COMPANY NAME
- SERVIER

Sector/Activities

- Main sector : Pharma
- Sub-sector : antibodies, drug delivery, peptides, small molecule therapeutics, stem cells
- Primary therapeutic areas : neoplasms / cancer / oncology, diseases of the nervous system, diseases of the blood and blood-forming organs ; immune disorders

Introduction

A partner with strong commitment:
Servier is an independent pharmaceutical company committed to therapeutic progress to serve patient needs. Its unique governance allows Servier to reinvest all its profits to support its development, as well as plan and invest with a long-term view, in line with its vocation. Servier's long-term vision applies to its partnership philosophy.

A partner with a global presence:
With €4.7Bn of revenue in 2021 across 150 countries worldwide, the Group has a growing presence in the USA and Japan, a strong EU presence and a deep knowledge of emerging countries and China.

A partner with proven expertise and experience:
Servier is very focused on specialty care oncology with a proven expertise of over 60 years in cardiovascular and metabolic diseases. It is developing new therapeutic solutions to serve unmet patient needs. From R&D to commercialization, we have proven experience to help new therapeutic innovations become reality for patients, alone or with partners.

A partner you can rely on:
Servier is proud of what has been achieved with its partners so far. Servier has a strong track record of providing flexible partnership structures to its many partners, as well as an R&D infrastructure with 2,900 people in France, Hungary and Boston and an extensive commercial knowledge of global markets

Key figures

- Founded (year) : 1954
- Financials : €4.7Bn of revenue in 2021
- Worldwide operation : 150 countries
- Employees : 21,800 employees worldwide

Main fields of interest for open innovation collaboration with Korean companies and startups

- Please refer to our areas of interest for open innvoation as below

Our areas of interest

Oncology

Discovery & Early Clinical Focus

Cancer cell Targeting

- Apoptosis (BCL2 family; extrinsic cell death)
- Novel oncogenes, oncogene stability regulators
- Epigenetic regulators (with biomarker validation)
- Synthetic lethality associated with genetic defect

Immuno-oncology

- Stroma/ Tumor micro-environment (e.g., genetically-driven immune contexture)
- T cell activation (e.g. intracellular immune checkpoints)
- Immunosuppression (e.g. Treg targeting)
- Innate immunity (e.g. Type I interferon pathway)

Modalities

- Small molecules (Discovery to Early Clinical stage)
- mAb/bispecifics (Early Clinical stage)

Late stage and commercial opportunities

- We are actively looking at strengthening our portfolio and licensing-in/acquiring commercial and late-stage products (on market ~2023/4)

Immuno-inflammation

Inflammatory & autoimmune disease

- Lupus
- Primary Sjögren syndrome
- Systemic sclerosis
- And other diseases sharing similar pathophysiological mechanisms

Modalities

- small molecules
- mAb/bispecifics

Neuroscience

- Multiple System Atrophy
- Familial Amyotrophic lateral sclerosis
- Hereditary forms of Parkinson's Disease
- Spinocerebellar Ataxia
- Progressive Supranuclear Palsy

Modalities

- Small molecules
- ASO
- PROTAC

Cardiovascular & Metabolism diseases

Acquire or license market-ready or mature assets for some geographies

COMPANY NAME
- bioMerieux

Sector/Activities

- Diagnostics solutions for infectious disease management.
- Industrial microbiology solution in the field of food, pharmaceutical and cosmetic production.

Introduction

bioMérieux develops and produces *in vitro* diagnostic solutions (systems, reagents, software and services) for private and hospital laboratories, mainly for the diagnosis of infectious diseases. The results obtained from a patient sample (blood, urine, stool, cerebrospinal fluid, saliva, etc.) provide doctors with information to support their decisions.

For 30 years, bioMérieux has also applied the expertise acquired in the clinical sector to meeting industrial microbiology needs, making it possible to manage contamination risks in agri-food, pharmaceutical and cosmetic products, at each step of the production chain.

Key figures

- €3.37 billion in annual sales (as of Dec. 21, 2021)
- 13,000 employees worldwide.
- Present 44 countries and serves more than 160 countries
- 15 main production sites, 17 R&D sites, globaly.

