

## **IMTECH's Streptokinase contributions worth Rs.20,000 crore**

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A recent survey report by CSIR has stated that the societal contributions by IMTECH's research on developing indigenous methods of Streptokinase production are valued at Rs.20,000 crore. Dr. Girish Sahni, Director, IMTECH, who has headed the Streptokinase project says, "In a survey conducted by CSIR, it was found that the different brands that have emerged from the technologies that were licensed from IMTECH, constitute about 45-50% of the total market share for Streptokinase in India." Industry estimates peg the Streptokinase market to be in the whereabouts of \$20million. Dr.Sahni says that the Streptokinase market is expanding, and even though the number of doses are increasing, the costs are decreasing,

The Streptokinase story is said to be one of CSIR's and Indian research's definitive stories for successful applied technology transfer from academia to the industry that has had a direct impact on human life. The continuing project has involved 10 years of hard work by over 50 scientists working at IMTECH. Streptokinase was available in Western countries as a treatment modality for myocardial infarctions since the 1980s but had to be imported in India for almost two decades. The first generation of Streptokinase developed at IMTECH, the natural streptokinase was transferred to Zydus Cadila and successfully produced in 2001. This product is still being sold, at one third the price of the imported version.

IMTECH then outlicensed the know-how for the production of recombinant streptokinase to Shasun Chemicals and Drugs, which launched it in 2009.

Currently, the third generation streptokinase, a clot specific one has been developed and outlicensed to Nostrum Pharmaceuticals. Earlier the deal was pegged at Rs. 5.5 million, but once IMTECH started developing a 4th generation streptokinase simultaneously, the deal was extended to Rs. 150 million in the form of cumulative milestone based payment for both the types of Streptokinase. The Phase I trials for the third generation streptokinase have now completed and show extremely positive results when it comes to safety, according to Dr.Sahni. This version does not destroy blood factors such as fibrinogen, like the previous versions, which lead to bleeding.

IMTECH is also currently developing the 4th generation which will avoid re clotting, which occurs in 20-30% of patients. They have filed for patents for the same as well, however this research is in extremely early stages.

Nostrum can further outlicense it to different companies as per the markets, once it comes to the market. Dr. Sahni adds, that the clinical trials for the third generation streptokinase were cleared in a record time of 6 months by the DCGI. He believes that, the fact that this was a joint venture with a renowned research institute, and not just a private company worked in their favour.

Dr.Sahni adds, " We have directly saved lives with the technology, as it is not just the elite who have heart attacks. I think the inspiration for pursuing this research germinated when a doctor at a hospital in Chandigarh told me that they had to turn away people for treatment, since it would be too costly. That inspired me the most. No reward is equivalent to the knowledge that our research has helped to save lives"

Widely considered to be a pioneer in translational research in India, Dr. Sahni signs off by saying, "Indian researchers do have the capability to do so much more, they just have to rearrange their work to more application oriented research such that it can have tangible results. I believed it is not a challenge of capabilities , but of the mindset."