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Report of KU - UZH Joint Research Project

Section 1

Project title:	Co-creation of an integrated transcription therapeutic approach to regulate allergic immune response
Project coordinator (KU) Name Position Faculty, department	NAMASIVAYAM Ganesh Pandian, Principal Investigator and Junior Associate Professor, Graduate School of Engineering/Department of Molecular Engineering/Institute for Integrated Cell Material Sciences
Project coordinator (UZH) Name Position Faculty, department	Cezmi AKDIS, Director and Professor, Faculty of Medicine, Swiss Institute of Allergy and Asthma Research, University of Zurich
Period of project	From: July 2023 To: March 2024
Project location	Kyoto University and University of Zurich
No. of participants	[KU] Faculty members: 2 Students: 2 Others: 1 [UZH] Faculty members: 2 Students: 2 Others: 1 Others: *A participant list can be attached instead of completing the above section. The list should include the details above.
URL at which project outcomes can be viewed (e.g. workshop notifications/programs/reports, evidence of academic papers published or otherwise made available, etc.)	Academic Paper 1: https://onlinelibrary.wiley.com/doi/pdf/10.1111/all.15959 Academic Paper 2: https://www.authorea.com/users/397591/articles/733348-subcutaneous-adipose-tissue-implications-in-dermatological-diseases-and-beyond Link of Academic Program: https://www.wirm.ch/wp-content/uploads/2024/03/1FinalProgram2024druckoAbstracts.pdf
Photographs with captions	 <p>Team UZH Project co-ordinator Prof. Cezmi and his team with Team KU Project co-ordinator Prof. Namasivayam in UZH campus, Davos.</p>



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Section 2

Summary of the project (approx. 200 words)

Considering the recent surge in evidence showing the role of epithelial barrier leading to increased susceptibility to allergic immune responses, there is a growing need to target allergy-associated genes on demand. While small-molecule drugs have shown some promise, the variation among patients and the need to control genes at the right place and time in the various layers of the skin are significant concerns. To overcome this unmet need, the teams from the University of Zurich (Team UZH) and Kyoto University (Team KU) collaborated to co-create an integrated therapeutic approach by constructing SMART (=programmable molecular recognition) transcription factors [SMART-TFs] to regulate allergic immune response on demand. In this fiscal year, Team UZH shared the unpublished new target genes that they identified as essential in allergic immune response; Team KU designed SMART-TFs targeting key target sequences that govern their gene expression. Prof. Namasivayam visited Prof. Cezmi Akdis's lab at UZH to finalize the target genes after discussing them with his team members. Prof. Namasivayam also delivered an invited plenary lecture at the World Immune Regulation Meeting-2024, which was organized by Prof. Cezmi. As a result, he was offered a visiting faculty position to collaborate with five additional members in his institute.