Main fields of interest for open innovation collaboration with Korean companies and startups

- Interested in innovative and disruptive technologies related to in-vitro diagnostics specifically microbiology, immunoassay and molecular biology.
- Also interested in innovation related to supporting technologies in the areas of data and IT in a diagnostics lab setting.
- Current main R&D axis includes:
    - Fast AMR
    - Next generation immunoassays
    - Decentralized testing
    - AI and digital solutions for diagnotics
    - Diagnostics for emerging diseases

COMPANY NAME

- **Sanofi**

Sector/Activities

Healthcare/Biopharmaceutical industry. Sanofi pursues improving people's lives from prevention of disease, ch ronic disease management through rare/severe disease where high unmet needs are existing through R&D inn ovation, commercial operation and distribution for patient access, partnership with various stakeholders in healt hcare and R&D ecosystem.
Sanofi has 4 GBUs: Specialty Care, General Medicines, Vaccines and Consumer Healthcare

Introduction

We are an innovative global healthcare company, driven by one purpose: we chase the miracles of science to improve people's lives. Our team, across some 100 countries, is dedicated to transforming the practice of medicine by working to turn the impossible into the possible. We provide potentially life-changing treatment options and life-saving vaccine protection to millions of people globally, while putting sustainability and social responsibility at the center of our ambitions.
.

Sanofi in Korea is committed to collaborating with pharmaceutical companies, bio-techs, clinical research centers as well academia in Korea to bring innovation where high unmet patient needs exist.

Key figures (Korea affiliate)

- Sales revenue 470m€ in 2021
- 539 employees (as of Feb 2022)
- 4 Global Business Units

Main fields of interest for open innovation collaboration with Korean companies and startups

In 2022 the main areas of interest that address therapeutic challenges in oncology, immunoinflamaation, neuroscience, rare disease & vaccines are:

- Targeted or controlled delivery and conditional activation of biologics or genomic medicines to increase tissue specific exposure
- New and next generation genome editing technologies with breakthrough potential for *in vivo* therapeutics

COMPANY NAME

- **Ipsen**

Sector/Activities

- Specialty Care
- Oncology, Rare Diseases and Neurosciences
- Our pipeline is driven by external innovation. We encourage open innovation through trusted partnerships with biotech and academic institutions.
- Our pipeline includes innovative new molecules, including small molecules and neurotoxins as well as lifecycle management (LCM) of our well-established products.

Introduction

As a leading global biopharmaceutical company that has repeatedly transformed and reinvented itself over its long history, we have a clear mission and responsibility to truly change people's lives for the better.

Our mission

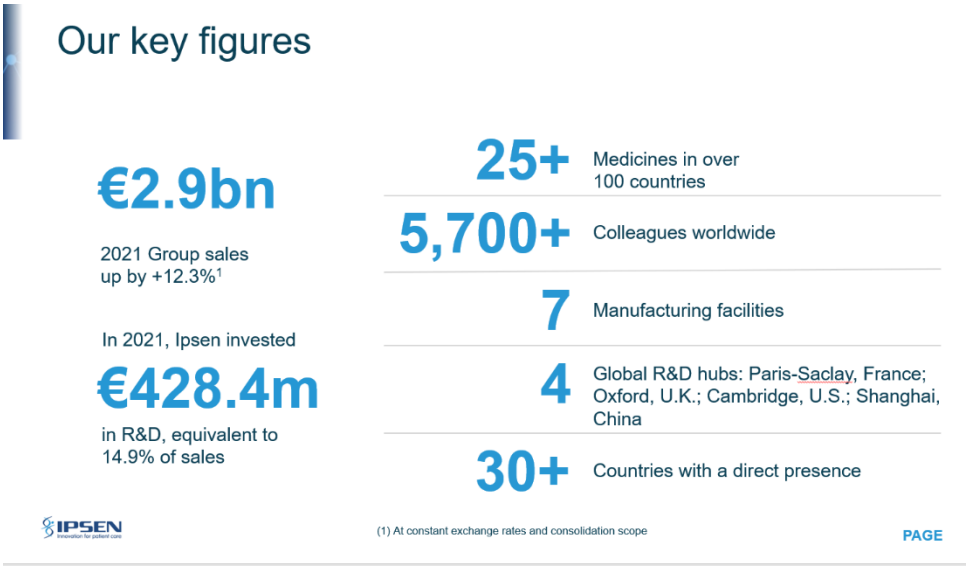
We are dedicated to prolonging and improving patients' lives and health outcomes.

Our vision

To be a leading global, mid-sized biopharmaceutical company with a focus on transformative medicines in Oncology, Rare Disease & Neuroscience.

