

Seong-Jun Kang, Ph.D.

Computational immunologist working in single-cell and spatial multi-omics of the immune system

Research Scientist applicant · Hyman Lab, MassGeneral Institute for Neurodegenerative Disease
· transcriptomics and neurodegeneration

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RESEARCH PROFILE

I am an immunologist working in computational single-cell analysis. I read immune cell state from large, incomplete single-cell and spatial data, and I check that it holds on held-out donors. The brain work I have done is single-cell immune profiling in an Alzheimer's mouse model, where I built the path from tissue harvest through 10x to the analysis, so what I would carry into human brain transcriptomics is the method rather than the tissue. What I would add is an immune-cell layer, and a way to separate immune programs that drive neurodegeneration from those that only track it. I also write my own funding: lead proposal writer on about \$1.3 million of funded industry grants and a more than 30 percent contributor to the roughly \$1.6 million SCAID atlas proposal.

POSITION-RELEVANT EXPERTISE

- **Brain immune single-cell analysis.** In the 5x FAD Alzheimer's mouse model I ran the path end to end: whole-brain harvest, enzymatic digestion, Percoll enrichment, CD45⁺ FACS, 10x, then the analysis. Ten immune populations from 11,587 cells, with exhausted CD8⁺ tissue-resident memory T cells engaging choroid-plexus epithelium at the blood-CSF barrier while that epithelium turned on MHC class I, interferon-stimulated genes and JAK-STAT signalling.
- **Cell-state calling and held-out testing.** From 251,055 memory CD4⁺ T cells with paired receptors, **consensus NMF** gave twelve reproducible gene programs from $k = 14$. Because 5' reads cannot separate the short and long PDE4D isoforms, I wrote UMI-aware, BAM-level code that returns to the alignments and assigns the isoform per cell. The short-isoform state recurs across 702 samples and 23 conditions in the SCAID atlas, and a classifier on subset composition reaches a held-out AUC of 0.780.
- **Methods that carry over.** Olink targeted plasma proteomics, **GeoMx DSP** region-of-interest microdissection and profiling, high-parameter flow panels, and **scVI/scANVI** integration with **Milo** differential abundance are assays and analyses I have run, on immune cells and tumour tissue. I also designed the causal overexpression test in the PDE4D study.
- **Atlas-scale quality control across sites.** Multi-site sample QC, milestone tracking and multi-PI coordination across the 700-donor, 8-organ SCAID atlas, with reference material in every collection round and batch written into the model as a variable rather than hoped away.
- **Grants written.** Lead proposal writer on two Korea Drug Development Fund awards for an anti-CD40 antibody (about \$571,000 and \$321,000), on two Ministry of SMEs and Startups awards, and on the proposal and study design for a NAVER-funded engineered Treg program, about \$1.3 million in all. More than 30 percent of the SCAID proposal, funded at about \$1.6 million. All were held by the institutional principal investigator, so my role was proposal writing and project execution, not as PI.

EDUCATION

DEGREES

Ph.D.
2014-2023 **Seoul National University**, Seoul, Republic of Korea
Department of Biomedical Sciences
Thesis: Exploration of the Role of Regulatory T cells in Various Pathogenic Contexts
Advisor: Chung-Gyu Park, M.D., Ph.D.

M.S.
2012-2014 **Seoul National University**, Seoul, Republic of Korea
Department of Biomedical Sciences
Thesis: Enhanced LPS-Induced Monocyte Activation by Recombinant Human Soluble CD14
Advisor: Chung-Gyu Park, M.D., Ph.D.

B.S. Sungkyunkwan University, Suwon, Republic of Korea
2008–2012 Department of Genetic Engineering

RESEARCH & PROFESSIONAL EXPERIENCE

Researcher (postdoctoral) Yonsei University Wonju College of Medicine · Dept. of Physiology / Organelle Medicine
2025–present Research Center, Wonju, Republic of Korea
Deep-learning multimodal-integration models fusing imaging, transcriptomic, and clinical data into single predictive models.

