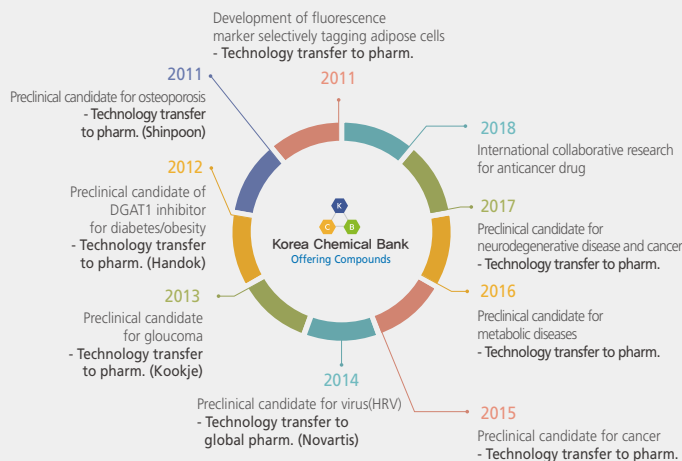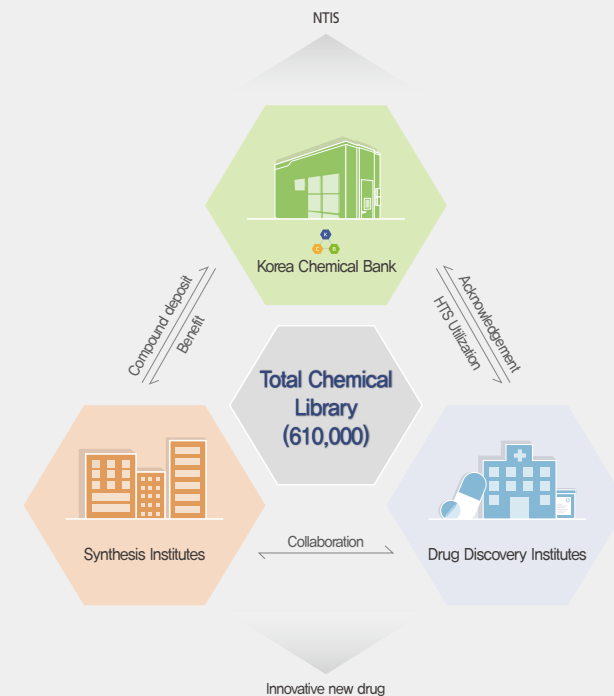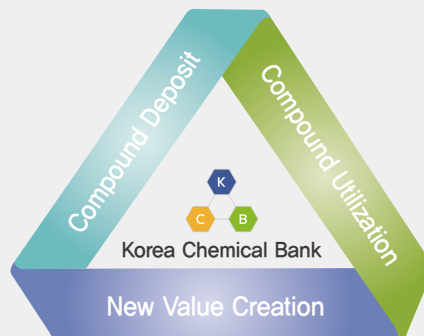# Achievements of KCB

Benefits for depositor

- Chance to collaborate with library users
- Sharing of research results (or products) with library users

Achievements

- Representative examples for contribution on discovery of preclinical candidates

Korea Chemical Bank
Offering Compounds

2011
Development of fluorescence marker selectively tagging adipose cells
- Technology transfer to pharm.

2011
Preclinical candidate for osteoporosis
- Technology transfer to pharm. (Shinpoon)

2012
Preclinical candidate of DGAT1 inhibitor for diabetes/obesity
- Technology transfer to pharm. (Handok)

2013
Preclinical candidate for glaucoma
- Technology transfer to pharm. (Kookje)

2014
Preclinical candidate for virus(HRV)
- Technology transfer to global pharm. (Novartis)

2018
International collaborative research for anticancer drug

2017
Preclinical candidate for neurodegenerative disease and cancer
- Technology transfer to pharm.

2016
Preclinical candidate for metabolic diseases
- Technology transfer to pharm.

2015
Preclinical candidate for cancer
- Technology transfer to pharm.

We take care of your Compounds and Create new value

Compound Deposit

Compound Utilization

Korea Chemical Bank

New Value Creation

한국화합물은행 Korea Chemical Bank

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NTIS

Korea Chemical Bank

Compound deposit / Benefit

HTS Utilization / Acknowledgement

Total Chemical Library
(610,000)

