

## Product

Anti-inflammatory siRNA-IgG Conjugate

## Indication

Rheumatoid Arthritis

## Value Propositions

- ▶ Novel target for RA treatment
- ▶ Enhanced efficacy over antibody or small molecule treatment alone

## Market

- ▶ \$24.4 billion—Global Rheumatoid Arthritis market (5.4% CAGR 2021-2027)

## Intellectual Property

- ▶ US Patent No. 10,278,986\*
- ▶ Available for licensing

## Contact

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Ref# CU3538H

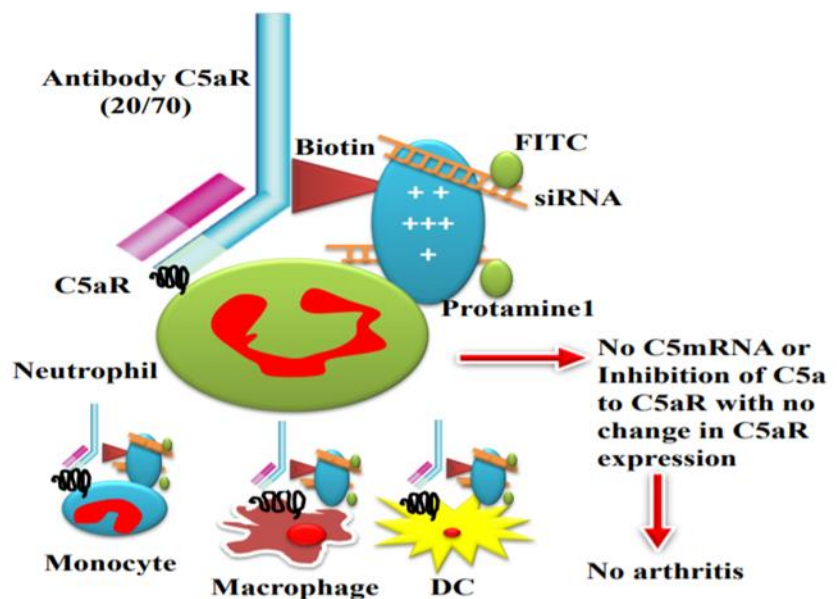
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## Background on CU3583H

New Rheumatoid Arthritis (RA), an inflammatory autoimmune disease of the joints, affects approximately 0.24% of the world population. This number will rise as the population continues to age. Patients suffering from RA initially experience joint pain which often progresses to joint destruction ultimately leading to disability. It has been estimated that in the US, close to 800,000 adults are work-disabled due to this disease. While the Biological class of therapeutics has vastly improved life for some Rheumatoid Arthritis (RA) patients, many respond partially or not at all. Therefore, there is an urgent need for new therapeutics to treat RA.

## Technical Innovation

Dr. Band and colleagues have identified novel targets in the complement system for the treatment of rheumatoid arthritis (RA). Previous work from this group has demonstrated the importance of C5-C5aR in RA, demonstrating viable targets for treatment. Dr Banda aims on utilizing a combined approach to simultaneously inhibit C5 expression and C5aR signaling using anti-C5 siRNA carried by C5aR inhibitory antibodies. These novel conjugates have successfully been tested in murine animal models and have shown increased efficacy compared to inhibitory antibody alone. Researchers propose that delivering siRNA targeting C5 via an inhibitory C5aR antibody will synergistically inhibit complement via a two-hit mechanism.



**Figure:** Diagram of the siRNA-IgG conjugate with the 4 targeted cell types at bottom of figure. Anti-C5aR(20/70) is an inhibitory antibody

\* US Patent: 10,278,986—"ANTIBODY - SIRNA CONJUGATES AND USES THEREFOR"—Issued May 7<sup>th</sup>, 2019