



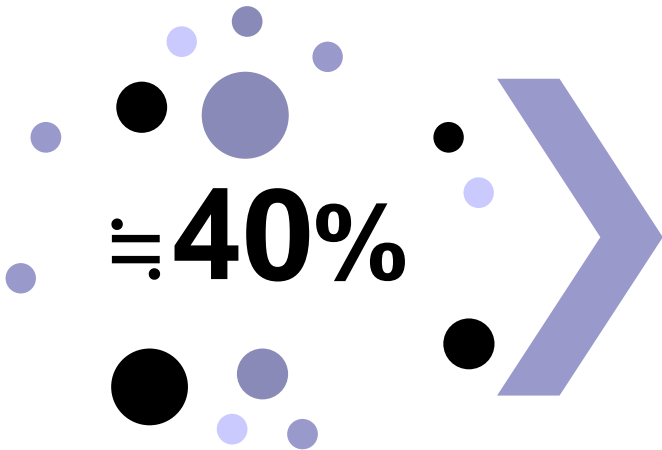


Stem
Cells

Genetic
testing



創源生技
GGA



The largest network

Provides services to almost
40% of newborns in Taiwan
every year

17

**International recognition
of quality and technology**

Serves clients in over
17 countries



OVER
1,000,000

**The largest prenatal
testing laboratory**

Issued over 1 million
genetic test reports
(as of May 2017)

Stem Cell Therapy

Hematopoietic Stem Cell

Mesenchymal Stem Cell

Immune cells

Bio-cosmetology

Cord Blood

Umbilical Cord

REO Stem-Activating Series

Peripheral Blood

Dental Pulp

REO Rose Stem Rejuvenation Series

Adipose Tissue

ANIKINE Stem-Activating Series

Genetic • Testing

Pre-implantation Stage

Prenatal Stage

Postnatal Stage

Adult Healthcare

Cancer Pharmacogenetics Testing

UltraPGD

SNP Array for Prenatal Test

SNP Array for Postnatal Test

SNP-based Analysis

Cell-free Circulating Tumor DNA Testing

PGS

SMA Carrier Testing

Pediatric Cytochrome P450 Testing

ADPKD Genetic Testing

Companion Diagnosis

NGS-based PGS

Down Syndrome Screening Test

Whole Genome Sequencing

Pharmacogenetics of Auto-Inflammatory Disease

Personalized Health Management Genetic Testing

Fragile X Syndrome Carrier Testing

Pharmacogenetics of HCV

Preeclampsia Screening Test

Noninvasive Prenatal Testing (NIPT)

SNP Array for POC Test

Informatics Solutions

Products

Services

Life Sciences & Research

Compliance and Informatics Services

Materials Sciences & Engineering

Contract Research Service

Scientific Lifecycle Management

Computerized System Integration Service

Enterprise Quality Management

Computerized System Validation Service

Process Production Operations

Training Service

Contract Auditing Service

Company Highlights

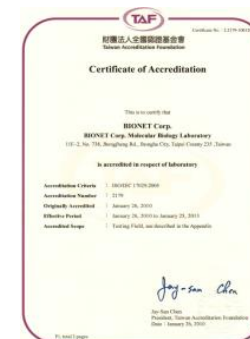
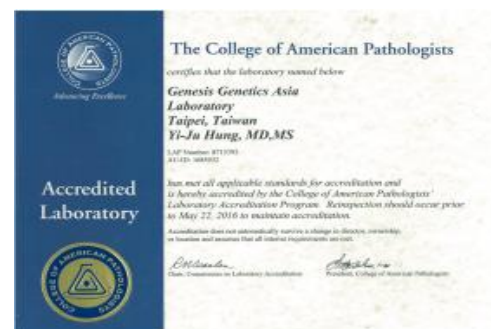


- **1999:** First **Stem Cell Company** in Taiwan
- **2003:** Accredited by American Association of Blood Bank (AABB)
- **2008:** Pass Good Tissue Practice (**GTP**) inspection
- **2007:** First **IPO** company in Stem Cell industry
- **2011:** Accredited by AABB in three categories: Cord Blood, Hematopoietic Progenitor Cells, and Somatic Cells (including Mesenchymal Stem Cells)

Achievements in Stem Cell Banking



Multiple International and Local Accreditation ensuring quality



BMDW (國際臍帶血暨骨髓資料庫) 排名表

排名	臍帶血資料庫	資料筆數
1	Spain CORD	63,027
2	USA-New York CORD	58,912
3	訊聯臍帶血庫 (Taiwan-Taipei CORD)	39,046
4	France CORD	34,154
5	Italy CORD	33,844

