Request for Proposal (RFP)

Project Title: Korea-US Collaborative Research Project

1. Background

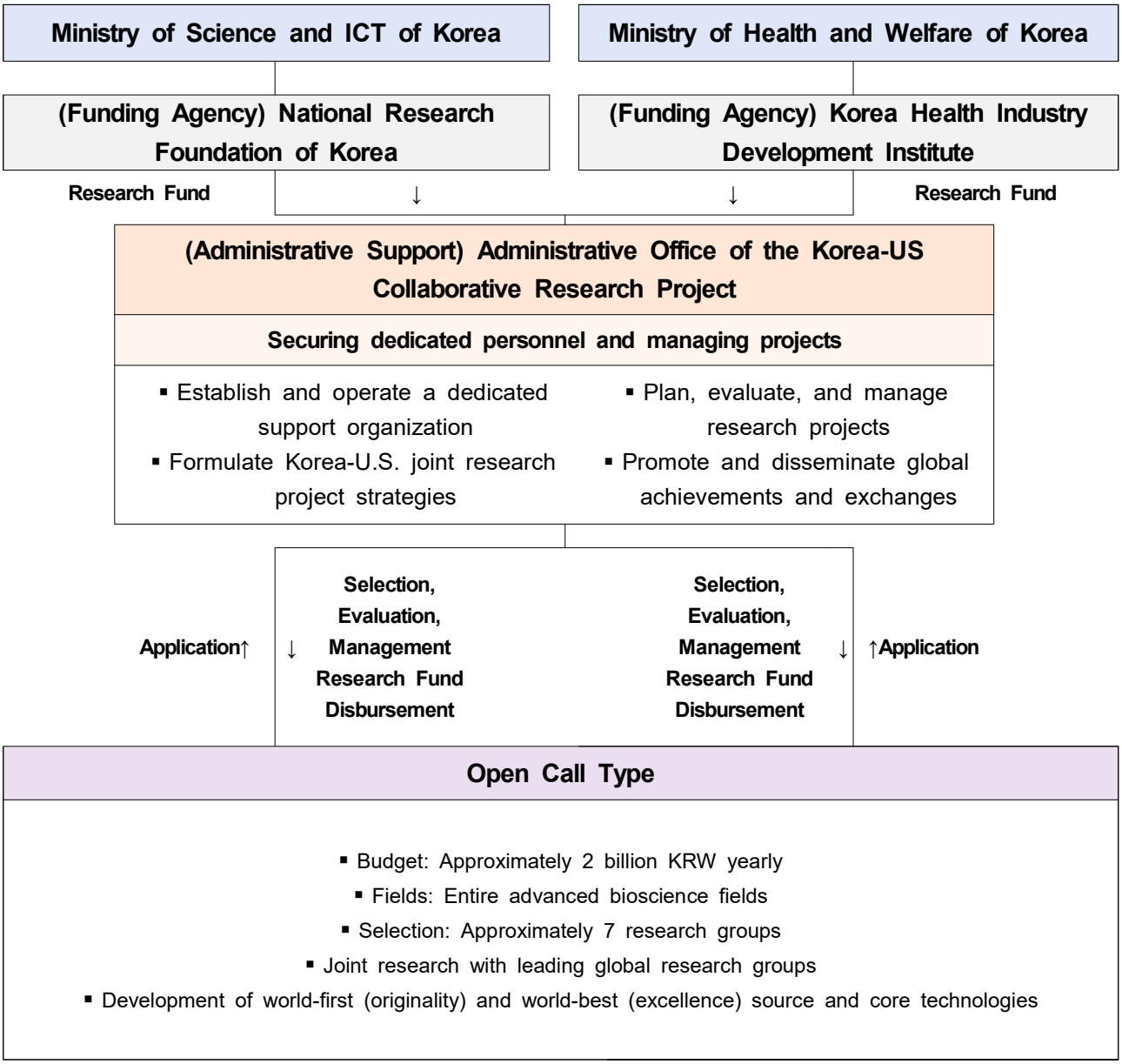
1.1. Project Background

- Bioscience plays a crucial role in driving future innovation and fostering the growth of Korea and the United States (US).
- The recent acceleration of innovation through the integration of digital technologies, such as big data and artificial intelligence (AI), has enhanced technological development and provided new industrial opportunities.
- The current Korea-US Collaborative Research Project/Fund aims to promote collaborative research in the advanced bioscience sector between competent research groups from Korea and the US. This will assist in the acquiring of the world's first and best core innovations in the advanced bioscience sector.

1.2. Key Focus of the Plans

- To facilitate cutting-edge bioscience research by forming collaborative research consortia between top-tier research teams from Korea and the US.
- The program supports a single research category under an Open Call type, allowing individual researchers or groups to propose projects at their discretion.
- There will be no limit on the technology readiness level (TRL) eligible to the current proposal.
- The administrative office of the Korea-US Collaborative Research Project/Fund will support the selection and funding of research consortia. Interested investigators are encouraged to visit the administrative office website for more details (http://kucrf.org).