Associate Director PB Immune Therapeutics Inc. · Dept. of Basic Research, Seoul, Republic of Korea
2023–2025 Led a humanized anti-CD40 antibody program: candidate ranking by **surface plasmon resonance (Biacore)** and ELISA, receptor-blocking confirmation, human and non-human-primate cross-reactivity, in vivo efficacy in primates, and the regulatory documentation. Placed and oversaw CRO and core-facility work, from study design and assay conditions through data delivery and go/no-go calls. Built the in-house single-cell and spatial analysis pipeline. Ran cynomolgus and marmoset EAE studies for multiple sclerosis programs.

Manager PB Immune Therapeutics Inc. · Dept. of Basic Research, Seoul, Republic of Korea
2021–2023 Wrote the two KDDF proposals that funded the anti-CD40 program and ran the lead-selection work under them.

Research Student SCAID, Single Cell Atlas of Immune Diseases, Genomic Medicine Institute, Seoul National University, Seoul, Republic of Korea
2020–2023 Contributed the founding proposal; executed within the funded program (700+ donors × 8 organs): milestone tracking, multi-site QC, multi-PI coordination.

Researcher Xenotransplantation Research Center, Seoul National University, Seoul, Republic of Korea
2019–2021 Rhesus macaque tissue processing and longitudinal immune monitoring across transplantation studies.

Teaching Assistant Seoul National University College of Medicine · Dept. of Microbiology and Immunology,
2014–2016 Seoul, Republic of Korea

SELECTED RESEARCH OUTPUTS

1 **Seong-Jun Kang***, Yong-Hee Kim*, Thuy Nguyen-Phuong*, Yijoon Kim, Jin-Mi Oh, Jae-chun Go, DaeSik Kim, Chung-Gyu Park, Hyunsu Lee, Hyun Je Kim. "Immune cell-enriched single-cell RNA sequencing unveils the interplay between infiltrated CD8⁺ T resident memory cells and choroid plexus epithelial cells in Alzheimer's disease." *Journal of Neuroimmunology* 2025. [Download PDF](#)

An immune layer added to a neurodegeneration model. First author. Whole-brain harvest, enzymatic digestion, Percoll enrichment, CD45⁺ FACS, 10x and the analysis, all built by me in a 5xFAD mouse. 11,587 cells and ten immune populations; exhausted CD8⁺ tissue-resident memory T cells engaging choroid-plexus epithelium at the blood-CSF barrier, with MHC class I, interferon-stimulated genes and JAK-STAT raised on that epithelium.

2 Woogil Song*, **Seong-Jun Kang***, Taehee Stella Kim*, Seyoung Jung, Sung Hee Kim, Su Chan Park, Sung Hae Chang, Eun Young Lee, Tae-Gyun Kim, Hyun Je Kim, Jeong Seok Lee. "Conserved PDE4D short-isoform bias defines pathogenic Th1.17 state across human inflammatory diseases." *Nature Immunology* 2026. in revision

A program separated from what merely tracks with it. Co-first author. 251,055 memory CD4⁺ T cells across four matched cohorts, pooled and SNP-demultiplexed so donor and run stayed separable; consensus NMF for twelve reproducible programs; custom isoform-level code where the count matrix could not resolve PDE4D. The state repeats across 702 SCAID samples, held-out AUC 0.780, and overexpression then selective inhibition moved the pathogenic fraction in both directions.

- 3 Jung Ho Lee*, Sung Ha Lim*, Hyungdon Kook, **Seong-Jun Kang**, Geon Lee, Brian Hyohyoung Lee, Hyunsung Nam, YongJun Kim, Christine Suh-Yun Joh, Soyoung Jeong, Dongryeol Shin, Hyun Je Kim, Jiyoung Ahn. "**Mycosis Fungoides-like Atopic Dermatitis Represents a Th22-dominant Inflammatory Endotype.**" *Allergy* 2026.