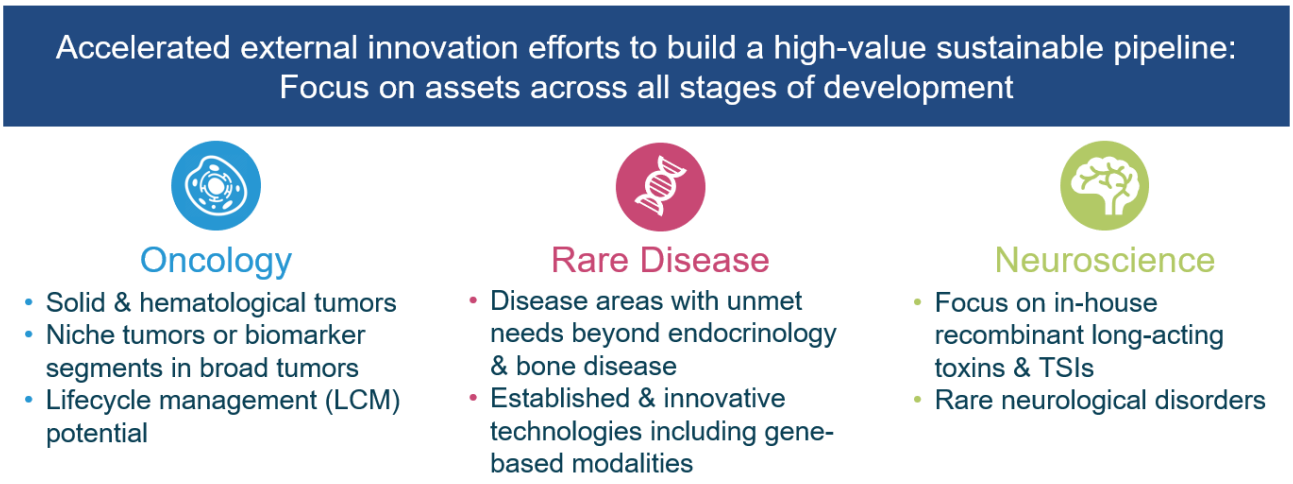
We have a unique proposition: the agility, flexibility and speed of a biotech combined with Ipsen's 90-year heritage. We are proud of our unique and strong culture and values, driven by desire to collaborate and excel for the benefits of patients and society.

Key figures



Main fields of interest for open innovation collaboration with Korean companies and startups

- We focus on finding solutions for a broad range of patients' unmet needs across our key therapeutic areas – Oncology, Rare Disease, Neuroscience for better patient care.



COMPANY NAME
- Institut Pasteur Korea

Sector/Activities

- Main sector : Private, Non-profit Research Institute,
- Specialized : Research on Infectious Diseases
  Cell-based Drug Discovery Platforms, Medicinal chemistry

Introduction

Established in 2004, Institut Pasteur Korea (IPK) is a private, non-profit institute and is an international research institute focused on addressing global health issues with a combination of cutting edge approaches in order to understand disease mechanisms and develop new treatments. By promoting multi-disciplinary projects, IPK is at the forefront of drug discovery and contributes to Korea's future scientific resources through research, education and technological innovation.

Key figures

- HR : 101, R&D-73, Administartion-28 (2021)
- 169 Collaborations & 50 Publications (2021)
- 8,200 Million KRW worth of funding recieved (2021)
- 16 Patents, 5 issued & 11 filed (2021)
- Licensed out to and currently under development by Qurient Therapeutics Co., Ltd (www.qurient.com)

Main fields of interest for open innovation collaboration with Korean companies and startups

- IPK has built **a top-level research capacity connecting biocontainment infrastructure, equipment, and know-how for infectious diseases studies**. The discovery biology teams specializing in different pathogens covering viruses, bacteria, and parasites are dedicated to developing cell-based phenotypic assays, which are then implemented in a technology division equipped with high-throughput/high-content screening and medicinal chemistry expertise to facilitate drug discovery to combat infection. IPK has a **strong convergence of expertise in advanced technologies for infectious disease drug screening using cell-based phenotypic assay. IPK's globally renowned expertise has no equivalence on the Korean peninsula and is comparable internationally with only a few sites in the world.**

- IPK distributes its resources according to public health interests and research needs. **IPK's discovery biology programmes** include tuberculosis, antibiotic resistant bacteria (including nosocomial), viral hepatitis, and emerging zoonotic viruses such as Zika, Ebola, influenza, SFTSV, and human coronaviruses (including SARS, MERS, and SARS-CoV-2).

- IPK has proven technology-transfer ability, bringing new drug discovery into clinical trials. For example, IPK **discovered the anti-tuberculosis compound (Q203; *Telacebec**), which has completed Phase IIa clinical trials**. First-in-class telacebec has been described as "*...the first all-new pan-tuberculosis regimen of the 21st century; making the distinction between drug-susceptible and drug-resistant TB obsolete*." (Jager *et al*., 2020; NEJM 382;13).

