

# [Editorial: immunomodulatory functions of fibroblast-like synoviocytes in joint in...](https://assignbuster.com/editorial-immunomodulatory-functions-of-fibroblast-like-synoviocytes-in-joint-inflammation-and-destruction-during-rheumatoid-arthritis/)

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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](#B1) , [2](#B2) ). RA FLSs also display surprisingly aggressive behavior ( [3](#B3) ), metabolic changes ( [4](#B4) , [5](#B5) ), and epigenetic alterations ( [6](#B6) , [7](#B7) ). More interestingly, recent studies have identified and described the biological functions of distinct subclasses of RA FLSs, for instance, FAPα + THY1 − fibroblasts are responsible for bone and cartilage damage, whereas FAPα + THY1 + fibroblasts mediate synovial inflammation ( [8](#B8) ). Another study indicates that THY1 + HLA-DRA hi fibroblasts contribute to IL-6 expression ( [9](#B9) ). Increasing evidence suggests that targeting activated FLS may be a novel therapeutic strategy for attenuating RA joint damage ( [3](#B3) ). 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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3. Bottini N, Firestein GS. Duality of fibroblast-like synoviocytes in RA: passive responders and imprinted aggressors. *Nat Rev Rheumatol.* (2013) 9: 24–33. doi: 10. 1038/nrrheum. 2012. 190

4. McGarry T, Fearon U. Cell metabolism as a potentially targetable pathway in RA. *Nat Rev Rheumatol* . (2019) 15: 70–2. doi: 10. 1038/s41584-018-0148-8

5. Zou Y, Zeng S, Huang M, Qiu Q, Xiao Y, Shi M, et al. Inhibition of 6-phosphofructo-2-kinase suppresses fibroblast-like synoviocytes-mediated synovial inflammation and joint destruction in rheumatoid arthritis. *Br J Pharmacol.* (2017) 174: 893–908. doi: 10. 1111/bph. 13762

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9. Zhang F, Wei K, Slowikowski K, Fonseka CY, Rao DA, Kelly S, et al. Defining inflammatory cell states in rheumatoid arthritis joint synovial tissues by integrating single-cell transcriptomics and mass cytometry. *Nat Immunol.* (2019) 20: 928–42. doi: 10. 1038/s41590-019-0378-1

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