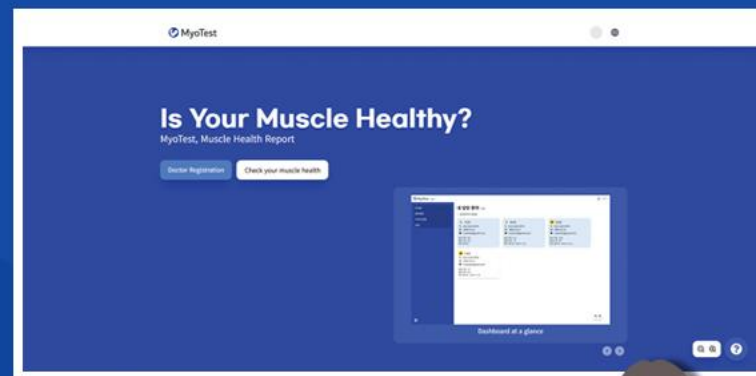


# MyoTest

AI-Based Sarcopenia  
Prediction Solution





## Main Features

- ✓ Accurately predicts sarcopenia risk through integrated medical check-up data and a brief questionnaire
- ✓ Delivers muscle health insights and risk analysis, along with a customized care solution
- ✓ Provides users with early preventive benefits and access to specialized medical professionals