Reactive or malignant, decided on the data. scVI integration across datasets, InferCNV for genomic identity and scTCR clonality across 248,881 cells, which together placed the condition as a reactive, oligoclonal Th22 endotype rather than a malignancy. The same question shape, whether a state is driving or following, is what I would bring to the human brain data.

- 4 Youngkyoung Lim*, **Seong-Jun Kang***, Beom Keun Cho, Hyun Je Kim, ... Chong Hyun Won, Chung-Gyu Park. "**Intra-tumoral heterogeneity and immune escape of melanoma arising from congenital melanocytic nevus revealed by spatial gene expression profiling.**" *JEADV* 2022. [Download PDF](#)

Spatially indexed measurement run end to end. Assay setup and instrument operation, immunofluorescence staining, fluorescence-guided ROI selection, barcode collection, then the analysis. One melanoma in four regions by invasion depth, 16 whole-transcriptome ROIs, 18,677 genes, with graded loss of HLA class I and II and B2M loss confirmed by immunohistochemistry.

TECHNICAL EXPERTISE

Brain and CNS tissue	Mouse brain immune profiling run end to end: whole-brain harvest, enzymatic digestion, Percoll enrichment, CD45 ⁺ FACS, 10x library generation, and the analysis (<i>J Neuroimmunol</i> 2025, first author; 5x FAD model, 11,587 cells, 10 immune populations). Neuro-immune analysis of choroid plexus epithelium and infiltrating CD8 ⁺ resident-memory T cells at the blood-CSF barrier. Non-human-primate CNS tissue, brain and spinal cord, across rhesus, cynomolgus and marmoset studies, including EAE models of multiple sclerosis.
Cell-state calling and its checks	Consensus NMF gene programs ($k = 14 \rightarrow 12$ reproducible programs across 251,055 memory CD4 ⁺ T cells). Custom UMI-aware, BAM-level isoform code (Python) resolving PDE4D short-versus long-isoform identity from 5' reads, which a count matrix cannot separate. Milo KNN-graph differential abundance; scVI/scANVI integration; condition classifiers reported with held-out AUC and confidence intervals. Multi-site sample QC, milestone tracking and multi-PI coordination across a 700-donor, 8-organ atlas (SCAID).
Single-cell / spatial / multi-omic	scRNA-seq, scTCR-seq, snRNA/snATAC; 10x 5'/3' library generation and 10x Chromium Connect automated preparation. Seurat , Scanpy , Squidpy , Monocle3 , CellChat/NicheNet ; scVI/scANVI, batch integration, consensus NMF ; Milo KNN-graph differential abundance, GLIPH, InferCNV. Custom UMI-aware, BAM-level isoform analysis code (Python). Spatial: GeoMx DSP run end to end, Visium , MACSima cyclic multiplexed immunofluorescence.
Computational	Python: scikit-learn, XGBoost/LightGBM/CatBoost, PyTorch ; AUC-validated classifiers held out on independent cohorts; multimodal deep-learning integration (imaging + transcriptomic + clinical). Linux servers · R/RStudio · Git-based reproducible analysis.
Vision-language and retrieval models	Finetuning. LoRA adaptation of an open vision-language model (Gemma 4 12B , mlx-vlm) so that an amyloid pathology tile returns a structured JSON reading, with the schema enforced during decoding and the split held out at the case level. Against the same model zero-shot on 800 held-out tiles, cored-plaque F1 went from 0.12 to 0.44 and cerebral amyloid angiopathy from 0.00 to 0.69. Retrieval. A retrieval-augmented question-answering service written end to end: corpus chunking, BM25 and dense-vector retrieval fused by reciprocal rank, query expansion, and streamed answers that carry their sources. FastAPI , containerized, on Google Cloud Run ; it answers questions about this CV at kangseongjun.com.
Cell, tissue & immunological assays	Primary human T-cell isolation, expansion and functional assays; monocyte and dendritic-cell differentiation; mesenchymal stem cell culture. Enzymatic tissue digestion, Percoll enrichment, cell and nucleus isolation. High-dimensional flow cytometry (panels up to 24 markers); multiplex panel design; 10-color 6-way FACS. Olink targeted plasma proteomics (immune & neurology panels).