資料日期：2016年05月24日

3rd Largest Cord Blood Database in the world

Over 50% of Taiwan Cord Blood found in BIONET

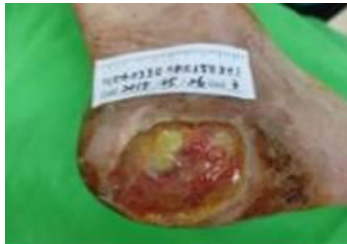
Over a thousand CB HLA Matching requests from over 30 countries

Provided over 185 cell units for transplantation treating more than 40 type of diseases

Stem Cell Applications

- Clinical Trials:
- Diabetic wound ulcers
 - Sepsis
 - Psoriasis, Eczema and Rosacea
 - Co-transplantation of Cord Blood and MSC
 - GvHD treatment (MSC)

Diabetic wound



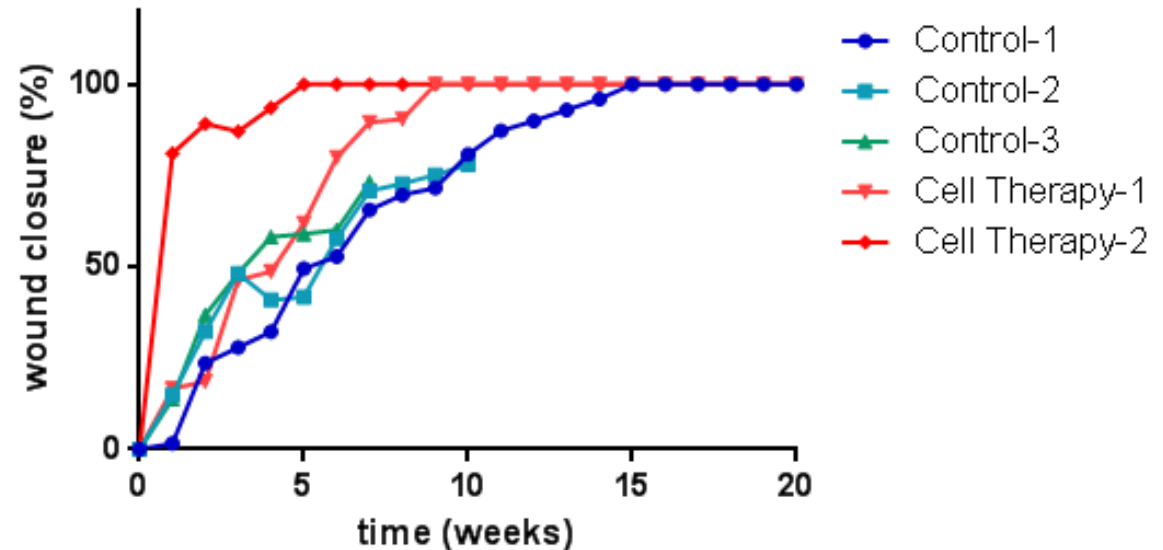
start



5 weeks

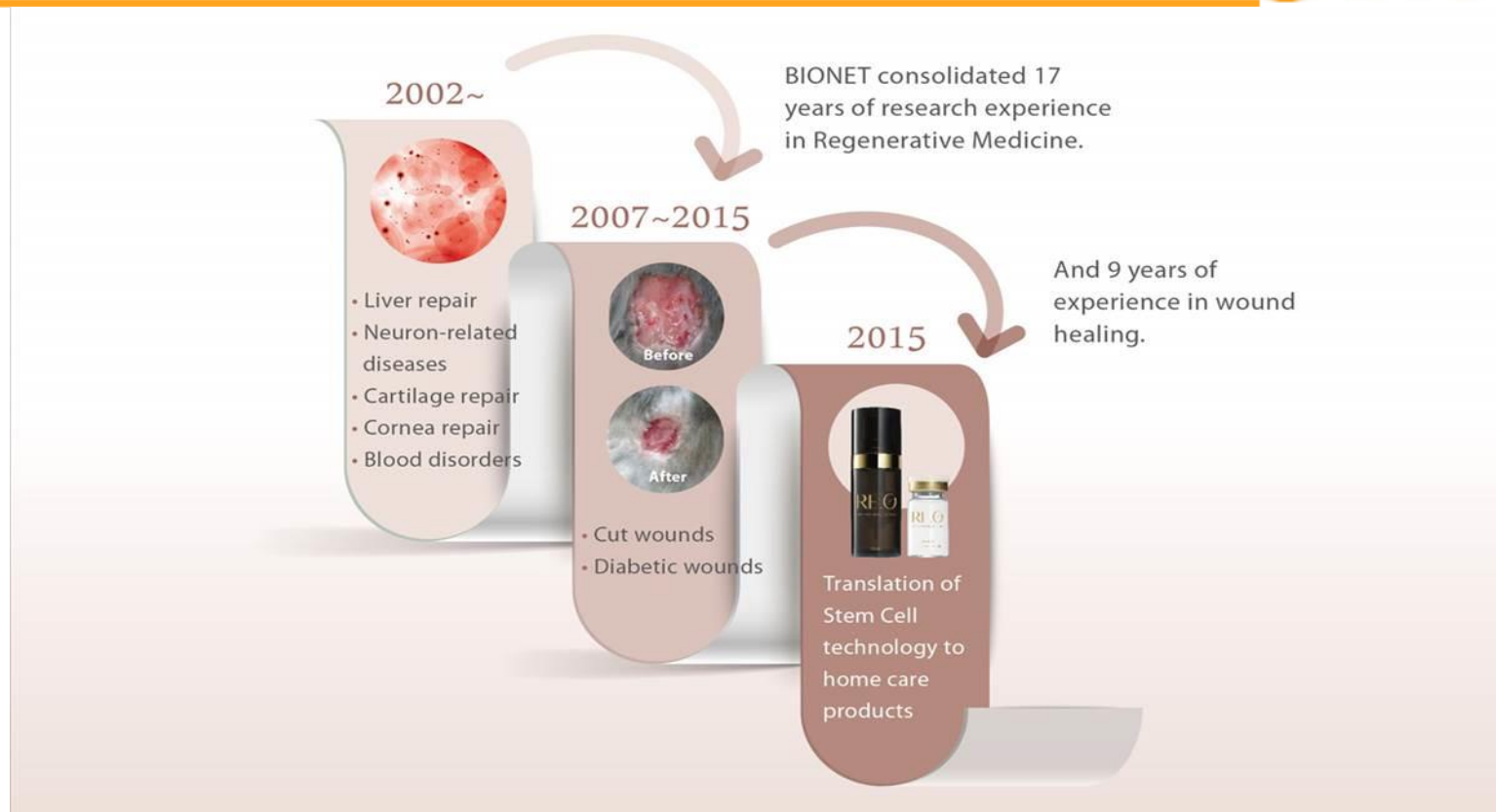


9 weeks



Treatment with cells promotes faster healing

Bio-Cosmetology

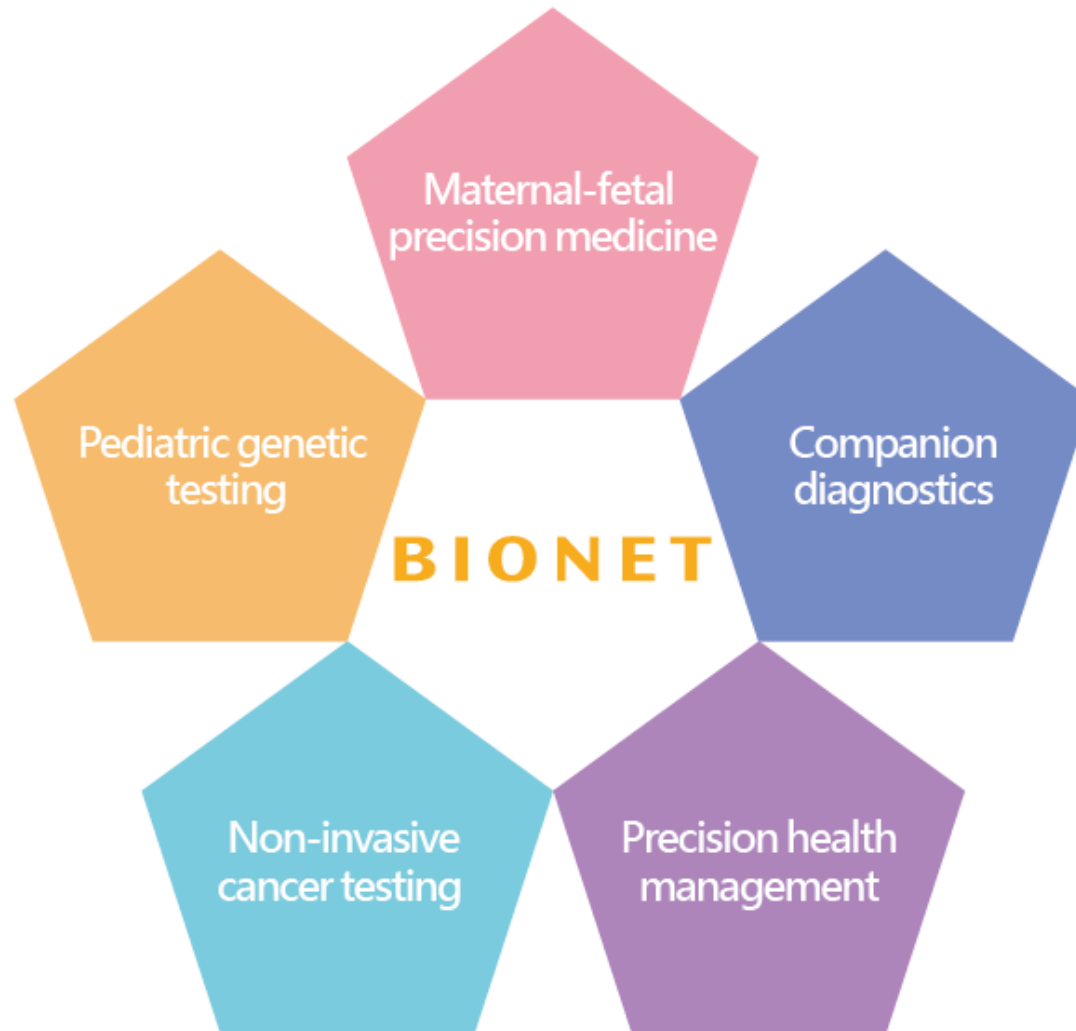


2015 launch of RE.O: patented stem cell technology made into a post-cosmetic surgery care product for dermatology and beauty clinics in Taiwan;

