



Immunotechnology Services Section Home

History

The roots of immunotechnology trace back to the late 18th century when Edward Jenner introduced the concept of vaccination against smallpox. However, it wasn't until the mid-20th century that significant breakthroughs in understanding the immune system and its applications emerged. The discovery of monoclonal antibodies by Köhler and Milstein in 1975 revolutionized the field, enabling targeted therapies and diagnostic tools.

Evolution till Date

Immunotechnology has evolved from basic vaccine development to sophisticated therapies and diagnostics. The advent of hybridoma technology facilitated the production of monoclonal antibodies, revolutionizing disease diagnosis and targeted treatments. Further advancements in genetic engineering and gene editing techniques have enabled the manipulation of immune responses, leading to personalized immunotherapies against cancer, autoimmune diseases, and infections.

Monoclonal Antibodies

Used in cancer treatment (e.g., Herceptin), autoimmune diseases (e.g., Rituxan), and diagnostics (e.g., pregnancy tests).

2.

Immune Checkpoint Inhibitors

Drugs like Keytruda and Opdivo are transforming cancer treatment by reactivating the immune response.

4.

Immune Profiling

Technologies like flow cytometry and mass spectrometry help characterize immune responses.

6.

Autoimmune Disease Therapies

Immune modulation is used to treat conditions like rheumatoid arthritis and multiple sclerosis.

8.

Immunotherapies for Rare Diseases

Therapies are developed for conditions like Pompe disease and Gaucher disease.

10.