Microscopy & animal models	Spinning-disk confocal (Nikon CSU-W1 SORA), point-scanning confocal (Leica SP8), two-photon; IHC/IF (frozen & FFPE) with quantitative image analysis. Non-human primates across three species (rhesus, cynomolgus, marmoset), including EAE and islet-transplantation studies; mouse immune profiling.
Program & external execution	CRO and core-facility work from study design and placement through data delivery and go/no-go calls; assay conditions specified to the vendor; regulatory documentation for a therapeutic antibody program; funder milestones and reporting; multi-site sample QC across a 700-donor collection.
Binding & protein interaction	Surface plasmon resonance (Biacore) run hands-on for antibody lead work: association and dissociation rates, affinity ranking across a candidate panel, receptor-blocking confirmation, and human / non-human-primate cross-reactivity. ELISA-based affinity and epitope analysis; competition binding. Antibody lead selection and optimization from candidate panel to registered patent. Functional validation of a peptide inhibitor of calcineurin in primary human T cells (CABIN1 core peptide, <i>Exp Mol Med</i> 2022).

PUBLICATIONS

18 TOTAL PAPERS	17 PEER-REVIEWED	1 IN REVISION	6 FIRST / CO-FIRST
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 [Google Scholar · Full Profile, Citations & h-index ↗](#)

PUBLICATIONS · FIRST / CO-FIRST AUTHOR

2026	Woogil Song*, Seong-Jun Kang* , Taehee Stella Kim*, Seyoung Jung, Sung Hee Kim, Su Chan Park, Sung Hae Chang, Eun Young Lee, Tae-Gyun Kim, Hyun Je Kim, Jeong Seok Lee. "Conserved PDE4D short-isoform bias defines pathogenic Th1.17 state across human inflammatory diseases." <i>Nature Immunology</i> . in revision
2025	Seong-Jun Kang* , Yong-Hee Kim*, Thuy Nguyen-Phuong*, Yijoon Kim, Jin-Mi Oh, Jae-chun Go, DaeSik Kim, Chung-Gyu Park, Hyunsu Lee, Hyun Je Kim. "Immune cell-enriched single-cell RNA sequencing unveils the interplay between infiltrated CD8 ⁺ T resident memory cells and choroid plexus epithelial cells in Alzheimer's disease." <i>Journal of Neuroimmunology</i> . Download PDF
2025	Seong-Jun Kang* , Jeong-Ryeol Gong*, Seon-Pil Jin, Jin-Mi Oh, Hyunjin Jin, Yuji Lee, Yewon Moon, Dongjun Kim, Hyo Jeong Nam, Hyun Seung Choi, Sanha Hwang, Yun Jung Huh, Kyung Yeon Han, Jihwan Moon, Jongsuk Chung, Woong-Yang Park, Chung-Gyu Park, Hyun Je Kim, Jeong Eun Kim. "Deciphering Dysfunctional Regulatory T Cells in Atopic Dermatitis." <i>Allergy</i> . Download PDF Co-first author. Single-cell and functional dissection of skin-homing regulatory T cells in atopic dermatitis, with OX40 up-regulated alongside impaired suppressive function.
2024	Jong-Min Kim*, Seong-Jun Kang* , So-Hee Hong*, Hyunwoo Chung, Jun-Seop Shin, Byoung-Hoon Min, Hyun Je Kim, Jongwon Ha, Chung-Gyu Park. "Long-term control of diabetes by tofacitinib-based immunosuppressive regimen after allo-islet transplantation in diabetic rhesus monkeys that rejected previously transplanted porcine islets." <i>Xenotransplantation</i> . Download PDF Co-first author. Long-term diabetes control with a tofacitinib-based regimen after allo-islet transplantation in rhesus macaques, with longitudinal immune monitoring.
2022	Youngkyoung Lim*, Seong-Jun Kang* , Beom Keun Cho, Hyun Je Kim, ... Chong Hyun Won, Chung-Gyu Park. "Intra-tumoral heterogeneity and immune escape of melanoma arising from congenital melanocytic nevus revealed by spatial gene expression profiling." <i>JEADV</i> . Download PDF

