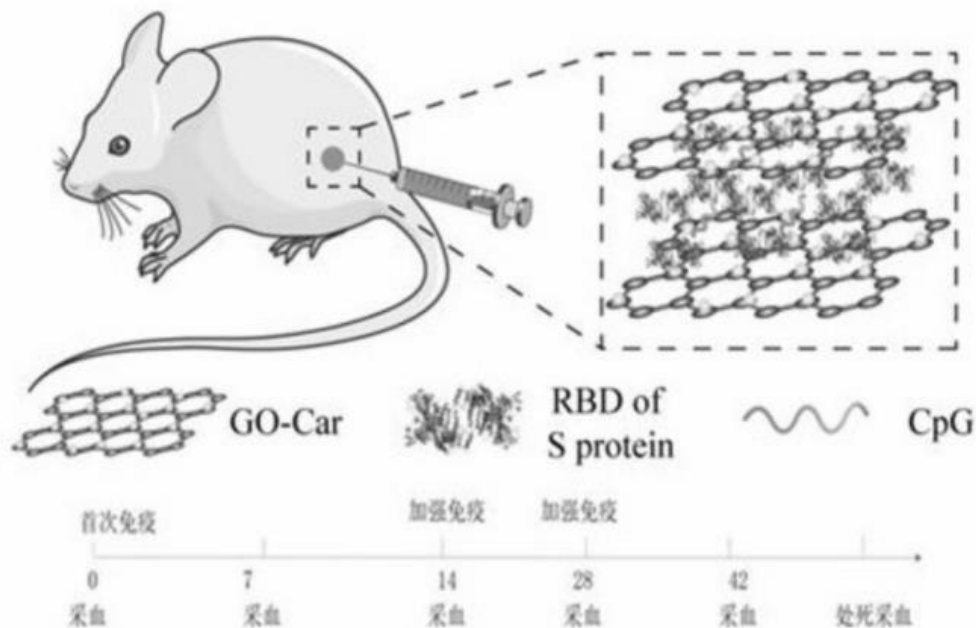


Recombinant nanocoronavirus vaccine that takes graphene oxide as a carrier

July 11, 2021 [mikandersen](#) 2 comments



Reference

- 崔大祥; 高昂; 梁辉; 田静; 李雪玲; 沈琦. (2020). [Patent CN112220919A]. Nanocoronavirus recombinant vaccine taking graphene oxide as carrier. <https://patents.google.com/patent/CN112220919A/en>

Facts

- The patent corresponds to the development of a vaccine for the COVID-19 coronavirus in which graphene oxide is used as a framework to load the CpG molecules ("C" cytosine triphosphate, "G" guanine triphosphate, "p" phosphodiester bond between nucleotides) for the recombination of SARS-CoV-2 Spike proteins to act as immunostimulants.
- This patent shows that graphene oxide is used in coronavirus vaccines, due to its greater activity or efficiency for its absorption and adjuvant capacity. However, this contradicts the previous literature regarding the damage that graphene oxide can cause in the human body, see [scientific references on the toxicity of graphene](#) .
- The vaccine was tested in mice and is considered experimental, with the possibility of developing variants for experimentation in humans.
- The patent describes the preparation procedure and the effects of excitation of the immune system to create antibodies against the COVID-19 coronavirus.

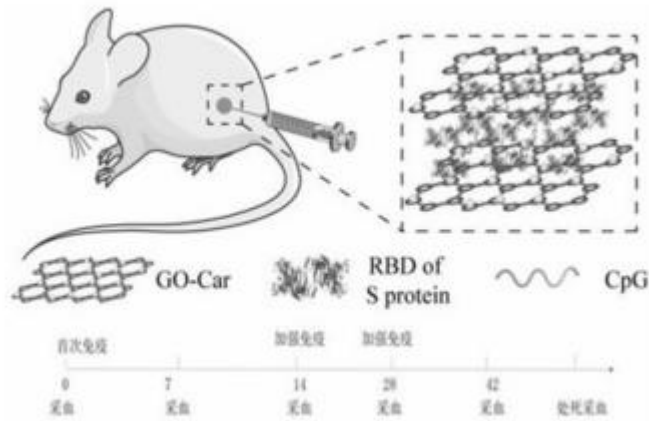


Fig.1. Illustration of the patent for a recombinant vaccine of graphene oxide and proteins. (Patent CN112220919A)

controversies

- The patent has appeared indexed in Google on July 11, as indicated in the following news. However, as of today, the timestamp cannot be verified, since it has disappeared from the search engine's results box. It is strange that a patent published on January 15, 2021, according to its file in Google Patents, takes more than 5 months to be indexed by the search engine. In this sense, there is room for doubt and suspicion that there has been a convenient manipulation for its publication and indexing. However, the Chinese Patent Office CNIPA has been consulted and it has been verified that the patent is registered, it can be verified at the following link:

http://ensearch.cnipr.com.cn/sipo_EN/search/detail.do?method=view&parm=16b414c21a2f19d11b2c18401bcd1a5f182219061ad91be51a781c4c05f92d231f52218222572195236c20482755275723ca24be2221222525702494250d26c0274025822c3f29092a7c29a02d6d2d6f28fa2ed62bd12c892f482c34330947932f5c2c0a2ac731b9333c316c366534e7318235ee337934f1360837f03747371b371a34e231bf38f13b04390c3e0d3f6f39ea3dc63c573d6d3e683e4c26d918c33ffe3c523c273e354334405c47c545774302408e4421459147b04690462146a246c446da436f47554bcc49784a2d

- On the other hand, it is worth mentioning the controversy involved in introducing graphene oxide in vaccines, taking into account the toxicity, damage and problems described in the scientific literature.