C0r0n@ 2 Inspect

Review and analysis of scientific articles related to experimental techniques and methods used in vaccines against c0r0n@v|rus, evidence, damage, hypotheses, opinions and challenges.

Tuesday, July 13, 2021

Graphene nanoparticles targeting siRNA delivery to the brain

Reference

Joo, J., Kwon, EJ, Kang, J., Skalak, M., Anglin, EJ, Mann, AP, ... and Sailor, MJ (2016). Porous silicon - graphene oxide core - shell nanoparticles for targeted delivery of siRNA to the injured brain. Nanoscale Horizons, 1 (5), pp. 407-414. https://doi.org/10.1039/C6NH00082G

Facts

1. The authors present a method to develop "siRNA" interfering RNA therapies with which to treat brain diseases. Porous silicon nanoparticles coated with graphene oxide have been shown to carry a viral load of RNA that can penetrate the target area, evading the activation of the immune system. This allows the accumulation of the siRNA load in the affected or injured area of the brain that has been designated, causing gene interference and silencing for the genetic modification of the disease. In fact it is stated " *Efforts to overcome these obstacles have resulted in a number of siRNA delivery strategies . A variety of approaches have been followed to increase stability and evade immune system activation through the use of viral or non-viral nanocarrier-enabled delivery systems. Viral vectors that deliver siRNAs in the form of the viral genome have been shown to effectively achieve gene silencing, but the challenges of scaling up, low carrying capacity, and safety concerns such as mutagenesis or immunogenicity have so far limited the clinical translation of these constructs* . "
2. The article refers to the mode of administration of the nanoparticle solution " Intravenous administration of the nanoparticles in brain-injured mice results in substantial accumulation specifically at the site of injury ."

Reviews

1. The article demonstrates that graphene oxide is used as a carrier or vector of viral RNA loads. This allows us to infer that it is possible to transmit a virus through graphene oxide nanoparticles, and that these reach the brain. This is very enlightening because it implies assuming that a way has been found to invade the impregnable enclosure of the brain, in order to modify its genetics, affect its functioning with gene therapies or gene silencing, with a procedure very similar to that used in vaccines against c0r0n @ v | rus.

Hypothesis

1. It is hypothesized that vaccines against c0r0n @ v | rus, which present strong evidence of the presence of graphene oxide (Campra, P. 2021), serve to transport messenger RNA mRNA, but also other type of RNA, such as siRNA for gene silencing or interference. All this results in the possibility that they serve to carry viral loads, and even implement human gene editing with CRISPR techniques.

Bibliography

1 Campra, P. (2021). [Report]. Detection of graphene oxide in aqueous suspension (Comirnaty ™ RD1): Observational study in optical and electron microscopy. University of Almería. https://docdro.id/rNgtxyh