

# Pitfalls at Chemistry of Adenoviral Vector Vaccine against COVID-19 and how to Circumvent it

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## ABSTRACT

The coronavirus disease of 2019 (COVID-19) is a pandemic outbreak that causing a number of deaths reached over 3 million since December 2019. Despite the approval and production of several vaccines against SARS-CoV-2 infection, many countries are still suffering from daily deaths due to COVID-19. Although the vaccination's success in reducing the cases infected with SARS-CoV-2, many people globally are still not immunized against COVID-19 due to their doubts about the risks and benefits of the vaccines. Here, we would like to spotlight on vaccines' excipients and how to evade the hurdles of some COVID-19 vaccines. ChAdOx1 nCoV-19 vaccine is an adenovirus vector vaccine designed to provoke immunity against SARS-CoV-2. This vaccine contains several inactive ingredients, including sodium chloride, magnesium chloride hexahydrate, ethanol, sucrose, and Ethylene diamine tetra acetic acid (EDTA) (1). EDTA is a very efficient zinc chelator which is utilized commonly in protein interaction research. Exposure to EDTA even in lower concentrations may cause extreme stripping of zinc from many proteins, including zinc-binding proteins that are described as a component of the largest and most complex gene superfamily in metazoans and the most prevalent category of Vaccines.

## BIOGRAPHY

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