Review of: "The COVID 19 vaccine patent race"

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Potential competing interests: The author(s) declared that no potential competing interests exist.

In this manuscript, Ulrich Storz reviews the history of RNA vaccines, ending with the vaccines for SARS-CoV-2. As a person apparently involved with relevant patents, the author has knowledge of details not generally known. As far this review goes, it is useful. From a strategic point of view, the discussion of the last paragraph is especially useful. However, I and probably many others, are most interested in the following aspects that the author does not discuss but appears to know. Discussion of the following points should be included.

[1] As discussed in the manuscript, RNA vaccines had a substantial history before SARS-CoV-2. As not discussed in the manuscript, extensive attempts were made to obtain RNA vaccines for rabies (caused by another membrane enveloped, ssRNA virus) for at least 10 years before SARS-CoV-2. Why were the rabies vaccines never approved? In the same vein, what aspect of the BioNTech and Moderna vaccines placed these vaccines in a better position for approval than the previous rabies vaccine?

[2] The antigen of all vaccines discussed is the spike protein, which, in its active state, is a trimer. Do these vaccines include extra, perhaps non-coronavirus, sequences to trimerize the spike protein? A trimerization domain from phage T4 fibritin, perhaps? If so, the irony is great because the early work on T4 fibritin was supported by the National Foundation (March of Dimes), from which almost all funding for both polio vaccines was also obtained.

Also:
Explain more directly why reducing the level of uridine was important.

Minor details:

Abstract:

Spelling: approval, inequitable

Page 4,paragraph 4: “comprise” should be “include”; “comprises” should be “includes”.

Page 5, paragraph 3: Not clear