Postbiotics Conference 2025 Summary

The **1st International Symposium on Postbiotics** was held on March 11, 2025, at Kyoto University, bringing together researchers across academia, industry, and healthcare to explore the emerging science of postbiotics. The conference defined **postbiotics** as *bioactive compounds produced during microbial metabolism that benefit host health* and highlighted their potential as next-generation tools for precision nutrition, immunotherapy, and drug discovery.

Jun Ogawa (Kyoto University) delivered the keynote, outlining the evolving landscape of gut microbial science and the central role of postbiotics like HYA, a fatty acid metabolite with anti-inflammatory and metabolic benefits.

Jun Kunisawa (NIBIOHN) explained how omega-3-derived postbiotics modulate immune responses, enabling precision nutrition tailored to individual gut microbiota profiles.

Reiko Shinkura (University of Tokyo) introduced heat-killed *E. coli* as a novel mucosal vaccine adjuvant that boosts IgA antibody production, offering a new strategy for broad-spectrum mucosal protection.

Dominique Gauguier (University Paris Cité) presented preclinical evidence of **p-cresol**, a bacterial metabolite that improves glucose tolerance and reduces obesity, suggesting promise in cardiometabolic therapy.

Craig Wheelock (Karolinska Institute) showcased advanced lipidomic techniques to map microbial-derived **octadecanoids**, providing new insights into inflammation and metabolism.

Holden Thorp (Editor-in-Chief, *Science*) delivered a special lecture emphasizing the importance of collaboration and communication in advancing microbiome science.

Hiroshi Itoh, **Junichiro Irie**, and **Ikuo Kimura** reported human trials on **Leuconostoc-derived exopolysaccharides (EPS)**, which improved SCFA production, hormone secretion, and metabolic outcomes.

Makoto Arita (Keio University/RIKEN) highlighted untargeted lipidomics approaches for discovering new bioactive lipids in the host-microbiome interface.

Wataru Ogawa (Kobe University) unveiled a novel **neuro-gut axis** in immobilization-induced muscle atrophy, and showed how the postbiotic HYA could prevent both intestinal and muscle inflammation.

Conference Attendance Overview

- Industry: 53 participants
- Academia: 24 participants
- Students: 12 participants
- Foundations/Other: 1 participant
- **Total: 90 attendees**

The event marked a significant step toward building a global research community focused on postbiotics and their applications in health and medicine. The **2nd Postbiotics Conference is scheduled to be held in the United States**.

Conference Website: https://www.postbiotics.conference.enzyme-eng.com

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