< 'Korea-US Collaborative Research Project' System >



2. Research and Development Goals

2.1. Final Goal

To secure the world-first (originality) and world-best (excellence) source and core technologies in the advanced bioscience sector through international collaborative research

2.2. Goals of the Projects by Phase

- Phase I (‘25~’26): Establishment of a foundation for international joint research in advanced bioscience
  - A. Identify the world-first research topics in the field of advanced bioscience.
  - B. Establish a robust foundation for Korea-US joint research, facilitating the exchange of technology, and dissemination of results.
- Phase II (‘27~’28): Ensure excellence in international collaborative research for advanced bioscience
  - A. Secure the world-first and world-best research outcomes in advanced bioscience.
  - B. Acquire the globally leading source and core technologies through the foundation of Korea-US joint research.

3. Contents of Research and Development and Performance Goals

3.1. Research content

Conduct international collaborative research in advanced bioscience between competent research groups* from Korea and the US

*Teams that have secured world-class excellence in the advanced bioscience field.

[Open Call Type] Joint international research on core bioscience technologies driven by on-site needs of individual researchers.

Conduct joint research with originality and excellence in core bioscience technology fields based on a cooperative system where roles and responsibilities are clearly defined and effectively shared between Korean and US research groups (institutions).

3.2. Performance Goals

[Open Call Type]

Phase I ('25~'26)	[Common Requirement] Achieve a milestone completion rate of at least 80% throughout the Phase 1 research period. [Mandatory Performance Indicators] At least 3 performance indicators that demonstrate the achievement of Phase 1 research objectives, to be presented by the individual teams.
Phase II ('27~'28)	[Common Requirement] Publish at least 2 papers in the top 10% of JCR fields. [Common Requirement] Achieve at least 2 joint international patent applications or registrations between Korea and the US. [Common Requirement] Achieve a milestone completion rate of at least 95% throughout the entire research period. [Mandatory Performance Indicators] At least 3 indicators that confirm the achievement of world-first (originality) and world-best (excellence) level source and core technologies, to be presented by the individual teams.

*Each project should meet all of the above performance goals by each phase.

*Note: For publication outcomes, both Korean and US investigators must be included as authors, with at least one serving as the corresponding author (Review papers will not be recognized as performance outcomes.).

**Note: Milestones should be written as detailed, qualitative goals to achieve mandatory performance indicators. A minimum of 10 milestones must be presented in Phase 1, and at least 10 in Phase 2, resulting in a total of 20 or more milestones.

***Note: Mandatory performance indicators and milestones will be reflected as one of the evaluation criteria during the initial selection assessment and the mid-term assessment between phase 1 and 2.

* Please refer to the examples below when drafting mandatory performance indicators and milestones.

✓ Mandatory performance indicators should be presented as quantitative targets for the final outcome or qualitative performance indicators for the final result.
(Examples: Candidates for therapeutics/targets, valid biomarkers, prototypes, predictive models, rapid evaluation technologies, performance improvement rates compared to existing products, licensing outcomes, etc.)

✓ Milestones should be based on specific research activities and detailed research goals for the successful completion of the research (excluding paper publications and patent filings).
(Examples: Database construction, software registration, life information registration, cohort construction, identification of biomarker candidates, library development, functional analysis of candidate materials, basic performance verification, construction of evaluation models (cell and animal models), patent analysis, technology value assessment, clinical trial advisory, and exchanges between Korean and U.S. personnel, etc.)

4. Special Notes

4.1. Participation and Cooperation in the Execution of R&D

- The total period of R&D is four years (42 months), with the first-year R&D period being six months.
- The research director must cooperate with the administrative office of the Korea-US Collaborative Research Project with regards to the evaluation and performance management.

4.2. Application Conditions

- Projects application must be submitted as joint research teams, consisting of both Korean domestic and US researchers. Multi- and interdisciplinary teams* are recommended.

  *Research groups combining multiple academic disciplines and research fields to ensure originality and excellence in joint global research planning and execution.

- The project application must include details regarding research activities conducted by the overseas institution (including technical cooperation framework, role distribution, and research fund utilization plan). The following documents should be included in the initial application submission.

  *Proof of the intent to participate from the overseas institution research director(s) (such as a Letter of Intent, LOI).

  *Details about the research resources, institutional support, and available expertise from the overseas institution.

- Research grant(s) to be awarded for projects or subprojects may be adjusted in the process of evaluation. The entire period of research, budgets, and content may change according to the Korean government budget conditions, legal or regulatory amendments, or changes in the policies.

