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China's first personalised neoantigen-targeted cancer vaccine gets clinical trial approval

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The first in-house developed cancer vaccine candidates by Likang Life Sciences

Likang Life Sciences has received National Medical Products Administration (NMPA) approval for the clinical trial of its personalised neoantigen-targeted vaccine for advanced solid tumors, LK101 Injection. This is the first personalised neoantigen vaccine & mRNA editing product approved by the NMPA to enter clinical stage.

On December 22, 2022, Likang submitted an IND application for LK101 Injection to NMPA, and received application shortly after. LK101 Injection, the first in-house developed cancer vaccine candidates by Likang, is a personalised neoantigen-targeted cancer vaccine and also a dendritic cell (DC)-based mRNA vaccine that combines advantages of both mRNA technology and DC by transducing mRNA encoding personalized tumor antigen targets based on dozens of patient-specific tumour mutations information into dendritic cells.

The mRNA editing technology is a highly convenient method that can encode multiple antigens at once while maintaining rapid, efficient expression, making it suitable for the development of personalized cancer treatments. DCs, which are highly specialized and strong antigen-presenting cells in human immune system, have been utilized in the development of tumor vaccines. DC vaccines have demonstrated high safety and good tolerance, effectively activating tumor-specific T cells and establishing immunological memory, resulting in long-term anti-cancer effects. The combination of mRNA vaccine and DC vaccine provides a potential breakthrough in the field of personalised neoantigen treatment, offering an effective and safe approach for patients to fight against cancer.