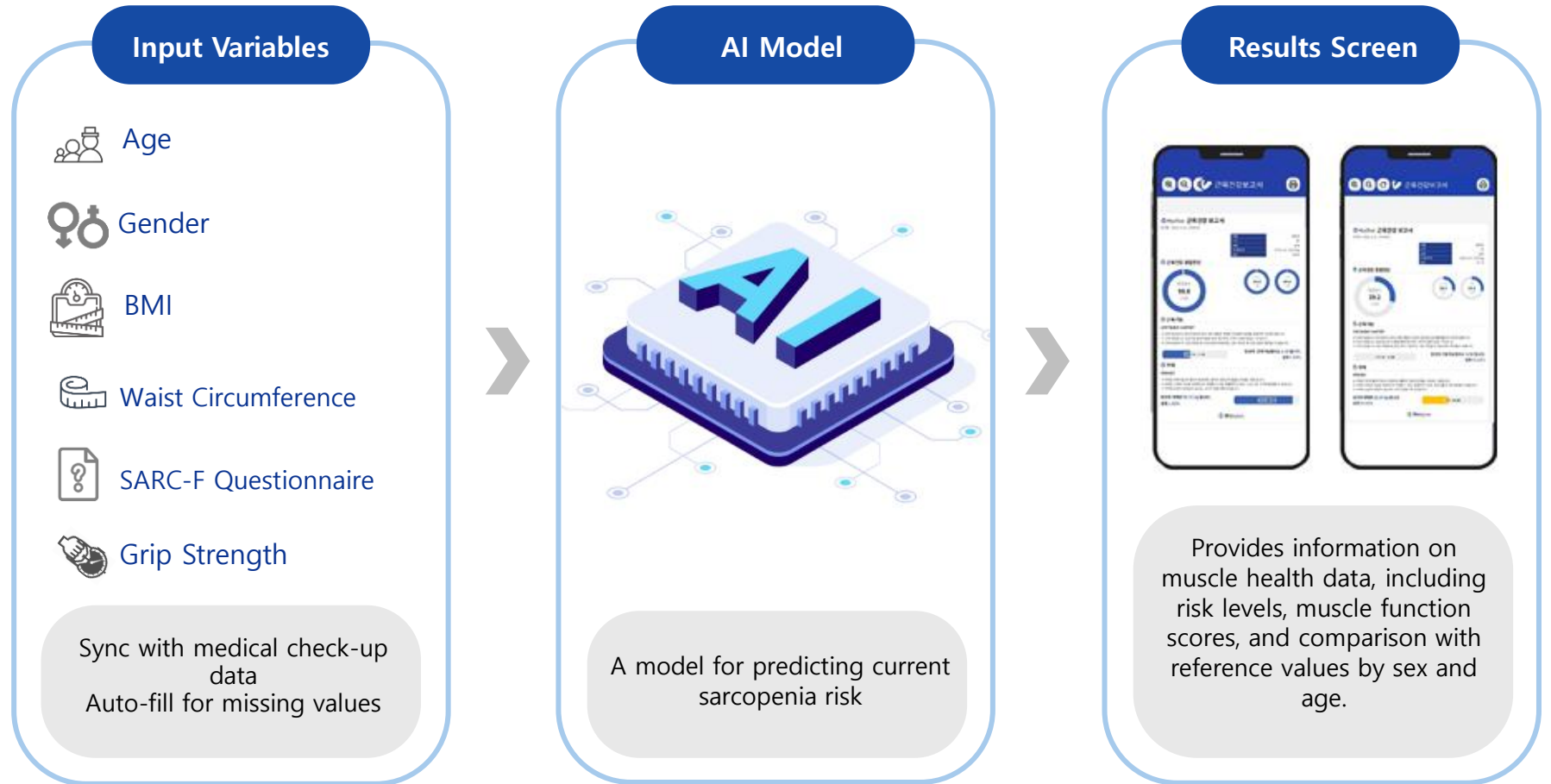
## Model Overview

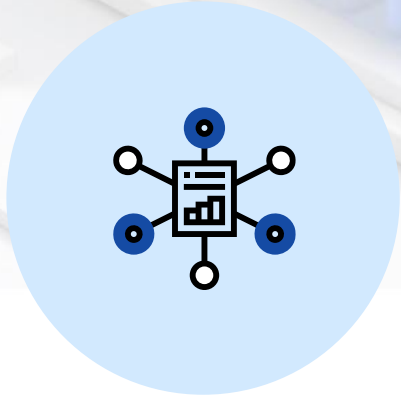
- ✓ 97% accurate sarcopenia risk prediction using 7 optimized variables (Gender, Age, Height, Weight, Waist Circumference, Questionnaire, and Grip Strength)
- ✓ An ensemble model that combines high-performing predictors to further enhance prediction accuracy
- ✓ Model robustness and generalizability validated through cross-validation and external testing

## MyoTest

### Muscle Health Service at Your Fingertips

With one simple input, receive your sarcopenia risk and comprehensive muscle health insights.





## Data Preprocessing

- Removal of Data Bias
- SARCF→SPPB Conversion
- Medical professionals' evaluation across the entire development process



## Model Validation and Optimization

- An ensemble of several optimized models
- Model selection based on multiple metric evaluation
- Enhancing model reliability through external validation



## User-Centered Service

- Easy health data integration with user input support
- Personalized muscle health management suggestions
- Promoting sarcopenia prevention and encouraging self-management

Through variable selection, hyperparameter tuning, and model ensembling, model performance was improved by 3.9%



Demonstrated industry-leading performance with 96.9% accuracy and a 98.8% ROC AUC score



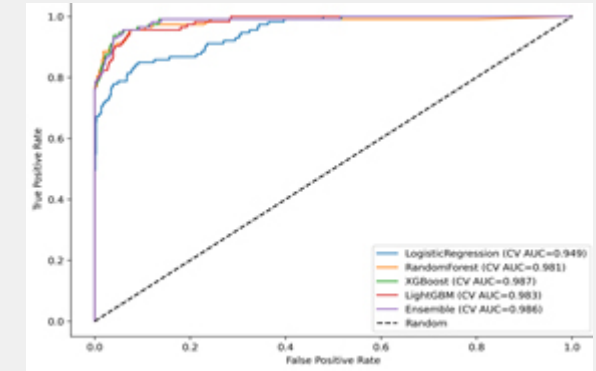
The entire development process and model prediction outcomes were reviewed by healthcare professionals



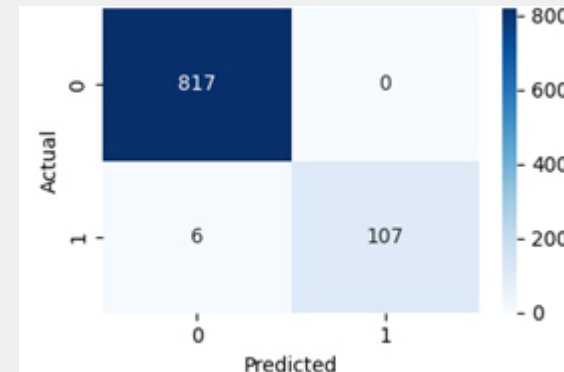
**Evidence-based sarcopenia risk prediction model**

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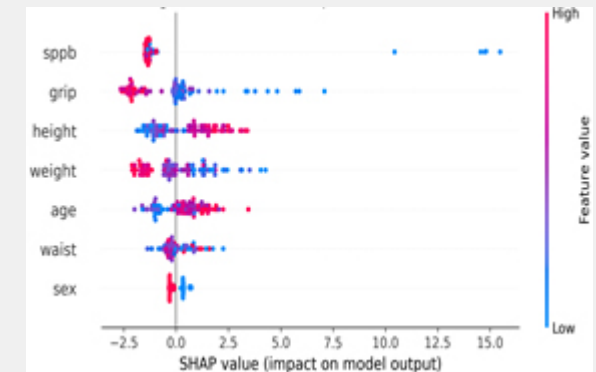
Ensemble Performance



ROC AUC Curve



Ensemble Confusion Matrix



Shap value



## A simple yet reliable service

- 1-min input -> 10-second analysis -> Sarcopenia risk prediction (Accuracy: 97%)
- Provides sarcopenia risk assessment and personalized solutions

## Reliability: Evidence-based development

- A KoGes cohort data model reflecting the physiological characteristics of Korean population.
- The entire development process and model predictions were reviewed by medical professionals

## Service Scalability

- Planned service expansion focusing on common sarcopenia comorbidities.
- Establishing a personalized healthcare ecosystem through the activation of primary care clinics.



