intervertebral Disc		Antihypertensives (ACE Inhibitor)
11 Cardio/ Cerebrovascular Diseases	Osteoporosis	4 Pediatric Disorders	Breast Cancer Treatment (Tamoxifen)
Hypertension	Osteoarthritis	ADHD	Analgesics (Aspirin)
Stroke	Knee Osteoarthritis	Autism Spectrum Disorder	NSAIDs (Celecoxib)
Cerebral Aneurysm	Varicose Vein	Kawasaki Disease	Narcotic Analgesics (Opioids)
Moyamoya Disease		Childhood Leukemia	CNS Stimulants (Methamphetamine)
CADASIL	3 Gynecological Disorders		CNS Stimulants (Cocaine)
Hyperhomocysteinemia	Gestational Diabetes	8 Mental Disorders	CNS Depressants (Heroin)
Myocardial Infarction	Preeclampsia	Panic Disorder	Antiandrogens (Finasteride)
Atrial Fibrillation	Polycystic Ovary Syndrome	Sleep Disturbance	
Left Ventricular Hypertrophy		Narcolepsy	
Coronary Artery Disease	3 Otorhinolaryngologic Disorders	Bipolar Disorder	
Peripheral Arterial Occlusive Disease	Sinusitis	Nicotine Addiction	
	Allergic Rhinitis	Alcohol Addiction	
	Hearing Loss	Depression	
		Schizophrenia	

※ The test results do not hold clinical significance and the suggested healthcare tips lack objective justification.

Top 7 Recommended Test Packages of M-CHECK

- 1 Test Package A**
 Five male and female cancers
 Liver cancer, colorectal cancer, stomach cancer, pancreatic cancer, lung cancer
- 2 Test Package B**
 Five female cancers
 Thyroid cancer, ovarian cancer, breast cancer, cervical cancer, endometrial cancer
- 3 Test Package C**
 Five male cancers
 Liver cancer, testicular cancer, colorectal cancer, prostate cancer, lung cancer
- 4 Test Package D**
 Five cardio-cerebrovascular diseases
 Hypertension, cerebral aneurysm, stroke, myocardial infarction, coronary artery disease
- 5 Test Package E**
 Seven respiratory diseases
 Pneumonia, pulmonary fibrosis, obstructive pulmonary disease, lung cancer, tuberculosis, asthma, sinusitis
- 6 Test Package F**
 Seven vascular and neurological diseases
 Cerebral aneurysm, stroke, myocardial infarction, atrial fibrillation, dementia, Parkinson's disease, vascular dementia
- 7 Test Package G**
 ten male and female cancers
 Liver cancer, colorectal cancer, esophageal cancer, stomach cancer, kidney cancer, pancreatic cancer, lung cancer, thyroid cancer, oral cancer, head and neck cancer



MELTHY, a direct-to-consumer genetic testing service

MELTHY is a personalized genetic analysis service directly purchased by consumers without the intermediation of medical institutions. You can easily check health risk factors, as well as individual characteristics such as individual skin, hair and exercise characteristics.

Nutrients	Health care	Skin/hair	Exercise	Individual characteristics
Vitamin C	Degenerative Arthritis Susceptibility	Pigmentation	Muscle Development	Alcohol Metabolism
Vitamin D	Obesity	Acne	Sprint Ability	Alcohol Dependence
Coenzyme Q10	Uric Acid Level	Skin Aging	Ankle Injury Risk	Nicotine Dependence
Magnesium	Neutral Fat Concentration	Dermatitis	Grip Strength	Caffeine Metabolism
Zinc	Body Mass Index (BMI)	Androgenetic Alopecia	Post-Exercise Recovery	Sleeping Time
Iron	Cholesterol	Hair Thickness	Endurance Exercise	Circadian Rhythm
Potassium	Blood Sugar	Alopecia Areata		Satiety
Calcium	Blood Pressure			Sense of Taste (Sweetness)
Arginine	Bone Mass			
Neutral Fat	Abdominal Obesity (WHR)			
Tyrosine				
Betaine				

