GENNOVA

Acute Myocardial Infarction

Tenecteplase

Elaxim®

For use in the reduction of mortality associated with Acute Myocardial Infarction (AMI)

Transforming
Healthcare

www.gennova.bio

17.9 Million

deaths each year due to CVDs

Estimated to reach

23.0 Million by 2030

SOURCE : WORLD HEART FEDERATION[2]

IN INDIA DEATHS DUE TO CVDs HAVE INCREASED BY OVER 50% OVER THE PAST 5 YEARS

SOURCE : THE LANCET[3]

Cardiovascular Diseases (CVDs) have surpassed infectious diseases in developing nations as the leading cause of death and is a major cause of disability worldwide. Globally, 17.9 million deaths were reported in 2019 due to CVDs representing 32% of the total deaths. About 75% of these deaths occurred in the LMICs. [1]

Heart attack, also called as myocardial infarction, occurs when the heart muscles do not get enough blood due to a block or clot in the blood vessel. The damage to the heart increases with time without treatment to restore blood flow.

TREATMENT

The treatment includes restoration of blood supply by percutaneous coronary intervention (PCI) or by giving a thrombolytic drug.

Thrombolytic drugs work by breaking down the clot or thrombus that helps to restore the blood flow to the heart muscle. Reperfusion by thrombolysis using older generation thrombolytes is often gradual and incomplete. The current treatment for AMI such as reteplase and alteplase have low fibrin specificity, needs a longer time for administration and are susceptible to t-PA inhibitor, PAI-I.

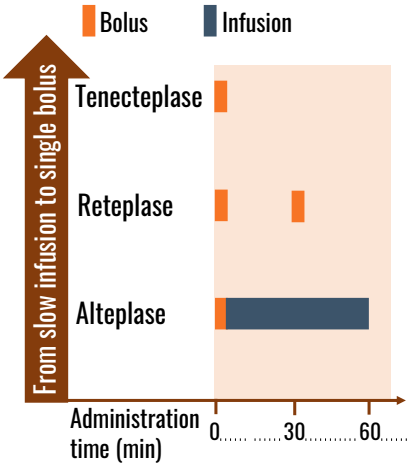
GENNOVA'S INNOVATION

Gennova is the first Indian biotech company to launch a biosimilar of tenecteplase, a third-generation thrombolytic for acute myocardial infarction (AMI).

It can be administered as a single bolus eliminating the need for a lengthy infusion process and resulting in faster treatment after diagnosis. The time saved in this process reduces heart damage significantly. Our innovation makes this thrombolytic treatment available to the masses.

ADVANTAGES OF THE 3RD GENERATION THROMBOLYTE

- Administered as a single bolus
- Dose: 0.2 mg/kg body weight
- Longer half-life of 18-22 min
- 14-fold greater fibrin specificity than alteplase
- 80 times lesser susceptibility to plasminogen activator inhibitor-1 (PAI-1) than alteplase



1. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3860598/
2. https://world-heart-federation.org/wp-content/uploads/World-Heart-Vision-2030.pdf
3. https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(18)30407-8/fulltext

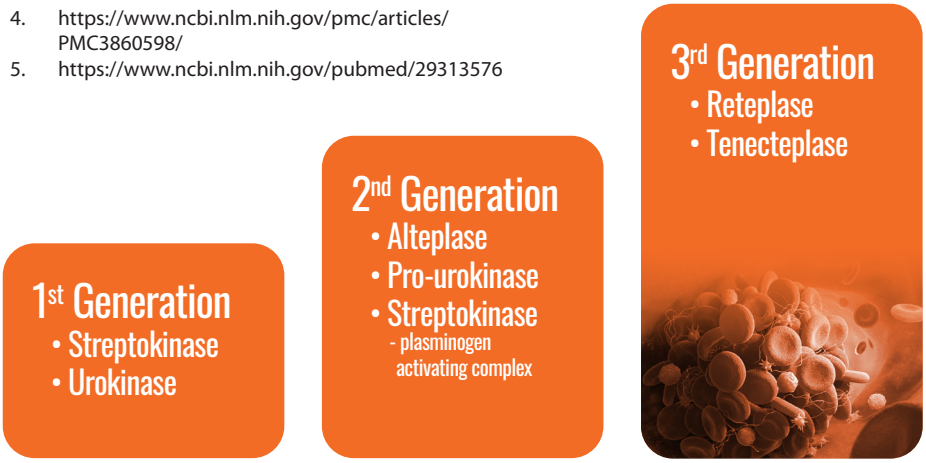
Greater fibrin specificity allows for faster and more complete clot lysis with decreased bleeding complications. The long half-life permits a single bolus dose.

