

**“Step by Step : Realizing the leap to new medicine bio company based on the explosive growth potential of various high additional value functional food and animal medicine by utilizing WIN-T**

## **WIN-T**

### **Technology transfer of functional material Water-solubilization**

- Purpose : Drug Effectiveness persistent Drug Development
- Results of 10 years of national project of Life (Yeon)
- BIOTEN Co., Ltd completed mass production system construction

## **Animal medicine**

### **Joint development commercialization (2008~ )**

- Livestock antiviral / Companion animal anti-obesity
- Companion animal nutrition is scheduled to be released (2022)
- Started developing companion animal obesity treatment (2022 ~ 2025)

## **Functional product**

### **Joint development commercialization (2018~ )**

- Development of immune, inflammation, body fat reduction, diabetes, cholesterol, eye/liver health, female/male menopause, digestive, enzyme platform technology
- Completed the release of 4 types of products
  - Five new products be added in 2022
- Target for approval of 3 individually certified materials by 2025

## **Medicine**

### **technology licensing out (2025~ )**

- Developed the first COVID-19, obesity, diabetes, cholesterol, and liver protection drug candidate with herbal ingredients
- Overseas Marketing Expansion/Quantum Jump
- Financial stability & expansion of corporate value

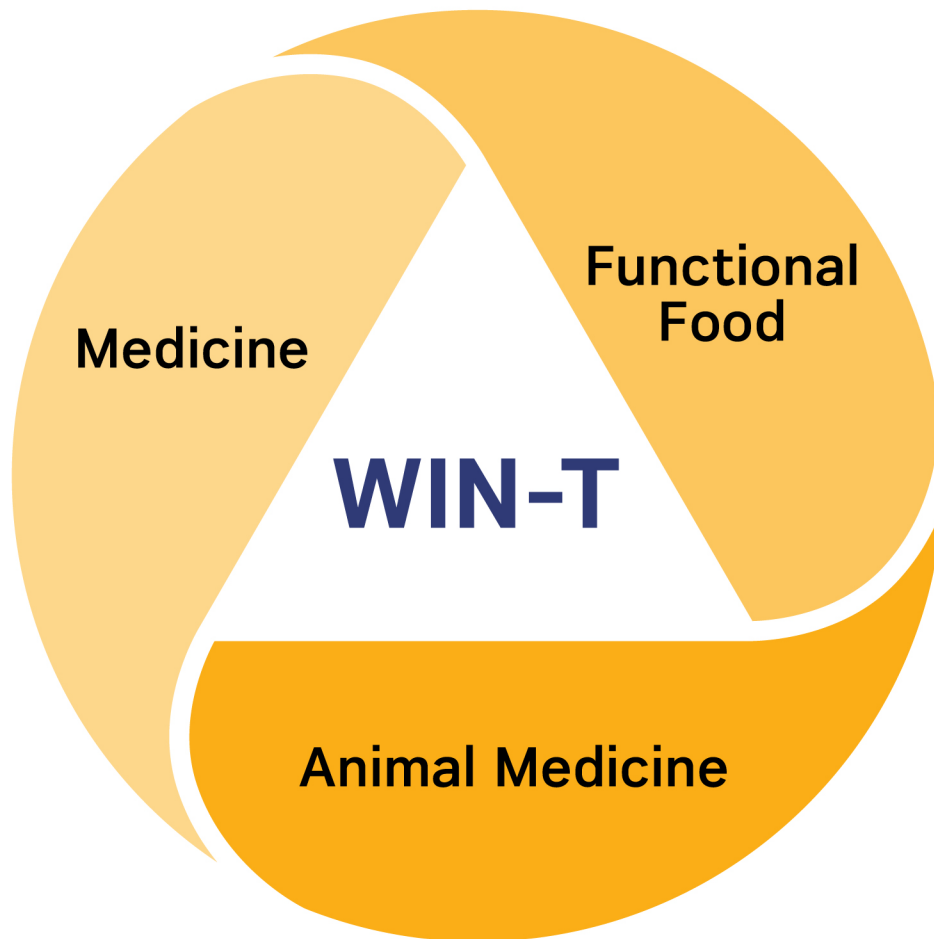
# WIN-T

Water-solubilization of  
Insoluble Natural Materials-Technology

“

WIN-T Material utilization The world's only  
water-soluble product specialized  
global company

”



## Corporate Identity

bioten

Commercialization of the core technology of KRIBB  
and Biotechnology

## First corporate for PROJECT



**KRIBB**  
Korea Research Institute of  
Bioscience & Biotechnology

Technology transfer

**bioten**

Identifying the mechanism of  
**WIN-T(Water-solubilization)**  
Based new material development

