

Editorial: immunomodulatory functions of fibroblast-like synoviocytes in joint in...

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Editorial on the Research Topic

Immunomodulatory Functions of Fibroblast-like Synoviocytes in Joint Inflammation and Destruction during Rheumatoid Arthritis

Rheumatoid Arthritis (RA) is a common rheumatic disorder characterized by persistent synovial inflammation and destruction of joints. Fibroblast-like synoviocytes (FLSs) exhibit critical immunomodulatory functions through secretion of inflammatory cytokines and through direct interactions with several synovial-infiltrated immune cell types ([1](#), [2](#)). RA FLSs also display surprisingly aggressive behavior ([3](#)), metabolic changes ([4](#), [5](#)), and epigenetic alterations ([6](#), [7](#)). More interestingly, recent studies have identified and described the biological functions of distinct subclasses of RA FLSs, for instance, FAP α ⁺ THY1⁻ fibroblasts are responsible for bone and cartilage damage, whereas FAP α ⁺ THY1⁺ fibroblasts mediate synovial inflammation ([8](#)). Another study indicates that THY1⁺ HLA-DRA^{hi} fibroblasts contribute to IL-6 expression ([9](#)). Increasing evidence suggests that targeting activated FLS may be a novel therapeutic strategy for attenuating RA joint damage ([3](#)). This Research Topic brings together original and review articles that explore the immunomodulatory functions of FLS in joint inflammation and destruction in RA.

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integrating single-cell transcriptomics and mass cytometry. *Nat Immunol.* (2019) 20: 928–42. doi: 10. 1038/s41590-019-0378-1

10. Luo Y, Zheng SG. Hall of fame among pro-inflammatory cytokines: interleukin-6 gene and its transcriptional regulation mechanisms. *Front Immunol.* (2016) 7: 604. doi: 10. 3389/fimmu. 2016. 00604