2016 RE.O new product lines called Rose Stem Rejuvenation for CtoC market;

- Continued development of business internationally
- Establishing cross-border e-commerce

Specializing in Precision Medicine and Scientific Informatics



Products and Services

Prevention

Diagnosis

Treatment

Spinal Muscular Atrophy Carrier Screen

Fragile X Syndrome Carrier Screen

Pre-eclampsia
Risk Screen

UltraPGD

Chromosome Analysis (Karyotype)

SNP Array for Prenatal Testing

NGS-PGS

SNP Array for POC Testing

Drug Metabolism Testing

Genetic Screening for Health Management

Non-invasive Diagnosis/Prognosis of HCC

Fragile X Syndrome Screening Test

SNP Array for Postnatal Testing

IVF

wk

11

12

13

14

15

16

17

18

19

20

21~24

25~
birth

Newborn

Postnatal

Adult

First Trimester
Maternal Serum
Down Syndrome
Screening Test

Second Trimester
Maternal Serum Down
Syndrome Screening Test

Cell-free DNA Screening Test (cfDNA) /
Non-Invasive Prenatal Testing (NIPT)

Companion Diagnosis

Auto-inflammatory Diseases (Novartis)

Hepatitis C Virus (BMS)

Cord Blood

Peripheral Blood Stem Cell

International Certifications/Accreditation



CAP accredited



Illumina Certified Service Provider (CSPro)



Authorized
Service Provider

Affymetrix Authorized Service Provider



TAF (Taiwan Accreditation Foundation) accredited

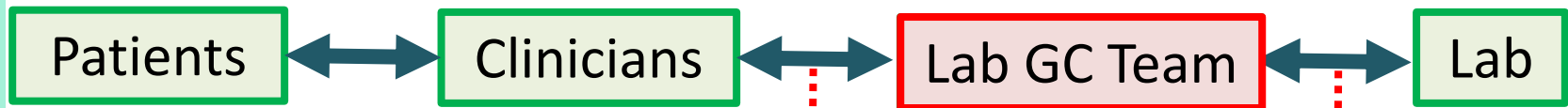


Hepatitis C viral NS5A mutation analysis certified

Genetic Counseling Service

- **A pioneer among bio-tech companies in Taiwan to formally establish Genetic Counseling Support Team**