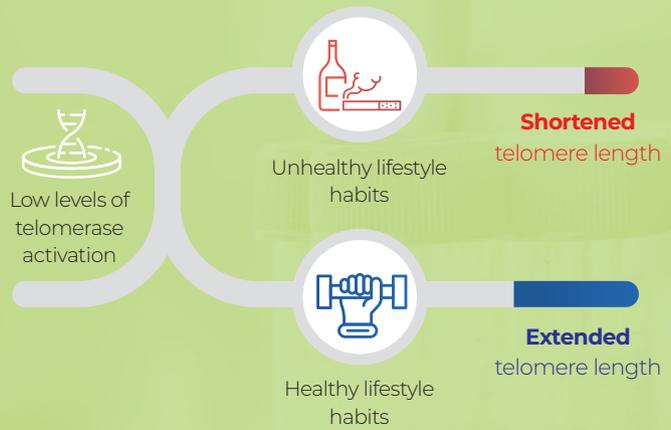


Telomeres and Telomerase

Telomeres are located at the ends of chromosomes carrying genetic information within a cell, and protect DNA during cell division. Telomeres become shorter with every cell division, and if telomeres get too short to protect DNA, cells stop dividing, gradually age, and die. The shorter telomeres are, the greater the risk of diseases such as cancer, diabetes, high blood pressure, etc. Telomerase is an enzyme that synthesizes telomeres, extending their length. However, genes with malfunctioning telomerase accelerate cell division and shorten telomeres.

TELOCHECK 생체나이 분석 서비스

TELOCHECK analyzes genes related to the activation of telomeres and telomerase, identifies the biological age and aging rate, and shows in detail how to take care of telomeres.



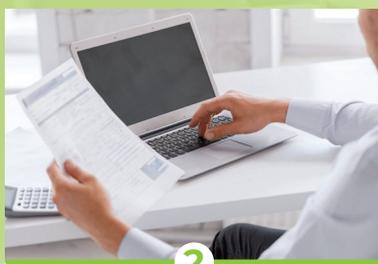
How to use TELOCHECK



1

Identify various causes of aging

The gene analysis on the activation of the telomerase enzyme (a genetic factor) and variable telomere length analysis according to lifestyle are carried out simultaneously for in-depth analysis on the causes of aging.



2

Provide anti-aging solutions

TELOCHECK identifies the biological age and aging rate and realizes personalized anti-aging, given that telomere length can actually be extended with effort.



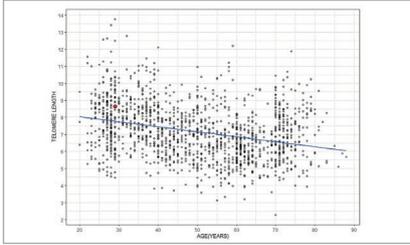
3

Prevent telomere-related diseases

If there is a family history of telomere-related diseases such as type 2 diabetes, the risk of such disease can be prevented and a healthy life can be planned.

Four features of TELOCHECK

TELOCHECK 생체나이 분석 서비스



Database of Koreans

TELOCHECK is telomere testing tailored to Koreans based on Medizen Humancare's proprietary data of male and female Koreans in their 20s ~ 70s.



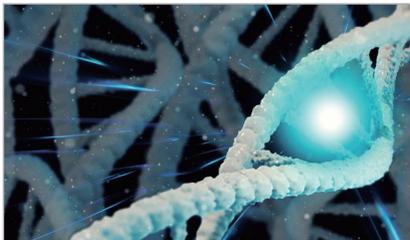
High levels of accuracy

Medizen Humancare is the leading institution dedicated to genetic analysis for disease prediction in Korea. We have initiated telomere length-related genetic tests leveraging our own know-how, and thus improved test accuracy.