4.3. Participation Format

- Joint research projects must be conducted at the level of the primary research institution, with prior internal agreements established for R&D participation between the Korean domestic R&D institutions (primary institutions) and overseas institutions (overseas researchers).

  *Eligible range of overseas institutions for this project: Hospitals, research institutes, and universities with main offices and research facilities located in the US (for-profit companies are not eligible).

  *Overseas joint researchers must be primarily affiliated with research institutions located in the US. Researchers from Korean domestic institutions who are temporarily stationed or on sabbatical leave in the US partner institutions will not be considered as a member of the US institution.

- The Korean domestic R&D institution is responsible for the inability to proceed with the project if joint research with the overseas partner institution is withdrawn after the project begins.
- All projects must be executed as the 'Joint Institution' type, according to the National Research Development and Innovation Act of Korea. The 'Joint Institution' type of joint research means that an agreement between administrative office of the Korea-US Collaborative Research Project and the overseas institution is required, and the overseas institution are recommended to suggest the research resources, institutional support, and available expertise for the current proposal (refer to the International Joint R&D Manual by the Ministry of Science and ICT of Korea, written in Korean).

  *A standard agreement form between the administrative office of the Korea-US Collaborative

Research Project and the overseas research institution will be posted on the website at a later date. After the final project selection, the agreement will be formalized with the respective overseas institution. Additionally, the administrative office of the Korea-US Collaborative Research Project/Fund will support the conclusion of contracts between participating research institutions regarding ownership and attribution of R&D outcomes.

4.4. Mid-term Evaluation

- If the Phase 1 research performance is deemed insufficient based on the mid-term evaluation, the budget for the Phase 2 research may be adjusted, or the disbursement of the Phase 2 research funding may be suspended.

4.5. Application and Execution Restrictions

- The research director(s) of the primary or joint research institutions can submit only ONE proposal. Submitting two proposals will result in disqualification of both (applies equally to Korean and US researchers).
- Proposals that were not selected in 2024 may be resubmitted as new projects in the current year.

4.6. Ownership and Attribution of R&D Outcomes

It is recommended to refer to the 'International Joint R&D Manual by the Ministry of Science and ICT of Korea (written in Korean)' for specific details regarding the joint research in national R&D projects of Korea.

[Intellectual Property Policy]

- Although intellectual property policies vary by country and the R&D institution, the current joint research conducted under the Korean national R&D projects must adhere to the Korean regulations.
- Specific details can be determined between the participating institutions according to the characteristics of the joint research project and the R&D institutions. These details must be specified in the international contract between the primary domestic research institution in Korea and the overseas research institution (the administrative office of the Korea-US Collaborative Research Project/Fund will support the conclusion of international contracts).

[Ownership of Joint Research R&D Outcomes]

- For projects conducted under the 'Joint Institution' type, the ownership of R&D outcomes will be attributed to all parties who jointly performed the research. Each party's ownership share shall be proportional to their contribution.
- If it is difficult to accurately quantify the degree of contribution by each researcher (institution), the contract can stipulate that all participating parties own equal shares, or allow the participating parties to determine the shares through consultation after the completion of the joint R&D.

5. Research and Development Period and Budget

5.1. Total Research Period

2025 - 2028 (total 4 years)

*Research period for 2025 is 6 months, and 12 months per year from 2026 onwards.

5.2. Research Budget for 2025 per Project

- Open Call Type: 2 billion KRW
- The annual budget composition per project is as follows:

Period	Open Call Type
1st Year (6 months)	**1 billion KRW**
2nd Year (12 months)	**2 billion KRW**
3rd Year (12 months)	**2 billion KRW**
4th Year (12 months)*	**1 billion KRW**
Total per Project	**6 billion KRW**

*Although the 4th year research period is 12 months, the budget will be allocated for only 6 months to facilitate the closing of the awards.

- The amount of research grant paid to overseas institutions is to be determined by the project team based on the overseas institution's role and the degree of contribution to the joint research plan. However, indirect costs paid to overseas institutions must not exceed 38% of the entire direct costs.

5.3. Number of Projects Selected for 2025

- Open Call Type : Approximately 7 projects
- The number of projects selected may vary by the competition rates and evaluation results.

