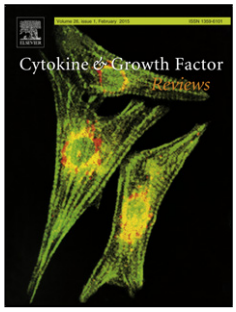

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TITLE PAGE

Innate lymphoid cells in organ fibrosis

Yohei Mikami[1,*], Yoshiaki Takada[1], Yuya Hagihara[1], Takanori Kanai[1,2].

Affiliations:
[1]Division of Gastroenterology and Hepatology, Department of Internal Medicine, Keio University School of Medicine, Shinanomachi, Shinjuku-ku, Tokyo 160-8582, [2]AMED-CREST, Japan Agency for Medical Research and Development, Tokyo 100-0004

***Corresponding author:**
Yohei Mikami (yoheimikami@keio.jp), Division of Gastroenterology and Hepatology, Department of Internal Medicine, Keio University School of Medicine, Tokyo 160-8582, Japan.

Highlights:

- ILCs have a critical role in the mucosal immune response
- ILC2 produces Th2 cytokines in response to alarmin cytokines, such as IL-25, IL-33 and TSLP.
- Th2 cytokines, such as IL-13 and IL-5, mediate tissue fibrosis.
- ILCs can contribute to orchestration of fibrotic responses.

Abstract

Innate lymphoid cells (ILCs) are a recently identified family of lymphoid effector cells. ILCs are mainly clustered into 3 groups based on their unique cytokine profiles and transcription factors typically attributed to the subsets of T helper cells. ILCs have a critical role in the mucosal immune response through promptly responding to pathogens and producing large amount of effector cytokines of type 1, 2, or 3 responses. In addition to the role of early immune responses against infections, ILCs, particularly group 2 ILCs (ILC2), have recently gained attention for modulating remodeling and fibrosis especially in the mucosal tissues. Herein, we overview the current knowledge in this area, highlighting roles of ILCs on fibrosis in the mucosal tissues, especially focusing on gut and lung. We also discuss some new directions for future research by extrapolating from knowledge derived from studies on Th cells.

List of abbreviations used: AIEC, adherent invasive E. coli; AMCase, acidic mammalian chitinase; AMPK, adenosine monophosphate-activated protein kinase; Areg, amphiregulin;