Massive production  
Establishment of process system  
Product development and  
industrialization

2010~2013



Avian influenza (AI)  
virus prevention  
and treatment  
technology

2016



Water-solubiliza-  
tion complex  
technology of  
Win-T poorly  
soluble substances



Seafood VHS virus  
treatment/preven-  
tion technology

2017~



PED corona treatment, health  
functional food, COVID-19,  
obesity, diabetes, and similar  
strategies (cholesterol, liver  
protection) treatment/preven-  
tion technology

# Company Overview

## History

2011

- Established Bioten Co., Ltd.
- Established a Research Institute
- Antiviral material (KW-100) technology transfer contract (KRIBB)

2012

- A venture business certification

2013

- Immunity enhancing material (KR-500) technology transfer contract

2015

- Certification of technologically innovative small and medium-sized enterprises (INNOBIZ)
- ISO 9001 certified

2016

- Selected as a support company for the creative technology commercialization project(pre-hidden champion) of the KRIBB
- Contract for technology transfer of complex water-solubility technology for poorly soluble materials (KRIBB)

2017

- Development of Tencumin S+/G+ materials.
- Contract for implementation of technology transfer of composition for the prevention or treatment of rotavirus (KRIBB)

2018

- Tencumin S+/G+ based health functional foods and general foods are released.

2019

- Designated as a family company by the Korea Research Institute of Bioscience and Biotechnology.

2020

- Signed a manufacturing, sales and supply contract with a pharmaceutical company
- Released 3 types of Dr. Qmin

2021

- Selected as a pilot project for AI(Bird flu) reducing agent in Jeollabuk-do

2022

- Selected as a candidate materials for the first COVID-19 treatment for biopharmaceutical ingredients
- A total of 9 types of food Dr. Qmin are released
- Achieved 10.7 billion in sales

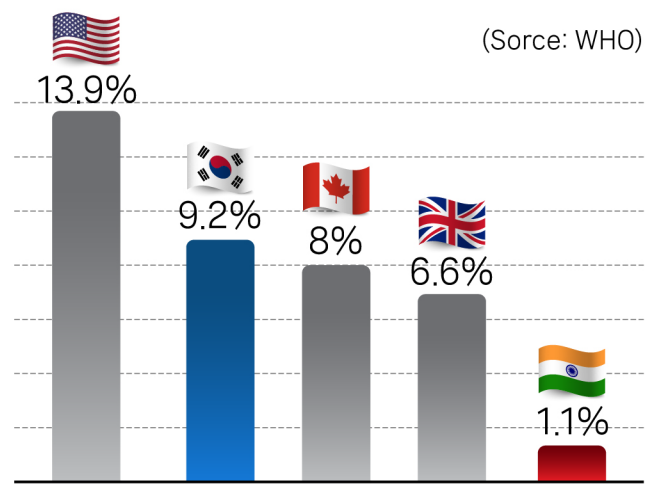
# Technical Overview

bioten

prevalence of dementia over 65 years  
of age worldwide



Nation	prevalence of dementia
U.S.A	13.9%
Republic of Korea	9.2%
Canada	8%
U.K	6.6%
India	1.1%



The world's lowest prevalence of dementia aged 65 or older announced by the WHO, **India, has a 1.1%** prevalence rate of dementia.

## What is the secret?



- ✓ Curcuma longa is native to India
- ✓ Ginger and plant rootstock parts
- ✓ main ingredient : **Curcumin**

**Incredible efficacy,  
But.....low absorption/persistence**

## Technical Overview

**bioten**

**Water- soluble Tencumin S/G Plus Manufacturing method, patent No. 10-1436464**



Curcumin

+



A natural solvent/  
patented technology



Water-soluble  
Tencumin S/G  
solution



Water-soluble Tencumin  
S/G plus Food  
material registrtaion

# Differentiate from conventional manufacturing methods

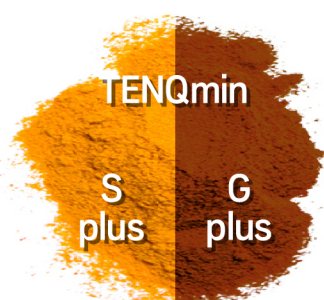
Using natural solvents and self-developed equipment, water is used as a solvent.

Development of the manufacturing method of **Tencumin S Plus/G Plus** and patent registration completed.