6. Selection & Evaluation Criteria

Evaluation Category		Subcategory	Points
Research Innovation (40)	**Research Field & Goals**	✓ Clarity and appropriateness of research goals and directions ✓ Creativity of the overall research (any possible overlaps with the project selected in 2024 will also be evaluated for this)	10
	Research Content	✓ Alignment to the world-first (originality) and world-best (excellence) research theme of the current fund ✓ Synergy effects between the Korea and the US investigators for joint research (appropriateness of merging and utilizing each institution's strengths) ✓ Necessity of international joint research	20
	Research Method & Plan	✓ Specificity (comprehensiveness) and feasibility of the international joint research plan ✓ Appropriateness of the research execution plan (schedule and budget estimation)	10
Research Capability (30)	**Research Network**	✓ Degree of pre-cooperation foundation established between Korea and US institutions ✓ Appropriateness of role sharing and possibility of synergistic effects between each groups/institutions	10
	Research Personnel	✓ Excellence of the research capabilities of the Korea-US research leaders and participating researchers ✓ Appropriateness of the research team organization ✓ Research performance of Korean domestic institutions and researchers in the relevant field ✓ Research performance of overseas institutions and researchers in the relevant field ✓ Commitment to cooperative participation and execution plans of joint research by Korea-US research institutions	20
Achievement and Expected Impact (30)	**Excellence of Results**	✓ Validity of performance goals and performance indicators (quantitative, qualitative, milestones) ✓ Specificity and validity of the performance achievement plan ✓ Future impact of research results ✓ Potential for growth in researcher capabilities	20
	Plan for Utilization of Results	✓ Potential for utilizing research results to generate concrete outcomes (such as commercialization, follow-up research, domestic and international networks, etc.). ✓ Appropriateness of strategies for generating research results (presentation of roadmaps related to intellectual property, technology transfer, and commercialization) ✓ Appropriateness of plans for sharing and utilizing research and development outcomes with US research groups	10
		Total	**100**

*Note: Some evaluation categories and point allocations may change during the establishment of the selection and evaluation plan. The accurate schedules of evaluation will be posted in the upcoming announcement with the possibility of oral presentation.

Attachment

List of Selected Projects for the 2024 Korea-US Collaborative Research Project

■ (Type I) National Strategic Bioscience Technology Type (4 research groups)

No.	Title of Project	Lead principal R&D institution	Collaborative R&D institution(US)
1	Emerging Bunyavirus Hemorrhagic Fever Research Center	Seoul National University	Cleveland Clinic
2	Discovery of New-to-Nature Antibiotics using Deep Learning driven Synthetic Biology	Korea Advanced Institute of Science and Technology	Wyss Institute Stanford University Massachusetts Institute of Technology University of California, Berkeley
3	Next-generation genome editing therapies for genetic liver, eye, and brain diseases	Yonsei University Industry Foundation	The Broad Institute of MIT and Harvard University of California San Francisco
4	Development and Clinical Implementation of Multimodal AI based Spatial omics technology for Breast cancer precision medicine	Seoul National University	Massachusetts General Hospital Harvard Medical School

■ (Type II) Open Call Type (13 research groups)

No.	Title of Project	Lead principal R&D institution	Collaborative R&D institution(US)
1	Investigating the role of metabolism and telomere DNA damage in anti-tumor immunity with aging	Seoul National University	Harvard Medical School
2	Discovery and validation of host-directed therapy targets against pan-respiratory viruses via multiomics approaches and CRISPR screening	Korea University Research and Business Foundation	The Broad Institute of MIT and Harvard
3	DNA-Quantum Reservoir Computer (DQR-COM)	Korea University Research and Business Foundation	Wyss Institute
4	Development of optimized cell therapy for Parkinsons disease (PD) by correcting the inflammatory/synucleinopathic host brain environment	Industry-University Cooperation Foundation Hanyang University	McLean Hospital
5	International Consortium for Development of Innovative anti-Cancer Drugs (ICD^2)	Dankook University	Yale University School of Medicine
6	Development of a multi-organ assembloid platform to understand tissue dynamics and diseases of the human brain for advancing novel therapies	Seoul National University R&DB Foundation	Yale University
7	Immune-Neural Interaction Map Using Human Neural Organoid Panel Technology	Korea University Research and Business Foundation	Massachusetts Institute of Technology
8	Gene therapy for cardiac fibrosis	Chonnam National University Hospital	Mass General Brigham
9	Digital Cytokine World and AI-Driven Modulator Development	Seoul National University R&DB Foundation	Boston Children's Hospital
10	Biomimetic Metastatic Niche for High-Throughput Multiplexed Cancer Drug Screening: Integrating Mechanobiology, Metabolism, Biomarker Discovery and Predictive Modeling in a Microfluidic Chip	Korea Advanced Institute of Science and Technology	Brown University Massachusetts Institute of Technology The Broad Institute of MIT and Harvard
11	3D HistoTIME: Developing AI based cancer precision diagnosis and treatment platform	Sungkyunkwan University Cooperation Center	National Cancer Institute University of Michigan
12	Tumor Targeted NIR Fluorescent/X-ray Multimodal Imaging Platform for Precision Robotic Cancer Surgery	Korea University Research and Business Foundation	Mass General Hospital
13	Development of Effective Electroceuticals Based on Gut-Brain Axis Research	Seoul National University R&DB Foundation	Brigham and Women's Hospital