# Biobytes

Medical-Based Healthcare for Everyone



Bringing Professional Healthcare Management  
into Your Daily Life

# OUR COMPANY

## CEO Jung Woo Lee

- Orthopedic Specialist at Wonju Severance Christian Hospital (present)
- Director, Korean Society of Sarcopenia
- Director of Academic Affairs, Korean Society of Medical Informatics (KOSMI)
- Director, Korean Society of Digital Health
- Insurance Committee Member, Korean Foot & Ankle Society
- Board-Certified Specialist in Sports Medicine







“ Making **Health Accessible to All** through  
Medical Expertise ”

At Biobytes, Orthopedic Specialists and pharmacists accurately design personalized health supplements based on verified research data, not assumptions. We are creating a “Democratization of Health” that everyone can easily enjoy.

“ Designing the Future of Health  
**with Data** ”

Data is life. Through precise analysis and AI technology based on medical data, we meticulously identify the root causes of diseases to develop safer and effective health supplements.



# OUR PRODUCT 1

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## Biact Tab

Focused on  
Improving muscle strength and  
Overall wellness



# CHECK POINT

A background image of a runner in a grey tank top and dark shorts running on a blue track. The runner is seen from behind, with arms outstretched, moving towards the right side of the frame. The track has white lane markings.

01

**Orthopedic Surgeon- and Pharmacists-Formulated** Prescription-based Health Supplements

02

**Contains turmeric extract**, certified by the Ministry of Food and Drug Safety (MFDS) for supporting muscle strength

03

**Uses premium supplementary ingredients** to help manage bone health, antioxidants, and fatigue recovery

04

Manufactured by FromBIO, a **GMP-certified producer** of high-quality health supplements

POINT  
01

# Prescription-based Health Supplement

Biact tab is a prescription-based health supplement, collaboratively developed by **orthopedic surgeons, pharmacists, and nurses**, with Korea's first formulation ratio.

**Prescription products undergo stricter quality control**, with stringent testing during the manufacturing process, to prevent contamination and the presence of heavy metals.



POINT  
02

## Turmeric Extract (main ingredient) approved by MFDS for Muscle strength improvement

Packed with turmeric extract (curcumin 250 mg), recognized by the Korean Ministry of Food and Drug Safety (MFDS) for muscle strength support, **providing 100% of the daily recommended intake.**

Our product is made from **high-quality turmeric**, harvested under India's ideal conditions for cultivating premium turmeric roots.



35 Years of Expertise in Plant Extracts - SABINSA



POINT  
03

## Premium Supporting Ingredients

### Leucine, L-Glutamine, Taurine

A premium health supplement supporting not only muscle strength but also bone and digestive health, energy, and antioxidant protection.

**Leucine (300mg):** supports muscle growth and maintenance

**L-Glutamine (90mg):** supports gut health

**Taurine (90mg):** essential for energy replenishment

**BCAAs (90mg):** Pre- and Post- Workout Amino Acids



POINT  
04

# FromBio: A trusted GMP-Certified Manufacturer

Manufactured by FromBIO, a trusted Korean biotech company with GMP certification for outstanding health supplements and strict quality control.



POINT  
05

## Biact Tab Offline Store Availability

A health supplement recommended by general & local hospitals specialists and pharmacists  
Biact Tab has been selected at this location

### [General Hospital – 2 locations]

Wonju Medical Center, Jecheon Seoul Hospital

### [Clinic – 8 locations]

Central Hospital, Changdong Yonsei Orthopedic Clinic, Wonju Yonsei OK Orthopedic Clinic, Chungju Sejong Orthopedic Clinic, Seoul St. Mary's Orthopedic Clinic, Gangnam Blue Sky Orthopedic Clinic, Sangdo St. Mary's Orthopedic Clinic, Yonsei Ace Orthopedic Clinic

### [Pharmacy – 12 locations]

Jungmun Nearest Pharmacy, Central Pharmacy, Gwangjang Onnuri Pharmacy, Leaders Pharmacy, Keun Sarang Pharmacy, Ahn Jae Kyung Pharmacy, Sewon Pharmacy, Shin Taepyungyang Pharmacy, Joeun Pharmacy, 5th Floor Pharmacy, Bareun Pharmacy, Guwoljungang Pharmacy





