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Three Chinese vaccines against COVID-19 are on the way

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Two COVID-19 inactivated vaccines were just approved for a phase I & II combined clinical trial by the NMPA of China



According to the latest news from Science and Technology Daily, two COVID-19 inactivated vaccines were just approved for a phase I & II combined clinical trial by the National Medical Products Administration (NMPA) of China, making them the first batch in this category. The two vaccines were developed respectively by Wuhan Institute of Biological Products Co., Ltd of Sinopharm and Sinovac Research & Development Co., Ltd together with research institutes.

The team of Chen Wei, academician at China Academy of Engineering and researcher at Academy of Military Medical Sciences, managed to get clinical trial approval for the recombinant COVID-19 vaccine they developed on March 17th.

"We are taking the lead in developing COVID-19 vaccines in a global perspective," said Wang Junzhi, academician at China Academy of Engineering. Then he proposed four factors for this achievement: early start, accurate direction, being science-based and collaboration from all parts.

Vaccine is the most powerful weapon to defeat COVID-19.

China made the decision to accelerate the pace based on rational judgement and organization with the premise of safety assurance. As early on January 21st, the Ministry of Science and Technology (MOST) announced the establishment of an expert group of joint epidemic prevention and control against COVID-19.

The expert group had decided on five directions for vaccine development: inactivated vaccines, genetic engineering subunit vaccines, adenovirus vector vaccines, nucleic acid vaccines, and vaccines using attenuated influenza virus as vectors. All five directions were to be followed at the same time. Eight teams of advantage in vaccine development were singled out to collaborate on this mission with a detailed plan of work nodes accurate to the day.

Chen Wei's mentioned that mutual target antigen, pathogenesis and receptor could be identified quickly with the help of bioinfomatics and big data mining once the variation in Virus appears. And vaccine development can be improved swiftly accordingly.

On March 17th, the team's recombinant COVID-19 vaccine was approved for clinical trial, which took place one month in advance than expected. By April 2nd, all 108 subjects of phase I clinical trial in Wuhan had been inoculated. On 9th, phase II clinical trial, which has a larger scale and introduces placebo control groups, started recruitment for volunteers.

Lei Chaozi, head of Department of Science and Technology of the Ministry of Education, introduced the current achievements: research on the safety and validity of experimental animal for attenuated influenza vector vaccine is ongoing and pre clinical trial research for vaccine candidates and application for clinical trial are expected by the end of April; animal experiments on mice and rabbits regarding recombinant protein vaccine are being conducted and the technology of large-scale production of vaccine with high quality and purity has been mastered; nucleic acid vaccine development is a new technology being explored by the whole world, but no such vaccine has entered the market yet.