- 2019** Jong-Min Kim*, Jun-Seop Shin*, Byoung-Hoon Min*, **Seong-Jun Kang***, Il-Hee Yoon, Hyunwoo Chung, Jiyeon Kim, Eung-Soo Hwang, Jongwon Ha, Chung-Gyu Park. "JAK3 inhibitor-based immunosuppression in allogeneic islet transplantation in cynomolgus monkeys." *Islets*. [Download PDF](#)
- Co-first author, one of four authors contributing equally. JAK3-inhibitor-based immunosuppression in allogeneic islet transplantation in cynomolgus macaques.

CONTRIBUTING AUTHOR

- 2026** Jung Ho Lee*, Sung Ha Lim*, Hyungdon Kook, **Seong-Jun Kang**, Geon Lee, Brian Hyohyoung Lee, Hyunsung Nam, YongJun Kim, Christine Suh-Yun Joh, Soyoung Jeong, Dongryeol Shin, Hyun Je Kim, Jiyoung Ahn. "Mycosis Fungoides-like Atopic Dermatitis Represents a Th22-dominant Inflammatory Endotype." *Allergy*.
- 2024** Brian Hyohyoung Lee*, Yoon Ji Bang*, Sung Ha Lim*, **Seong-Jun Kang**, Sung Hee Kim, Seunghee Kim-Schulze, Chung-Gyu Park, Hyun Je Kim, Tae-Gyun Kim. "High-dimensional profiling of regulatory T cells in psoriasis reveals an impaired skin-trafficking property." *eBioMedicine*. [Download PDF](#)
- 2024** Youngkyoung Lim*, Beom Keun Cho*, **Seong-Jun Kang**, Soyoung Jeong, Hyun Je Kim, Jiyeon Baek, Ji Hwan Moon, Cheol Lee, Chan-Sik Park, Je-Ho Mun, Chong Hyun Won, Chung-Gyu Park. "Spatial transcriptomic analysis of tumour-immune cell interactions in melanoma arising from congenital melanocytic nevus." *JEADV*. [Download PDF](#)
- 2023** Sunyoung Jung*, Sunho Lee, Hyun Je Kim, Sueon Kim, Ji Hwan Moon, Hyunwoo Chung, **Seong-Jun Kang**, Chung-Gyu Park. "Mesenchymal stem cell-derived extracellular vesicles subvert Th17 cells by destabilizing ROR γ t through posttranslational modification." *Experimental & Molecular Medicine*.
- 2022** Sangho Lee, Han-Teo Lee, Young Ah Kim, Il-Hwan Lee, **Seong-Jun Kang**, Kyeongpyo Sim, Chung-Gyu Park, Kyungho Choi, Hong-Duk Youn. "The optimized core peptide derived from CABIN1 efficiently inhibits calcineurin-mediated T-cell activation." *Experimental & Molecular Medicine*.
- 2021** So Hee Hong, Hyun Je Kim, **Seong-Jun Kang**, Chung-Gyu Park. "Novel Immunomodulatory Approaches for Porcine Islet Xenotransplantation." *Current Diabetes Reports*. [Download PDF](#)
- 2020** Sunho Lee, Sueon Kim, Hyunwoo Chung, Ji Hwan Moon, **Seong-Jun Kang**, Chung-Gyu Park. "Mesenchymal stem cell-derived exosomes suppress proliferation of T cells by inducing cell cycle arrest through p27kip1/Cdk2 signaling." *Immunology Letters*.
- 2019** Hyun Je Kim, Ji Hwan Moon, Hyunwoo Chung, Jun-Seop Shin, Bongi Kim, Jong Min Kim, Jung-Sik Kim, Il-Hee Yoon, Byoung-Hoon Min, **Seong-Jun Kang**, Yong-Hee Kim, Kyuri Jo, Joungmin Choi, Heejoon Chae, Won Woo Lee, Sun Kim, Chung-Gyu Park. "Bioinformatic analysis of peripheral blood RNA-sequencing sensitively detects the cause of late graft loss following overt hyperglycemia in pig-to-non-human primate islet xenotransplantation." *Scientific Reports*.
- 2018** Byoung-Hoon Min, Jun-Seop Shin, Jong-Min Kim, **Seong-Jun Kang**, Hyun-Je Kim, Il-Hee Yoon, Su-Kyoung Park, Ji-won Choi, Min-Suk Lee, Chung-Gyu Park. "Delayed revascularization of islets after transplantation by IL-6 blockade in pig-to-non-human primate islet xenotransplantation model." *Xenotransplantation*.
- 2018** Jun-Seop Shin, Jong-Min Kim, Byoung-Hoon Min, Il Hee Yoon, Hyun Je Kim, Jung-Sik Kim, Yong-Hee Kim, **Seong-Jun Kang**, Jiyeon Kim, Hee-Jung Kang, Dong-Gyun Lim, Eung-Soo Hwang, Jongwon Ha, Sang-Joon Kim, Wan Beom Park, Chung-Gyu Park. "Pre-clinical results in pig-to-non-human primate islet xenotransplantation using anti-CD40 antibody (2C10R4)-based immunosuppression." *Xenotransplantation*.
- 2018** Jong-Min Kim, Jun-Seop Shin, Byoung-Hoon Min, Il Hee Yoon, **Seong-Jun Kang**, Won-Young Jeong, Sang-Joon Kim, Chung-Gyu Park. "Pre-Clinical Results of Islet Allo-Transplantation Using JAK Inhibitor as Replacement for Tacrolimus in Cynomolgus Monkeys." *Transplantation*.