Proprietary algorithms

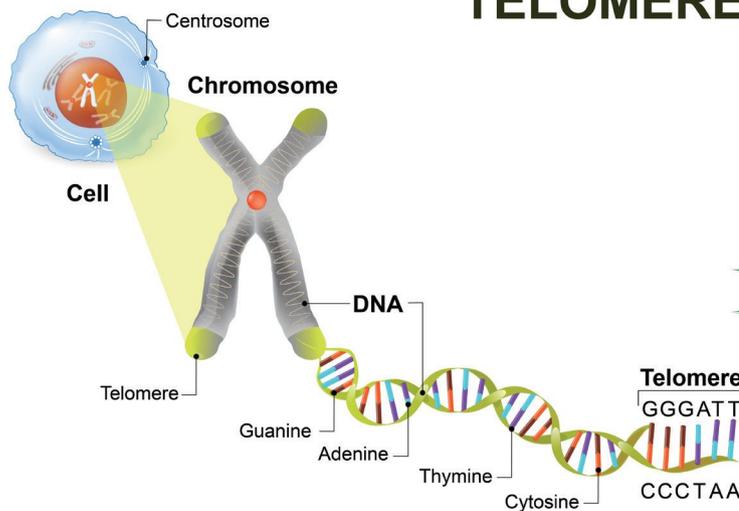
Medizen Humancare performs specialized testing with proprietary algorithms to measure biological age on the basis of race, gender, age, etc.



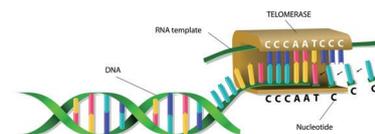
The only telomerase analysis available in Korea

TELOCHECK is the only test available in Korea that analyzes telomere length and telomerase activation genes to offer comprehensive results on telomeres.

TELOMERE



TELOMERASE



* Telomeres are repeated nucleotide sequences found at the ends of chromosomes, while telomerase is an enzyme involved in extending telomere length.

Genetic Testing Process

Step 01

Genetic testing consultation with a specialist or professional counselor

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Step 02

Collect samples after filling out documents (recipient: consent form / medical institution: application form)

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Step 03

Genetic analysis (within 7 days)

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Step 04

Consultation on test results with a specialist or professional counselor

- Both M-CHECK and TELOCHECK are performed with the same process.
- The duration of genetic testing depends on the number of test items.
- Analysis starts on the date when the sample arrives at Medizen Humancare



Genetic Testing FAQ



Does high risk found in genetic testing mean that I have developed a disease?



In genetic testing, high risk does not indicate that your current health condition is at risk. It means you are more likely to develop a certain disease than those with other gene types. Disease is caused by genetic and environmental factors, not genetic factor alone; so, genetic test results alone cannot determine whether you have developed a disease.

Should I get genetic testing even if I do not currently have any health issues?



Of course. Even if you are healthy now, it does not mean that you will never have a disease. Genetic testing aims to predict and prevent risks of disease. Being aware of your genetic risk of disease and improving lifestyle such as eating habits, exercise, sleeping, taking dietary supplements, etc. are the key to disease prevention and your healthy life.

Do I only need to get a genetic test once?



Genes do not change after birth, so the results of genetic tests do not change. However, if the list of genes for testing is updated, the results of previous tests might be no longer valid. So, testing is recommended every three to five years.

Is a family history of a disease caused by gene mutations?



Not necessarily. The family history of a disease is not caused solely by gene mutations, but by interactions with environmental factors such as lifestyle habits, as family members may share the same lifestyle habits. Use genetic testing to identify what types of genes your family members have and help improve your lifestyle habits; this can significantly help disease prevention.

Are personal information and test results protected from leaking?



All customer data is strictly managed in accordance with the information protection policies of Medizen Humancare and applicable laws. Personal information is processed solely with a unique identification number from the time of receipt, so there is no risk of personal information being leaked. The analysis results are kept in isolation and only accessible to security managers with entrusted authority.

How accurate are the genetic test results?



Medizen Humancare's analytical system is a state-of-the-art genetic analysis system widely adopted worldwide and analyzed by experts in life science and genetics, resulting in test accuracy of 99.9% or higher.

For your better and healthier life

MEDIZEN HUMANCARE Genetic Test



MEDIZEN HUMANCARE INC.

20F Keungil Tower, 223, Teheran-ro, Gangnam-gu, Seoul, 06142, Korea

T. +82-2-555-9808 F. +82-2-555-9805

H. www.medizencare.com E. info@medizencare.com