

A third of the major vaccine company pipeline is mRNA

LONDON, UK---17th March 2022---ExpertREACT. This month **VacZine Analytics**, a UK-based strategic research publisher exclusively focused on vaccines and infectious diseases, releases a new strategic analysis of the industrial vaccine R&D pipeline. Both historical and future perspectives are discussed.

A recent review of the **Q1 2022 vaccine R&D pipeline (1)** operated by 7 major vaccine developers* indicates that there are 59 verified ongoing programs at clinical development stages, Phases 1-3 focused on 27 different pathogens/indications#. Our analysis shows that GSK has the largest number of individual vaccine programs at 16 and relative newcomer, **Moderna Therapeutics** now is at 2nd place with 12 individual programs, although its **COVID-19** effort encompasses several derivatives of the original mRNA-1273 vaccine (SARS-CoV-2 variant dependent). **Respiratory Syncytial Virus (RSV)** is still the most worked upon vaccine pathogen (9 programs) with already several large Phase III trials underway in both the maternal and elderly segments although GSK's maternal candidate (GRACE Phase III trial) is still on hold due to an unexpected safety signal. New **COVID-19** vaccines, despite several being already licensed, are still under development/or awaiting registration by GSK and Sanofi partnered with various collaborators (SK Bioscience, Medicago and Translate Bio).

One interesting observation is that now **Moderna Therapeutics** is considered a major vaccine player by revenues (\$18.5bn FY2021), the contribution of its R&D pipeline means that the overall large company vaccine pipeline is now approximately **one-third** nucleic acid-based (mRNA + DNA). This is an abrupt change from only 2 years ago when the dominant investigational vaccine platforms were recombinant protein, polysaccharide/protein conjugates and more traditional inactivated/vector-based approaches. In fact, if one looks at nearly 1400 industrial clinical trials initiated since 2014 less than <5% involved nucleic acids and those were mainly DNA constructs in oncology-based applications.

In response to this radical change, instigated by the **COVID-19 pandemic**, Sanofi, GSK and Pfizer (BioNTech) continue to build their nucleic-based vaccine presence in various areas including seasonal influenza but in comparison, they are far behind the pathogen diversity offered by the current **Moderna Therapeutics** pipeline which has recently announced the initiation of a second HIV vaccine trial (mRNA-1574). Sanofi has already mentioned in investor presentations (December 2021) it intends to pursue an mRNA strategy for its elderly RSV program (preclinical) which may encompass a human metapneumovirus antigen (HMPV). It also has an mRNA approach for influenza in Phase 1 (SP0273) and COVID-19 (SP0253) via its Translate Bio acquisition. These developments do signal confidence in nucleic acid technology for applications beyond **SARS-CoV-2** but it does beg the question of how much will the original vaccine players switch their R&D efforts to mRNA?

**GlaxoSmithKline, Sanofi Pasteur, Merck & Co, Pfizer, Janssen Vaccines & Prevention, Takeda Vaccines and Moderna Therapeutics #ModernaTX's core modalities only, excludes BioNTECH's oncology pipeline*

(1) The **VacZine Analytics** Q1 2022 Vaccines Strategic Pipeline Review (CAT No: VAMV084A) (industry only) contains analysis of >1396 total clinical trials operated by >221 companies. More details can be found at:

https://www.vacZine-analytics.com/products-marketviewVAMV084_vaccines_pipeline_review.asp

About VacZine Analytics:

VacZine Analytics is an established strategic research agency based in the United Kingdom. Its aim is to provide disease and commercial analysis for the vaccine industry and help build the case for developing new vaccines and biologics.

For more information please visit our website www.vacZine-analytics.com

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