2018 Jung-Sik Kim, Hyunwoo Chung, Nari Byun, **Seong-Jun Kang**, Sunho Lee, Jun-Seop Shin, Chung-Gyu Park. "Construction of EMSC-islet co-localizing composites for xenogeneic porcine islet transplantation." *Biochemical and Biophysical Research Communications*.

MANUSCRIPTS IN PREPARATION

2026 Kangsan Roh*, Sabyasachi Das*, **Seong-Jun Kang**, Olga Barreiro, Rodrigo Javier Gonzalez, Timothy P. Padera, Shraddha Shirguppe, Ahlim Lee, Youngju Song, Pazhanichamy Kalailingam, Claire E. Fong, Aarushi Gandhi, Meehyun Kim, Diana Tambala, Adam Vernon Crain, Casey A. Maguire, Ulrich H. Von Andrian, Christian L. Lino Cardenas, Sekeun Kim, Benjamin P. Kleinstiver, Mark E. Lindsay, Patricia L. Musolino, Rajeev Malhotra. "In-vivo base editing of ACTA2 R179H restores lymphatic function and immune cell homeostasis in a murine model of Multisystemic Smooth Muscle Dysfunction Syndrome (MSMDS)." in preparation
Co-author (immunology). Ran the Olink plasma proteomics across 12 patients and 6 controls and the flow-cytometry immunophenotyping of lymph-node leukocytes.

SELECTED GRANT WRITING & PROGRAM FUNDING

INDUSTRY · PB IMMUNE THERAPEUTICS (MANAGER → ASSOCIATE DIRECTOR)