POINT

06

# Biact Tab

## Online Store Availability

### [BioBytes Official Online Stores]

1- BioBytes Shop <https://biobytesshop.com>

Visit now

2- Naver Smart Store <https://smartstore.naver.com/biobytes>

Visit now

### [Affiliated Online Stores]

1- Kyocom Welfare Mall

Gschool mall [www.gschoollmall.co.kr](http://www.gschoollmall.co.kr)

Visit now

Edulove store [www.edulovestore.co.kr](http://www.edulovestore.co.kr)

Visit now

2- Biz market <https://www.bizmarket.com>

Visit now

3- Coupang [www.coupang.com](http://www.coupang.com)

Visit now

# OUR PRODUCT 2

## Nirex Tab

Gently calm stress  
with natural ingredients



# CHECK POINT

01

Contains MFDS-Approved Ingredients: Rhodiola Rosea & Theanine

02

Contains high content of Magnesium, an essential mineral for enhancing sleep quality

03

Optimized synergistic ingredients for sleep

04

Yuyu Healthcare:  
a GMP-certified premium health supplement manufacturer

POINT

01

## Rhodiola & Theanine, Certified by MFDS



### Rhodiola Extract for Stress-Related Fatigue Relief

Rhodiola's key actives, Rosavin and Salidroside, are associated with anti-stress, anti-depressant, and anti-fatigue effects, and are approved by the Korean MFDS for helping relieve stress-related fatigue.



### Theanine for Relaxation from Stress

Theanine, an amino acid found in green tea, helps ease stress, improve sleep quality, and protect the body from chronic and cardiovascular conditions. The Korean MFDS recognized it for relieving stress-induced tension.

POINT

02

## Formulated with a focus on Stress relief for stable sleep

Rhodiola Extract

286mg

Relief of  
Stress-Related Fatigue

Magnesium

70mg

Improves sleep quality &  
Helps maintain nerve and  
muscle function



Theanine

200mg

Helps relieve stress-  
related tension

Poly-Gamma-Glutamic Acid  
(PGA)

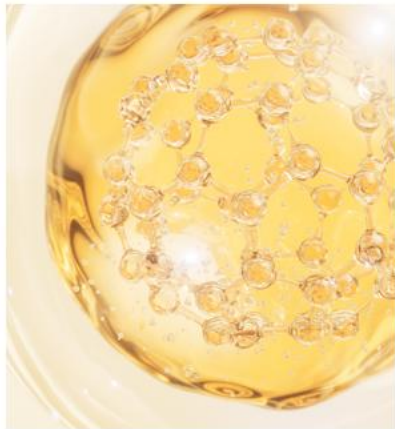
40mg

Helps improve  
sleep quality & Enhance  
calcium absorption

POINT

03

## Optimal synergistic ingredients selected to promote quality sleep



### Vitamin B6

(Pyridoxine Hydrochloride)

Contributes to the  
production of  
neurotransmitters



### Valerian Extract Powder

Supports nervous system  
relaxation and improves  
sleep quality



### Rice Bran Extract

Certified by the MFDS for  
enhancing sleep quality



### Ecklonia cava Extract Powder

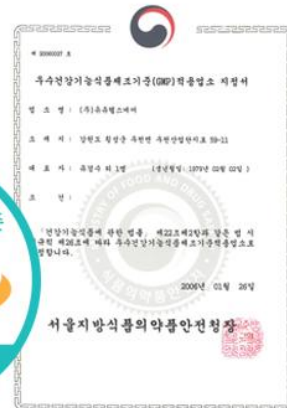
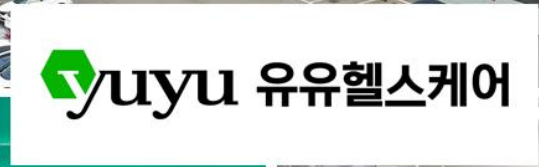
Supports sleep initiation  
and reduces nighttime  
arousal

\* Also contains L-Tryptophan, Lemon Balm Extract Powder, Passionflower Extract Powder, Tart Cherry Concentrate Powder, Gamma-Oryzanol, Fermented Rice Germ Extract (GABA 6%), Aged Black Garlic Concentrate Powder, and Chamomile Extract Powder

POINT  
04

# Manufactured by Yuyu Healthcare, a trusted GMP-certified manufacturer

Manufactured by Yuyu Healthcare, a GMP-certified company recognized for its long-standing experience and expertise in producing high-quality health supplements.





**Biobytes**