

Technical Brief

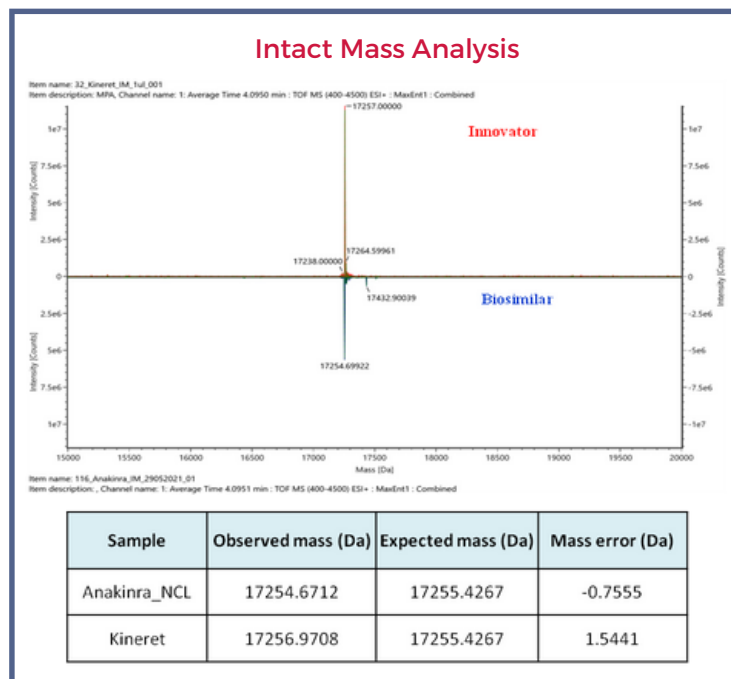
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Anakinra Biosimilar

About Anakinra

Anakinra, sold by Swedish Orphan Biovitrum, under the brand name Kineret, is a recombinant, nonglycosylated form of the human interleukin-1 receptor antagonist (IL-1Ra), that can reduce the activity of interleukin-1, a key driver of inflammation in autoimmune and autoinflammatory diseases. It is used in rheumatoid arthritis as a second in line treatment to a Disease Modifying Anti Rheumatic Drug, in addition to treating Still's disease, Neonatal-onset multi-system inflammatory disease, and more. However, treatment costs remain high, with \$ 1194 (for 4.69 ml) and \$ 3811 (for 18.76ml).

Selected Biosimilarity Data

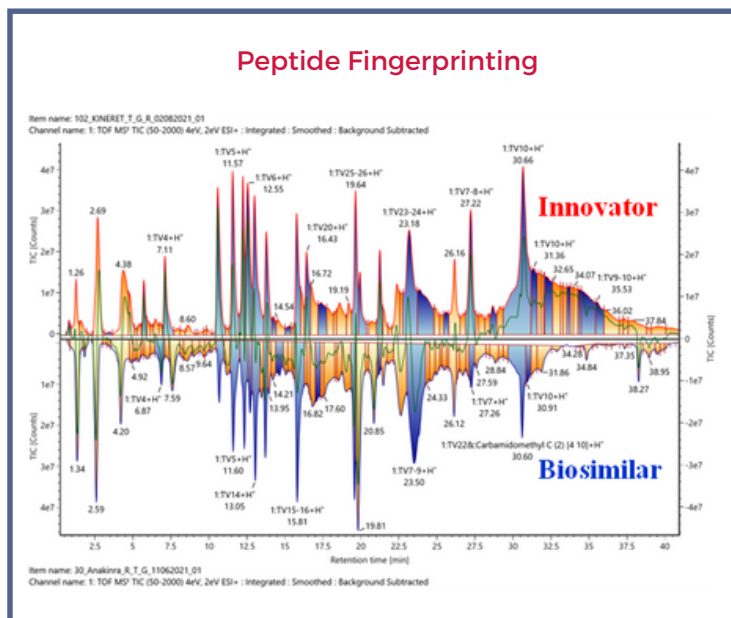


Technology Offering

- Clone, upstream and downstream process for producing biosimilar Anakinra
- Soluble expression of Anakinra eliminating in-vitro refolding step
- Purification process involving novel multimodal chromatographic purification steps > 2X improvement in productivity
- Time and cost effective expression avoiding in-vitro refolding of protein
- Soluble protein expression > 1gm/L of fermentation broth

Market Potential

Nearly 4% of the world's population is affected by one of more than 80 different autoimmune diseases, rheumatoid arthritis being one of the most common. However, very few companies seem to be working on developing biosimilars of the molecule. The biosimilar is also currently being tested for newer indications such as COVID.



Current Technology Status

- Development of Hypotheses and Experimental Designs Done
- Non-clinical *in-vitro* studies: Physicochemical characterization for Biosimilarity Done
- Non-clinical *in-vitro* studies: Functional characterization for Biosimilarity Done

For more info and biosimilarity data, please click:

[Tech Pitch PPT](#)

[Tech Pitch Video](#)