FUNDING AGENCY / SPONSOR	PROJECT	PERIOD	BUDGET (USD)	ROLE / CONTRIBUTION
Korea Drug Development Fund (KDDF)	Anti-CD40 antibody lead selection and optimization (multiple sclerosis)	2021–2023	~\$571,000	Lead proposal writer (>90% of proposal & execution)
Korea Drug Development Fund (KDDF)	Anti-CD40 lead compound (PB101): efficacy and pharmacodynamic biomarkers (pemphigus vulgaris)	2022–2024	~\$321,000	Lead proposal writer (>90% of proposal & execution)
Ministry of SMEs and Startups (MSS)	Scale-up Funding for Tech Commercialization	2022–2023	~\$222,000	Lead proposal writer; managed >90% of execution
Ministry of SMEs and Startups (MSS)	Early-stage startup R&D: anti-CD40 biologic (PB-40N) to prevent anti-drug antibodies	2021–2022	~\$74,000	Lead proposal writer & core researcher
NAVER Corporation	Engineered regulatory T cells for immune-mediated diseases (PB20X_Treg)	2023–2026	~\$128,000	Proposal & study design (~50%)

DOCTORAL TRAINING · SEOUL NATIONAL UNIVERSITY

FUNDING AGENCY / SPONSOR	PROJECT	PERIOD	BUDGET (USD)	ROLE / CONTRIBUTION
Ministry of Science and ICT (MSIT)	Multi-layered immune-disease single-cell map for molecular target discovery (SCAID, A9-22-1-05)	2022–2028 (3+3)	~\$1.6M	Participated in proposal writing (>30%)
Ministry of Education (MOE) & Ministry of Science and ICT (MSIT)	Laboratory-Specialized Tech-Transfer & R&BD Grant	2020–2021	~\$40,000	Grant writing, experimental design & technical validation

All grants were held by the institutional Principal Investigator (Ph.D. advisor at SNU; company CEO/CSO at PB Immune Therapeutics); the listed roles reflect the applicant's contribution to proposal writing and project execution, **not as PI**. Budgets converted at ≈ ₩1,400 / USD.

AWARDS, PATENTS & SCHOLARSHIPS

PATENTS

2024 Antagonistic Anti-CD40 Humanized Antibody. Republic of Korea, Appl. No. 10-2024-0085972; registered 2024-07-01. Co-inventor.

2019 **Immunosuppression Composition Comprising JAK Inhibitor.** Republic of Korea, Appl. No. 10-2014-3490000; registered 2019-08-20.

AWARDS

2024 **Grand Prize**, 2024 GPTers AI Hackathon (Project GAIA Team)

2023 **Grand Prize**, SBA Smart Workathon (Work Process Innovation)

2017 **Best Poster Award**, American Transplant Congress, Chicago · **Best Presentation Award**, Korean Association of Immunologists

SCHOLARSHIPS

2014-2020 NRF Research Scholarship for Ph.D. Candidates · Dean's Lecture & Research Support Scholarship, SNU College of Medicine · BK21 Plus Research Scholarship

■ SELECTED PRESENTATIONS

Poster KAI Annual Meeting, Incheon (2022) · Cytokine, Hawaii (2022) · American Transplant Congress, Chicago (2017) · The Transplantation Society, Hong Kong (2016) · IPITA/IXA/CTS, Melbourne (2015) · TREG, Shanghai (2012)

■ REFERENCES

Chung-Gyu Park, M.D., Ph.D.

Professor, Microbiology & Immunology / Biomedical Sciences,
SNU College of Medicine; CEO/CSO, PB Immune Therapeutics
· chgpark@snu.ac.kr

Doctoral advisor and industry supervisor; directed the anti-CD40 antibody program.

Seung-Kuy Cha, Ph.D.

Professor, Dept. of Physiology & Global Medical Science,
Yonsei University Wonju College of Medicine ·
skcha@yonsei.ac.kr

Most recent research supervisor (2025-2026).

Hyun Je Kim, M.D., Ph.D.

Assistant Professor, Microbiology & Immunology / Biomedical Sciences; Interdisciplinary Program in Artificial Intelligence (IPAI), SNU · tte9801@snu.ac.kr

Co-corresponding on the single-cell studies; supervised the computational work.

Jeong Seok Lee, M.D., Ph.D.

Associate Professor, Graduate School of Medical Science & Engineering, KAIST, Daejeon · chemami@kaist.ac.kr

Corresponding author, PDE4D / Nature Immunology study.

Seong-Jun Kang · Curriculum Vitae · Hyman Lab

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