Synthesis Institutes

Collaboration

Drug Discovery Institutes

Innovative new drug

Korea Chemical Bank
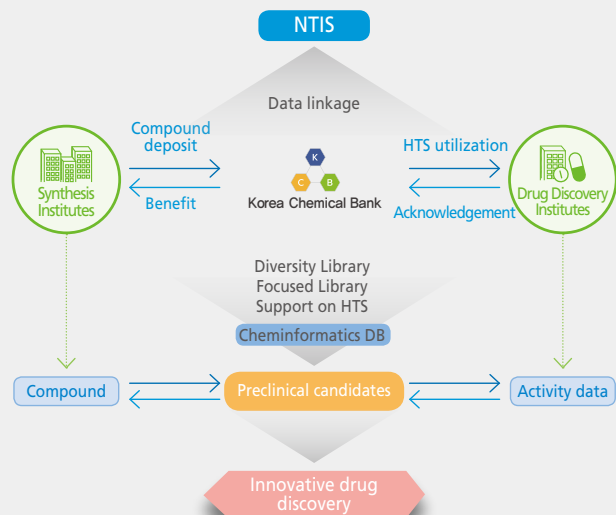
Value up of Chemical Libraries through Open Sharing

Role of Korea Chemical Bank (KCB)

- **The national hub of collaborative research network for drug discovery**
  - Establishment of national platform for new drug discovery and chemical biology through collection, management, and provision of biologically-relevant chemical libraries.
  - Designated as the Korea National Chemical Repository since 2010 by the MSIT of Korea.
  - Promotion of collaborative researches between depositors and users of KCB compounds.

Open Innovation Platform Sharing Chemical Libraries

Chemical Library Types

Classification of KCB Library

- **KCB provides several small focused libraries for user's conveniences.**

Kinase Library
· **Number of compounds** : 3,000
· Selected by docking study with kinase active site

Natural Product Library
· **Number of compounds** : 1,000
· Single-component natural product & natural product-like compound library

Fragment Library
· **Number of compounds** : 1,000
· Checked for lead-likeness(R-O-3), suitable for fragment-based DD

PharmaCore Collection
· **Number of compounds** : Request count
· Library of requested skeletons or selected by molecular modeling

Diversity Library
· **Number of compounds** : 7,000
· Library that represents all the diversity of KCB compound library

Clinical Collection
· **Number of compounds** : 2,150
· Clinically active compounds (Phase I-III & approved drugs)

PPI Library
· **Number of compounds** : 17,000
· Selectively purchased from international vendors

GPCR Library
· **Number of compounds** : 10,000
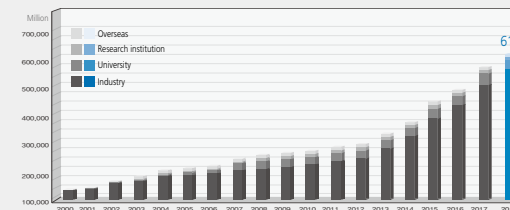· Selectively purchased from international vendors

Total Chemical Library 610,000

Served amount : 5㎕, 5mM in DMSO

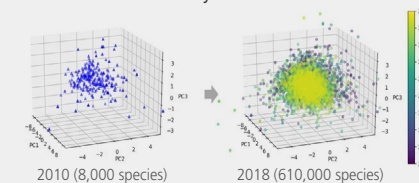# Collection & Utilization of KCB Library

Collection of KCB Library

- **Collection of biologically-relevant chemical library for drug discovery**
  - Deposited from Korea research groups as their research products
  - Commissioned syntheses by experts
  - Strategically purchased from international vendors to expand the diversity
- **Number of compounds (accumulated, 2000~2018)**

Diversity of KCB Library

- **Chemical space of KCB chemical library is continuously expanding by increments of scaffold diversity.**

2010 (8,000 species)   2018 (610,000 species)

Utilization of KCB Library

- **KCB has provided more than 6 M compounds for > 810 projects to industry and academia**
- **Number of HTS projects supported (accumulated, 2000~2018)**
- **KCB supported 13 projects by providing data.**