Gennova launched **Elaxim®** in the market in 2007. To date, **Elaxim®** has benefitted **~350,000 patients** around the globe. Post-marketing surveillance registry data with **Elaxim®** from 22,890 STEMI patients has been published, which demonstrated the safety and efficacy of the drug in a wide population pool.[4,5]

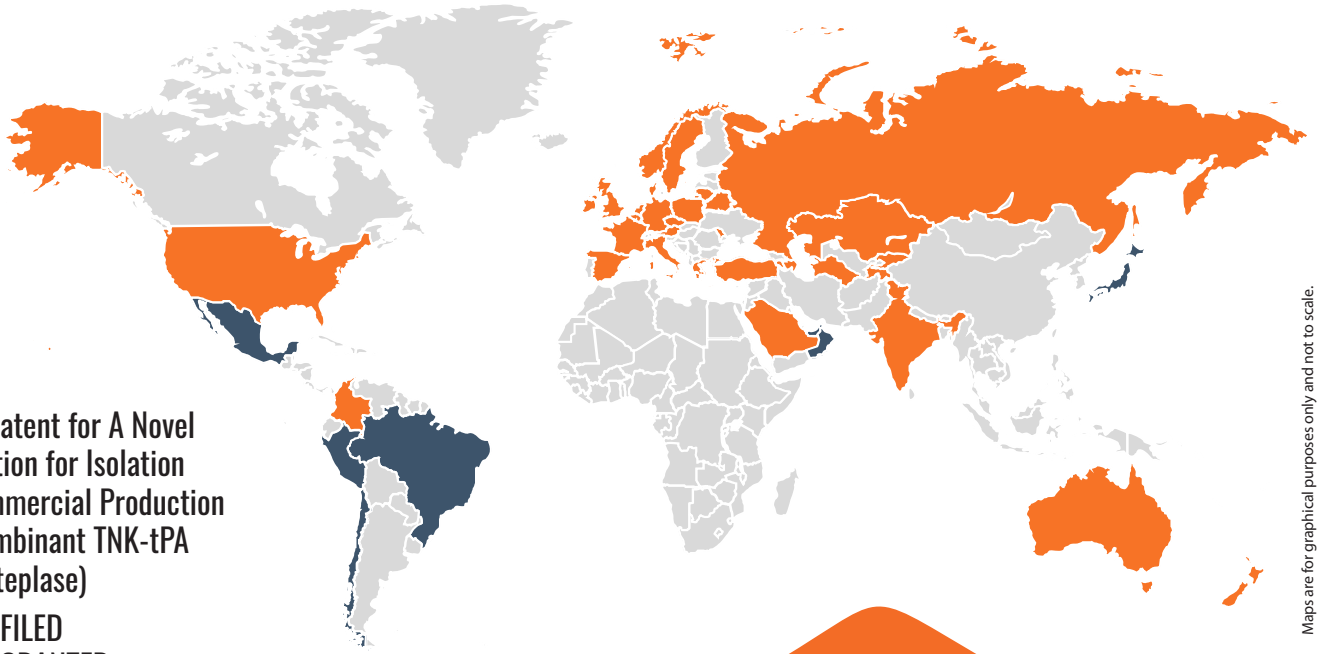
Innovation in bio-manufacturing at Gennova made available the 3rd generation thrombolytic treatment in India for acute myocardial infarction.

Gennova succeeded in making the drug highly competitive in the Indian market by launching at nearly one-third the price of the innovator in 2007. Today, **Elaxim®** continues to be the market leader in India (as per IMS), a significant scientific and commercial achievement which can be attributed to Gennova's proprietary innovative manufacturing technologies.

4. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3860598/
5. https://www.ncbi.nlm.nih.gov/pubmed/29313576



GENERATIONAL CLASSIFICATION OF THROMBOLYTIC AGENTS



Maps are for graphical purposes only and not to scale.

Global Patent for A Novel Purification for Isolation and Commercial Production of Recombinant TNK-tPA (Tenecteplase)

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Gennova Biopharmaceuticals Limited, headquartered in Pune, India, is a biotechnology company dedicated to the development, production and commercialization of bio-therapeutics to address life-threatening diseases across various indications. Incorporating recombinant DNA technologies together with innovative bio-manufacturing practices, Gennova has created cost effective solutions for manufacturing and successfully commercializing bio-therapeutics across cardiovascular, neurology, nephrology and oncology markets. Gennova has developed an mRNA-based platform technology for a COVID-19 vaccine.

GENNOVA

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