## Technical Overview

bioten

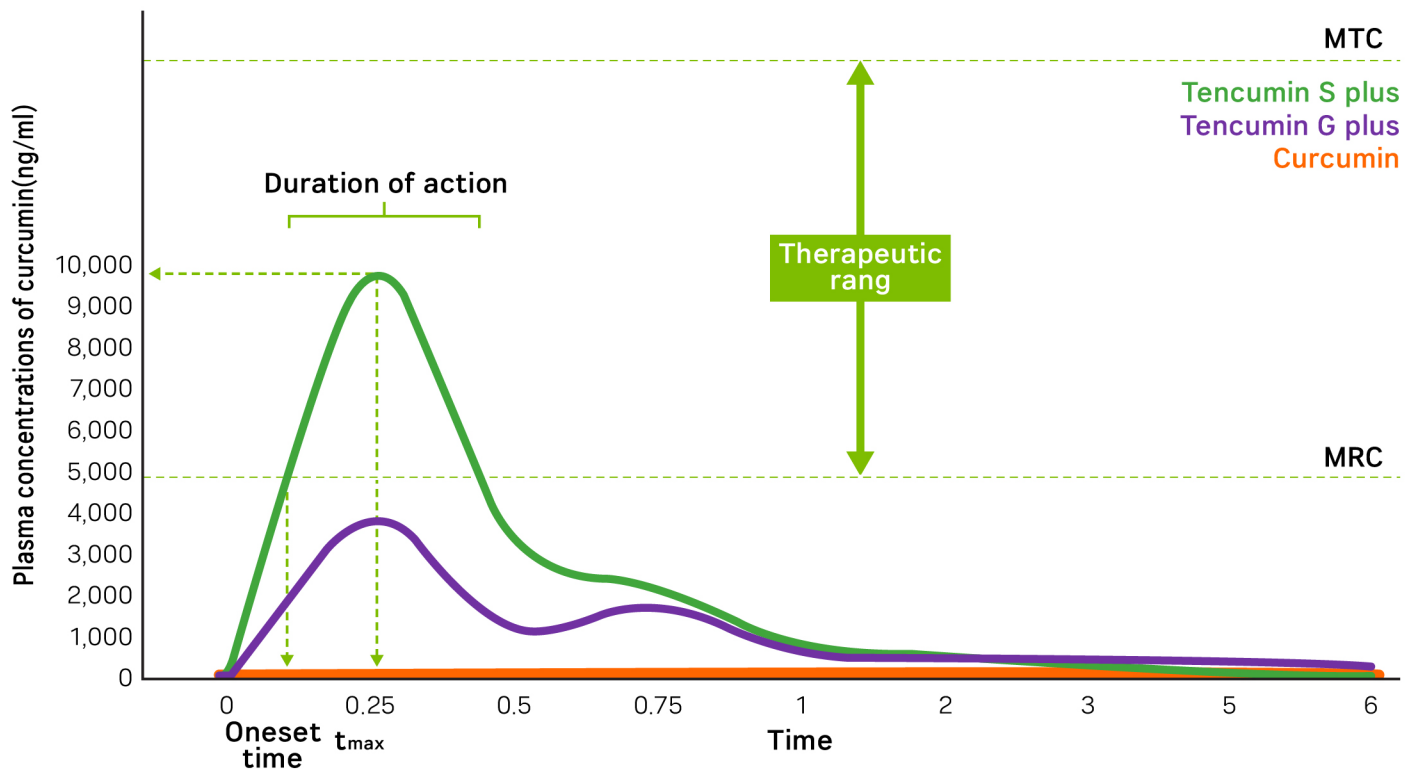
### pharmacokinetics profiles



### PK result(Evaluation of ingredient content in plasma)

Time (hr)	Plasma concentrations of curcumin (ng/MI)		
	Curcumin	Water soluble TenQmin S Plus	Water soluble TenQmin G Plus
0.00	0 ± 0	0 ± 0	0 ± 0
0.25	0 ± 0	968.3 ± 31.3	380.0 ± 27.3
0.50	0 ± 0	336.0 ± 22.9	124.2 ± 9.9
0.75	0 ± 0	218.2 ± 9.6	176.7 ± 8.3
1.0	0 ± 0	83.2 ± 1.7	66.3 ± 4.3
2.0	0 ± 0	54.7 ± 3.5	46.3 ± 6.4
3.0	0 ± 0	30.3 ± 4.1	48.9 ± 2.3
5.0	0 ± 0	8.2 ± 1.4	45.8 ± 1.3
6.0	0 ± 0	0 ± 0	26.6 ± 3.8

- 1 An experimental animal : mouse
- 2 the amount of salary : 25mg/Kg (curcumin amount)
- 3 Blood Collection : 0.25, 0.5, 0.75, 1.0, 2.0, 3.0, 5.0 6.0hr



Source: Korea Research Institute of Bioscience and Biotechnology(KRIBB)

# Technical Overview

Development of Water-soluble Functional Ingredients

