

# 2025 Young medical scientist Research Grant

2025. 07

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## I. Overview

### 1. Objective

Daewoong Foundation aims to identify and support promising young medical scientist in the biomedical sciences, creating an environment where they can fully engage in academic research and grow into globally recognized researchers.

### 2. Research Areas

※ Refer to attached examples for further inspiration

Research Theme	Technology Field	Research Area
Research on Novel Mechanism-Based Degradable (e.g., Proteins, Antibodies, mRNA, Undruggable Targets)	Drug Discovery	Basic Research
AI-Driven Drug Discovery for Novel Target Identification, Lead Generation, and Optimization of Therapeutic Efficacy	Drug Discovery	Basic Research
Innovative gene therapy platforms or disease-related gene discovery	Drug Discovery	Basic Research
Development of Innovative Cell Therapies for Functional Restoration of Target Tissues	Drug Discovery	Basic Research
Formulation Optimization for Targeted Delivery of Biopharmaceuticals to Low-Accessible Tissues such as the CNS	Drug Discovery	Platform Technology
Investigation of Novel Compounds and Aging Pathways Using Human-Like Non-Human Primates	Platform	Basic Research

### 3. Program Overview

- 1) Research Period: 1 year (2025.Dec ~ 2026.Nov)
- 2) Grant Amount: Up to KRW 50 million (tax-exempt, including indirect costs)
- 3) Eligibility: Researchers under the age of 45 (born on or after Jan 1, 1980) holding an MD, VMD, RPh, or PhD degree.
- 4) Application method: Online submission

Submit via email to [medischolar@daewoong.co.kr](mailto:medischolar@daewoong.co.kr)

- 5) Benefits for selected researchers:
  - ♦ Research grant of up to KRW 50 million
  - ♦ Access to expert consultation through research exchange meetings
  - ♦ Equipment support, if needed
  - ♦ Networking with companies for potential commercialization
  - ♦ Full ownership of research results (Daewoong Foundation acknowledgment required in publications)

#### 4. Timeline

Timeline	Stage
2025. 8. 11 <sup>th</sup> ~ 9. 12 <sup>th</sup>	Application Submission
2025. 9. 15 <sup>th</sup> ~ 9. 28 <sup>th</sup>	<b>1<sup>st</sup> Round Evaluation (Documents)</b>
2025. 9. 30 <sup>th</sup>	1 <sup>st</sup> Round Result Announcement
2025. 10. 21 <sup>st</sup>	<b>2<sup>nd</sup> Round Evaluation (Interview)</b>
2025. Nov	Final Announcement
2025. Nov – Dec	<b>Contract &amp; Research Start</b>
2026. May	1st Report and Disbursement
2026. 2H	Research Exchange (Networking & Consulting)
2026. Nov	Final Report and Disbursement

## II. Application for Grant Support

### 1. Research Topic Selection and Composition

- ♦ Both individual and collaborative research projects are eligible for application.
- ♦ In the case of collaborative research, a Principal Investigator (PI) must be designated. The PI is responsible for preparing and submitting the application.
- ♦ Applicants are free to define their research topic, based on the suggested disease areas and technological fields.
- ♦ Clinical research involving human subjects is not eligible for support.

### 2. Eligibility

♦ Applicants must be under 45 years of age (born on or after January 1, 1980) and hold one of the

following degrees: MD, VMD, RPh, or Ph.D.

♦ Researchers affiliated with institutions both in Korea and overseas are eligible, regardless of

nationality.

- This includes faculty or researchers at universities, affiliated hospitals or research institutes, and

public research institutions.

♦ Preference will be given to applicants with relevant research achievements in the target fields.

### 3. Ineligibility

- Individuals restricted from participating in national R&D projects as of the application date are not eligible to apply.
- Concurrent support from other Daewoong Foundation programs in 2025 is not allowed

(applicants may submit to multiple programs, but must choose one if selected for more than one).

#### **4. Required Documents**

- 1) One official letter of recommendation or endorsement from the applicant's affiliated institution
- 2) One copy of the research proposal
- 3) One copy of the budget plan

※ if animal testing is involved, IACUC approval and the final approved research protocol must be submitted

after selection. (Failure to submit may result in cancellation of selection)

#### **5. Application method**

- 1) Application period: 2025. August. 11<sup>th</sup> ~ September 12<sup>th</sup> 24:00
- 2) Application method: Online Submission  
Submit via email to [medischolar@daewoong.co.kr](mailto:medischolar@daewoong.co.kr)
- 3) Required documents: Research Plan, Budget Plan, Official Letter
- 4) Language : English

#### **6. Important Notes for Application**

- ♦ Submitted documents will not be returned under any circumstances.
- ♦ Once submitted, applications and files cannot be modified.

