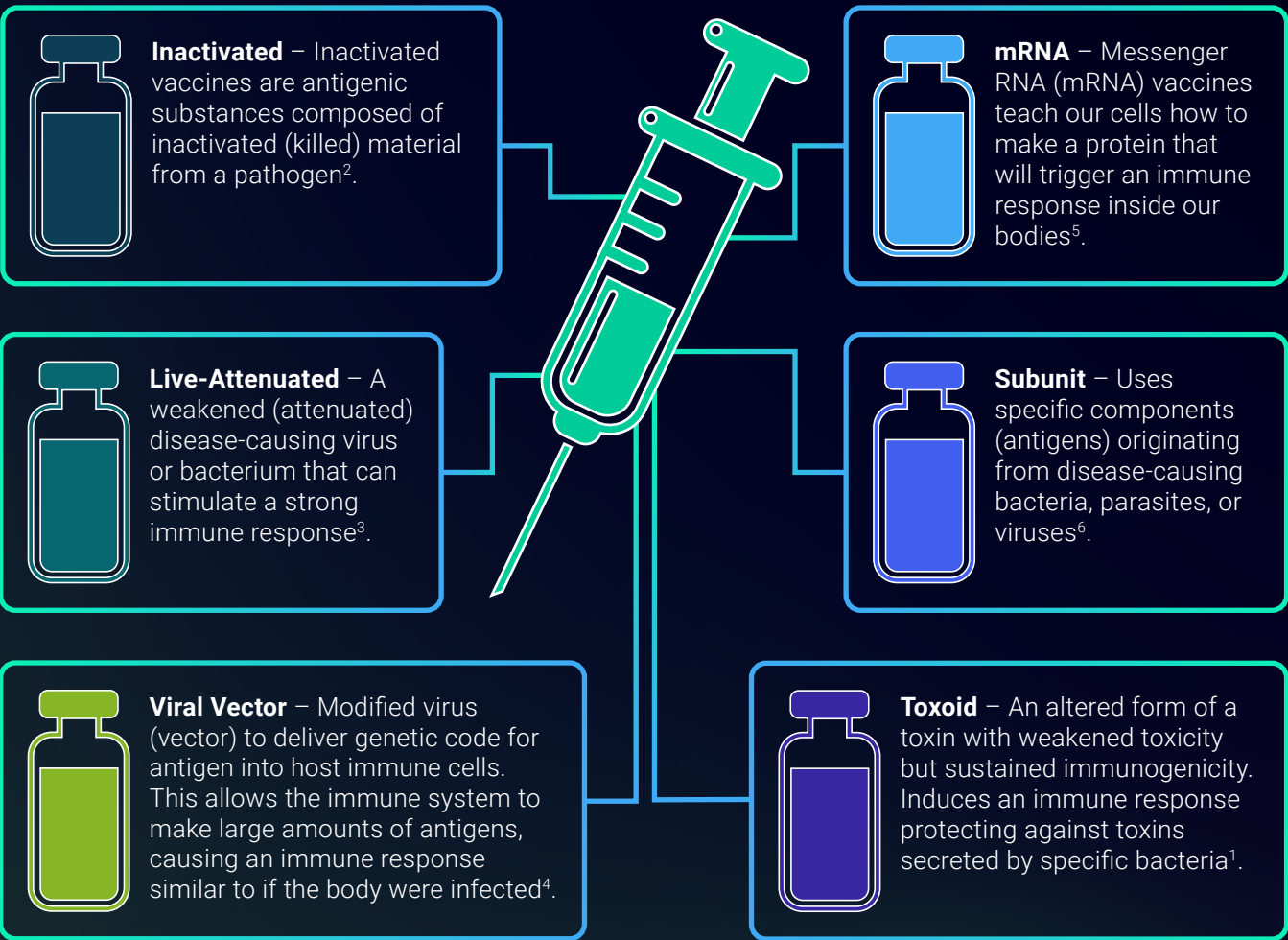


Empowering Vaccine Development with Functional Proteomics

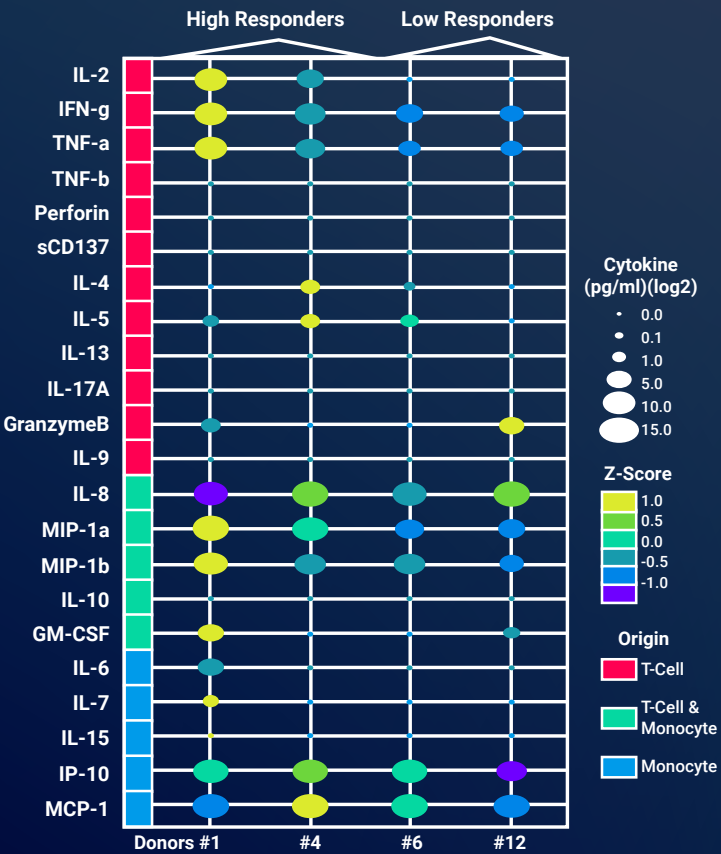
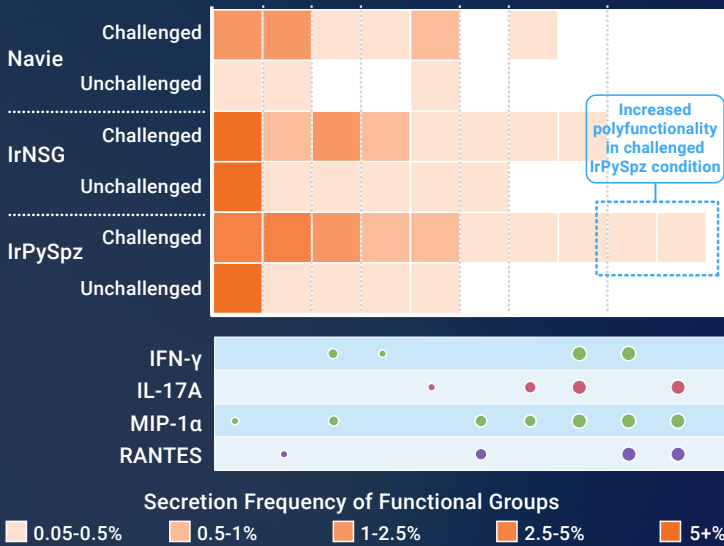
A critical part of vaccine development is to create vaccines that induce a robust, long lasting immune response while maintaining favorable safety profiles. There are several vaccine strategies that researchers are utilizing to achieve safe and effective vaccines¹.



How Functional Proteomics Accelerates Vaccine Development Across the Research Pipeline

Early-Stage Research:

- Development of a malaria vaccine that induces long-term protection has been a major challenge.
- IsoPlexis' Single-Cell Secretome revealed polyfunctional cell subsets associated with anti-malaria protection⁷.
- IsoSpeak's polyfunctional heatmaps can help visualize which vaccines meet protective criteria.



Clinical Research:

- Researchers investigated variable immune responses to SARS-CoV-2 vaccines⁸.
- CodePlex Secretome revealed that cytokines secreted were associated with inflammatory Th1 T cells and monocytes after antigen stimulation. Additionally, IL-2 was only detected in high responders, which could be associated with superior vaccine longevity.
- T cells from high responders secreted a higher abundance and more diverse array of cytokines than low responders.

Single-Cell and Bulk Analyses Play Key Roles in Vaccine Research

Regardless of vaccine type, disease, or stage in the development pipeline, IsoPlexis' proteomic suite of solutions empowers vaccine development by providing highly multiplexed insights, effortlessly. From unmasking highly polyfunctional cells that can be predictive of vaccine-induced protection to investigating varying immune responses, IsoPlexis makes cells and proteomics more accessible to better tackle vaccine development.

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4. Gavi.org. 2022. What are viral vector-based vaccines and how could they be used against COVID-19?. [online] Available at: <<https://www.gavi.org/vaccineswork/what-are-viral-vector-based-vaccines-and-how-could-they-be-used-against-covid-19>>.

5. 2022. COVID-19 | mRNA Vaccines. [online] Available at: <<https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/mrna.html>>.

6. CDC. 2022. Understanding Protein Subunit COVID-19 Vaccines. [online] Available at: <<https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/proteinsubunit.html#:~:text=Protein%20subunit%20COVID%2D19%20vaccines%20contain%20pieces%20of,that%20virus%20in%20the%20future.>>>.

7. Zhou et al. Human Vaccines & Immunotherapeutics 2017.

8. Li L et al. JCI Insight 2022.