Immunomodulation with eicosapentaenoic acid supports the treatment of autoimmune small-vessel vasculitis

Junichi Hirahashi^{1, 10}*, Kimito Kawahata², Makoto Arita³, Ryo Iwamoto³, Keiichi Hishikawa⁴, Mie Honda³, Yoshifumi Hamasaki¹, Mototsugu Tanaka¹, Koshu Okubo¹, Miho Kurosawa¹, Osamu Takase⁴, Masanori Nakakuki⁵, Kan Saiga⁶, Kazuo Suzuki⁷, Shoji Kawachi⁸, Akihiro Tojo¹, George Seki¹, Takeshi Marumo⁹, Matsuhiko Hayashi¹⁰, Toshiro Fujita^{1, 9}

- Department of Nephrology and Endocrinology, Graduate School of Medicine, The University of Tokyo
- Department of Allergy and Rheumatology, Graduate School of Medicine, The University of Tokyo
- Department of Health Chemistry, Graduate School of Pharmaceutical Sciences, The University of Tokyo
- Department of Advanced Nephrology and Regenerative Medicine, Graduate School of Medicine, The University of Tokyo
- Development Research, Pharmaceutical Research Center, Mochida Pharmaceutical Co., Ltd.
- Pharmaceutical Research Laboratories, Nippon Kayaku Co. Ltd.
- Inflammation Program, Chiba University Graduate School of Medicine
- Division of Anesthesia, Surgical Operation Department, National Center for Global Health and Medicine
- Clinical Epigenetics, Research Center for Advanced Science and Technology, The University of Tokyo
- Apheresis and Dialysis Center, School of Medicine, Keio University

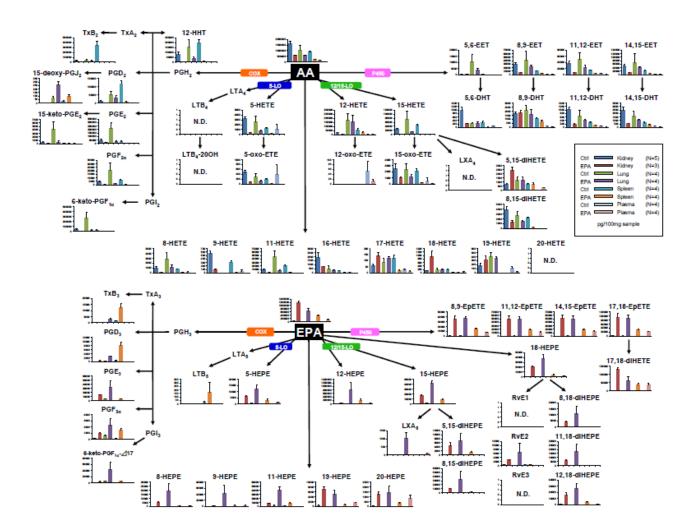
A running title: EPA for the treatment of ANCA Vasculitis

*Corresponding author: Junichi Hirahashi, MD, PhD

Apheresis and Dialysis Center, School of Medicine, Keio University, Shinjuku-ku, Tokyo 160-8582, Japan

Tel: +81-3-3353-1211 Fax: +81-3-5800-9738

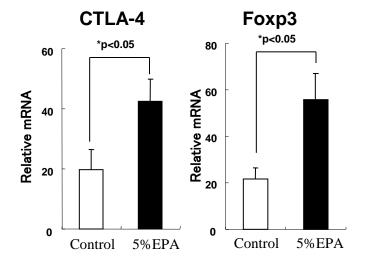
E-mail: jhirahashi24@gmail.com



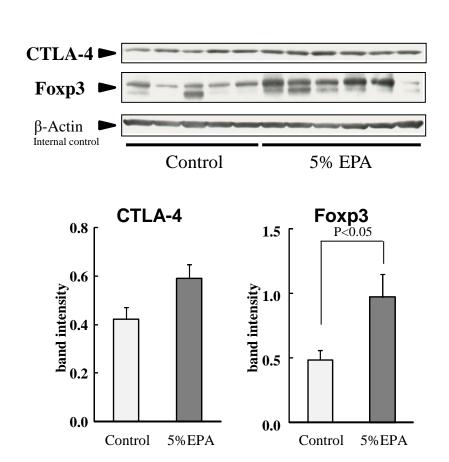
Supplementary Figure S1.

AA and EPA-derived lipid mediator lipidomics in the kidney, lung, spleen, and plasma of 12 weeks old SCG/Kj mice fed contol or 5% EPA-supplemented diet.









Supplementary Figure S2A. Real-time PCR for detection of mRNA expressions of CTLA-4 and Foxp3 in the kidneys from 12-week old SCG/Kj mice, as markers of Tregs. **Supplementary Figure S2B.** Western blot analysis for detection of protein expressions of CTLA-4, Foxp3, and β-actin as an internal control in the kidneys from 12-week old SCG/Kj mice. The intensity of the CTLA-4 and Foxp3 bands was quantified with image analysis software. Data represent mean \pm SEM. *P <0.05 compared with control.