### **III. Evaluation and Selection**

#### **1. Evaluation Method**

- ♦ All submitted applications will be reviewed by a selection committee organized by Daewoong Foundation, consisting of experts and professors in relevant research field.
- ♦ Final Selection will be based on a comprehensive evaluation of the research content, appropriateness of the research plan, originality and innovation, potential impact, budget adequacy, and capability of the research team.
- ♦ The second-round evaluation (for first round finalist only) will consist of a 10-minute oral presentation and Q&A session, during which the research content, value, and the applicant's competence will be thoroughly assessed before final selection is announced.

#### **2. Contract Guidelines and Research Fund Disbursement**

- ♦ Contracting parties: The researcher and affiliated institution (e.g., university industry-academic cooperation foundation or research administration office of a hospital/institution)
- ♦ Research funding will be disbursed in three installments: 1<sup>st</sup> upon selection, 2<sup>nd</sup> upon submission

of the 1<sup>st</sup> report, and 3<sup>rd</sup> upon submission of the final report.

- ♦ If the affiliated university or institution deducts indirect costs, such deductions shall follow the institution's internal regulation.
- ♦ The research fund is a grant intended solely for research activities and must be executed in accordance with the institution's research fund management policies. No separate settlement report is required after the completion of the research.
- ♦ If the researcher fails to carry out the research within the designated period, the full amount of the

research fund must be returned. Extensions may be requested in advance if necessary.

#### **IV. Submission of Report and Presentation of Research Outcomes**

##### **1. Submission of Interim and Final Reports**

- ♦ Researchers must submit an interim report six months after the start of the research and a final report at the end of the one-year search period, using the Foundation's designated templates.
- ♦ Required submission materials include:
  - The report file (including original research data)
  - The Researcher's CV
- ♦ The report should include a detailed description of the research process, contents, achievements, and future plans.
- ♦ All reports will be reviewed by the foundation's evaluation committee, and revisions may be requested if necessary.
- ♦ Research exchange meetings will be held around the report submission period to support successful

Research execution.

##### **2. Presentation of Research Outcomes**

- ♦ The research outcomes shall remain the property of the researcher.
- ♦ If requested by Daewoong Foundation, the researcher must present the research results at a designated presentation session.
- ♦ In the event of any outcomes or achievements after the research has ended, they must be reported to the Daewoong Foundation.

#### **V. Contact Information**

- ♦ Program Inquiries (Daewoong Foundation): [medischolar@daewoong.co.kr](mailto:medischolar@daewoong.co.kr)

#### **[Appendix 1. Company cases by Research Topic]**

The Examples are provided for reference only and do not limit the scope of eligible research

fields.

Research Theme	Technology Field	Research Area	Company Example (Reference only)
Research on Novel Mechanism-Based Degraders (e.g., Proteins, Antibodies, mRNA, Undruggable Targets)	Drug Discovery	Basic Research	By utilizing small-molecule compounds—such as in Targeted Protein Degradation (TPD) approaches like PROTACs and molecular glues—it is possible to enhance drug efficacy, overcome resistance, and access targets that were previously undruggable with conventional inhibitors.
			Similar to HanAll's batoclimab, this approach utilizes antibodies to inhibit the function of FcRn—a target that extends the half-life of IgG—thereby promoting the degradation of circulating IgG through a novel degradation mechanism. This has led to a significant breakthrough in the treatment of autoimmune diseases.
			BHV-1400, developed by Biohaven, is an IgA-degrading therapeutic that selectively targets circulating IgA antibodies and directs them into lysosomes for intracellular degradation. This approach overcomes the limitations of traditional small-molecule compounds by enabling selective recognition and lysosomal degradation of IgA, marking a novel strategy in autoimmune disease treatment. The drug has successfully completed Phase 1 clinical trials.
AI-Driven Drug Discovery for Novel Target Identification, Lead Generation, and Optimization of Therapeutic Efficacy	Drug Discovery	Basic Research	INS018_055, a pulmonary fibrosis treatment developed by Insilico Medicine, is a TNIK inhibitor discovered through AI-based de novo drug discovery. It took only 2.5 years to design the candidate compound. This molecule is the first AI-designed new drug to enter clinical trials targeting a novel protein discovered by artificial intelligence
			Moderna has applied IBM's AI platform, MoLFormer, to optimize lipid nanoparticle (LNP) structures and improve mRNA encapsulation efficiency. MoLFormer is an AI model capable of predicting and generating protein structures and properties, representing a key integration of AI into vaccine design.
			RosettaFold, developed in 2021 by the Institute for Protein Design (IPD) at the University of Washington, is an AI-based protein structure prediction model. It enables the precise de novo design of protein structures, as demonstrated by its accurate prediction of the SARS-CoV-2 spike protein's receptor-binding domain (RBD), which contributed to the identification of proteins with strong

