

FACILITATION OF A RAPID RESPONSE BY SELF-AMPLIFYING mRNA VACCINES

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Recent advancements have demonstrated that vaccines based on self-amplifying mRNA have the potential to combine the positive attributes of other types of vaccines without their limitations. The synthetic production methods for their manufacture, combined with the modern tools of bioinformatics and synthetic biology, enable these vaccines to be produced rapidly from an electronic gene sequence. Hence, this approach could permit the concept of vaccines on demand as a rapid response to a real threat rather than the deployment of strategic stockpiles based on epidemiological predictions for possible threats. Although the mRNA vaccine field is in its infancy, the prospects are promising and proof of principle has been established in a variety of preclinical animal models.