

3rd International Conference and Exhibition on **Biowaivers, Biologics & Biosimilars**

October 27-29, 2014 Hyderabad International Convention Centre, Hyderabad, India

Recombinant version of streptokinase: An overview

Alice Jaya Pradha Cheekurthy
Acharya Nagarjuna University, India

Biosimilars are the second generation drugs that are substitutes for original biological medicine developed after the expiry of patent or nearing the patent expiries are referred Biosimilars. These are subjected to separate market approval. They are similar to the biologics in physicochemical, biological and immunological characteristic aspects and not the same. The cost of the present life saving biological medicines for therapeutic procedures is likely to be cut down with the use of biosimilars. The clinical performance and safety remains as a challenge for biosimilars. Globally Streptokinase is a 47kD protein which is a blood clot buster used for dissolution of blood clots in patients with myocardial infarctions. It is a protein composed of 414 amino acids and is of bacterial origin and is. Native streptokinase is produced as an extracellular secondary metabolite during the fermentation of beta hemolytic streptococci strains. The biosimilar or the recombinant version of native streptokinase is expressed during the fermentation as intracellular component of E. coli carrying appropriate plasmid DNAs. This fermentation process is scaled up from 1.5L to the pilot production. SDS-PAGE and Western blotting techniques are performed to see the expression of this protein. The protein isolated with approximately 98% purity by chromatographic means. R-streptokinase which is cheaper and safe has replaced the native streptokinase. The quantity can be increased by fed-batch fermentation by changing the dissolved oxygen concentration and composition or quantity other components required for growth.

Biography

Alice Jaya Pradha Cheekurthy worked as Project Assistant in Biochemical Engineering Process Research Division, Institute of Microbial Technology (CSIR) Chandigarh in DBT sponsored project on Optimization and Control of bioreactors for production of Native and Recombinant Streptokinase using neural networks under simulated industrial conditions.

alicejaya@gmail.com