			neutralizing activity.
Innovative gene therapy platforms or disease-related gene discovery	Drug Discovery	Basic Research	<p>With the emergence of precise gene-editing technologies, such as prime editing, which allows for the direct insertion or replacement of desired DNA sequences, and base editing, which enables the direct conversion of one nucleotide to another, it is now possible to accurately target and modify specific genetic sequences.</p> <p>Patisiran is an siRNA-based therapy that targets TTR (transthyretin) mRNA, suppressing its expression to treat hereditary ATTR (amyloidosis transthyretin type). It was approved in 2018 as the first RNA interference (RNAi) therapeutic for this condition.</p> <p>Casgevy is the first CRISPR-based gene-editing therapy approved by the U.S. FDA in 2023. It works by correcting the BCL11A gene, which is the root cause of the disease, and has been approved as a treatment for sickle cell disease.</p>
Development of Innovative Cell Therapies for Functional Restoration of Target Tissues			<p>With advancements in the refinement of stem cell-derived cells, precise differentiation technologies have been developed to generate specific cell types such as beta cells and cardiomyocytes. Additionally, gene-editing technologies are being used to develop hypoimmunogenic iPSCs by eliminating genes responsible for immune rejection. Moreover, genetically modified and optimized cells with organ-like functionality are being engineered to enhance the efficiency of organ function replacement.</p> <p>VX-880, developed by Vertex Pharmaceuticals, is an allogeneic pancreatic <math>\beta</math>-cell therapy currently in Phase 1/2 clinical trials. It utilizes stem cell-derived pancreatic beta cells to restore insulin secretion, representing a potentially curative approach to treating diabetes at its root cause.</p> <p>BRT-DA01, developed by BlueRock Therapeutics, is a Parkinson's disease therapy that involves transplanting iPSC-derived dopaminergic neurons directly into the brain. The treatment demonstrated disease-modifying effects in a Phase 2 clinical trial and is currently undergoing Phase 3 trials. The company was acquired by Bayer in 2019.</p>

Formulation Optimization for Targeted Delivery of Biopharmaceuticals to Low-Accessible Tissues such as the CNS	Drug Discovery	Platform Technology	Advancements in formulation technologies, such as long-acting injectables and orally administrable peptides, are accelerating drug delivery innovation. In particular, platforms based on AAV capsid engineering are being actively developed to enhance CNS accessibility. A promising approach is receptor-mediated transcytosis (RMT), which utilizes transferrin receptors (TfR) as shuttles to actively transport therapeutics across the blood-brain barrier. This method has shown the potential to improve brain penetration by 10 to 50 times compared to conventional antibodies.
			Alteogen's hyaluronidase-based subcutaneous (SC) formulation platform enables the conversion of biologics—previously administered only intravenously—into subcutaneous injections. By using hyaluronidase to break down hyaluronic acid in subcutaneous tissue, the platform facilitates better drug diffusion, significantly reducing administration time and enhancing patient convenience. This innovative technology has led to multi-billion-dollar licensing deals, demonstrating its global commercial value.
			GSK secured a technology platform for active transport across the blood-brain barrier (BBB) by signing a global licensing agreement with ABL Bio, utilizing its IGF1R-based BBB shuttle platform.
Investigation of Novel Compounds and Aging Pathways Using Human-Like Non-Human Primates	Platform	Basic Research	A study from another institution demonstrated the utility of the pig-tailed macaque as an aging and disease model by analyzing its hematological and biochemical parameters. The analysis identified aging-related indicators such as stress levels, muscle damage, and hypercholesterolemia, confirming its potential for aging and disease research.
			Research and Development of Novel Compounds Using Indonesian Non-Human Primates
			Research on Aging-Related Diseases and Underlying Mechanisms Using Aged Non-Human Primates in Indonesia