- Most recently, IPK has **excelled as a COVID-19 frontline research laboratory at the forefront of identifying FDA-approved drugs as candidates for the treatment of COVID-19**. (Jeon S, *et al.* 2020; Antimicrob Agents Chemother 64:e00819-20, Ko M, *et al.* 2021; J Med Virol. 93(3);1403-1408). Four lead clinical candidates are sponsored in ongoing international clinical trials.

Assay Development and Screening : Chemical and RNAi Screening Platform

IPK's integrated screening pathway employs dynamic robotic systems for high-throughput screening of chemical libraries and RNAi collections. IPK's next-generation drug discovery technology platforms, called 'phenomic technologies', combine advances from the latest bio-imaging techniques with high throughput screening technologies. This approach enables the real-time observation and analysis of cellular disease models in a high throughput mode. Using phenomic technologies, IPK can also identify previously unknown target genes associated with diseases and find new compounds that can serve as leads for innovative drug discovery.

Research Areas and Assays

Research and Technology Areas

- Cellular assays for infectious disease models (Viruses, Bacteria, Parasites)
- Cellular assays for chronic disease models (Cancer, Neurodegeneration)
- Bioinformatics (OMICS data analysis, Molecular Modelling)
- High content phenotypic screening technology applied for drug and target screening
- Protein-protein interaction screening technology
- Small animal in vivo imaging technology

Phenotypic Assays: Example 2D and 3D Models

Assets

Chemical Libraries: ~ 500,000

► **Pilot Screening: Proof of Concept (~8,000)**
- Kinase Inhibitors
- Bioactives / NIH Clinical Collection
- FDA Approved drugs (~75% and growing)

► **Full Scale Primary Screening: Unique pharmacological entities**
- Diverse set of small molecules (~200,000)
- Natural Products (~200,000)
- IPK Proprietary Compounds

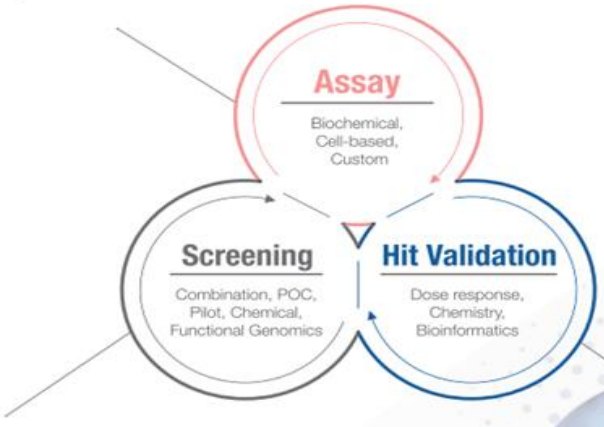
Screening Services

IPK's screening team provides various services through all stages of the screening process. Our professional staff members work closely with each investigator to customize their screening project.

1.1 Biochemical assays performed on multilabel plate readers include the Envision, Victor, Trilux, and Spectramax: Radiometric; Fluorescence; Luminescence; HTRF; Absorbance

1.2 Cell-based assays are performed on automated high-content imagers (confocal and epi-fluorescent) including Operetta, Opera, Image Express: Cytotoxicity; Translocation; Migration; Reporter; Expression

1.3 Flexibility and expertise to customize assay through all stages of development, validation, optimization



2.1 Combination screening: <100 compounds tested in combinations to assess effects (synergy, additive, antagonist)

2. 2 Proof of concept screening: <100 compounds to validate assay and establish preliminary data

2.3 A) Small scale screening: 2,000 to 10,000 compounds tested against FDA approved libraries, bioactives, and investigational drugs. Libraries can be selected from a number of commercially available libraries offering access to anti-cancer, kinase, and clinical candidates. **B) Medium scale screening:** 10,000 to 50,000 compounds tested against a subset of libraries containing diverse scaffolds. **C) Large scale screening:** 50,000 to 200,000 compounds tested against the entire library representing numerous and diverse scaffolds

2.4 Screening for targets: **A) Focused screening:** Human druggable, kinase and phosphatase library sets available. **B) Genome-wide screening:** Libraries covering the entire human genome of ~18,000 genes

3.1 Dose response studies to assess potency and confirm

3.2 Chemistry such as clustering, SAR, and analysis

3.3 Bioinformatics including database searches for targeting, prioritization

3.4 Molecular modeling of hits with probable target protein

3.5 Receptor-based and ligand-based **virtual screening** of chemical libraries