Assisting clinicians and patients to better understand complex and technical genetic information for clinical practice



Pre-test:

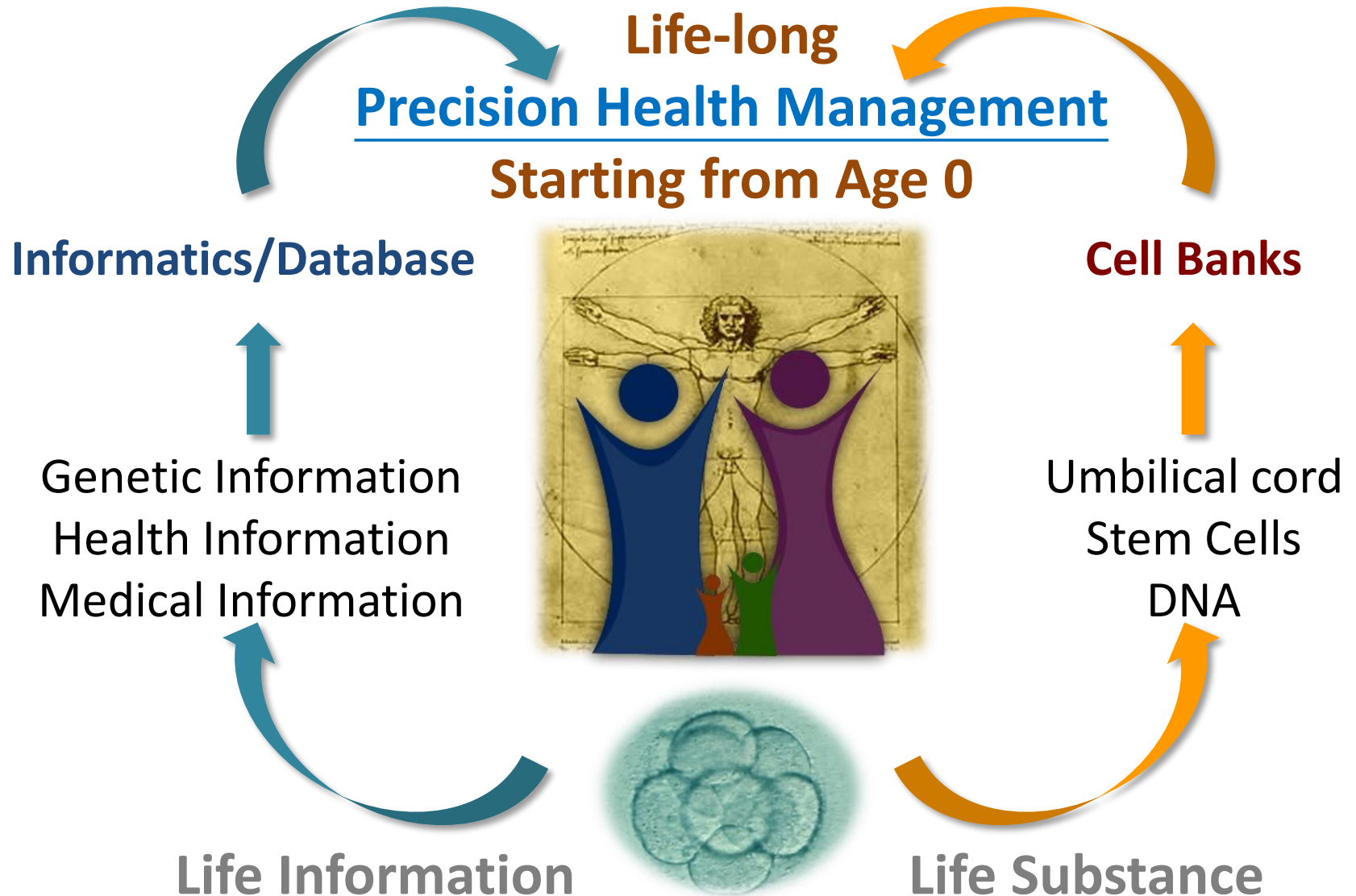
- Case coordination and management
- Testing strategy - benefits/risks/limitations of testing methods
- Specimen handling/requirement/TAT

Post-test:

- Result interpretation within clinical context
- Recommendation of follow-up testing
- Literature review
- Internal lab data review



Synergy Between BIONET and GGA



Thank You

*Improving the Quality of Life Through the Power
of Biotechnology!*