

Developments in Cell Based Therapies

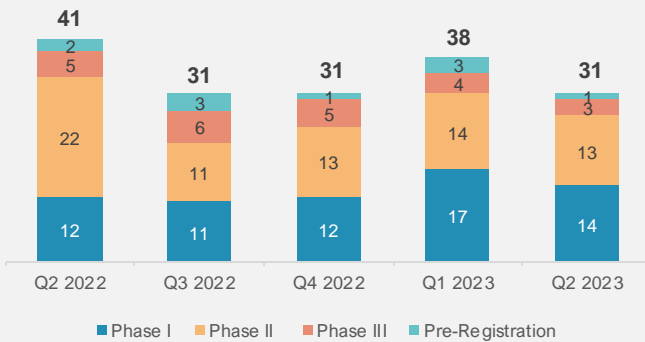
Landscape Overview And Upcoming Trends

Non-genetically modified cell therapies (NGTs) are an emerging field that utilizes the body's own cells to treat diseases like cancer and autoimmune disorders. Despite being in the early stages of development, NGTs have shown promise, with ongoing developments such as various drug approvals, mergers, and start-ups. While some challenges such as safety and cost of care remain, the continued research in this area suggests that NGTs have the potential to revolutionize disease treatment.

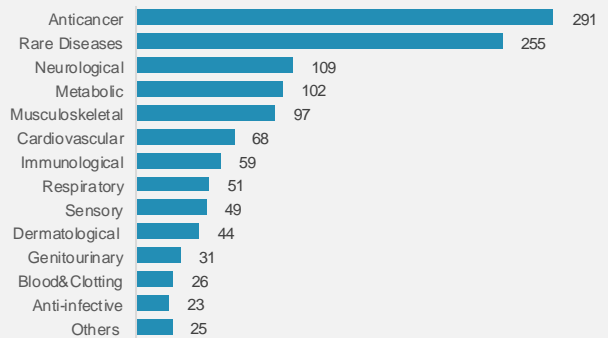
CURRENT DRUG LANDSCAPE

In Q2 2023, 31 new trials were initiated for NGTs. It was observed that out of the 31 new trials, **~58%** were for non-oncology indications, with the top three being acute respiratory distress syndrome, graft-versus-host disease and spinal cord injury.

Number of new trials initiated in each quarter | Figures in units



Therapeutic segmentation of NGT trials | Figures in units



RECENT DEVELOPMENTS

The NGT pipeline is growing fast with **~828** therapies in development (**~22%** of gene, cell, and RNA therapies). Prominent players and start-ups are investing in this sector through M&A, as well as seed financing, drawn by the potential of cell therapy to revolutionize disease treatment.

Recent Approvals in NGT:



Omisirge was approved by the FDA on April 17, 2023 for adults and pediatric patients with blood cancer planning stem cell transplantation.



Lantidra was approved by FDA on July 28, 2023 for the treatment of adults with type 1 diabetes who are unable to reach the target glycated hemoglobin levels.



EMA approved **Ebvallo** on December 19, 2022 for the treatment of Epstein-Barr virus positive post-transplant lymphoproliferative disease in adults and children.

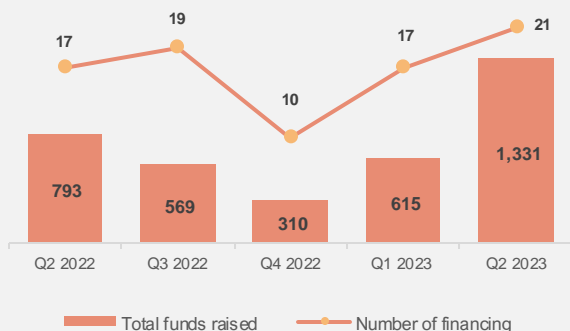
M&A have taken place in 2023 involving key players such as Eli Lilly, Magenta Therapeutics, LBaudax Bio and more.

Jan-23 Eli Lilly announced the acquisition of Sigilon for **USD 344.2 Mn** and its non-viral engineered cell-based therapy platform, Shielded Living Therapeutics.

Jun-23 Magenta Therapeutics, focused on stem cell transplantation, merged with Dianthus Therapeutics to develop innovative treatments for autoimmune diseases.

Jun-23 Laudax Bio acquired Teralimmune, a biotechnology company specializing in novel Treg-based cell therapies for autoimmune diseases.

Start-up financing for gene, cell, and RNA therapy companies



14 Cell Therapy-based startups have received funding from 2022 to Q2 2023:

Thymune Therapeutics Inc. secured **USD 7 Mn** in seed financing to support the development of scalable thymic cell therapies to restore immune function in aging and disease.

Shennon Biotechnologies secured **USD 13Mn** seed financing to accelerate Immunotherapy target discovery with proprietary single-cell functional screening platform.

ImmuneBridge received seed financing worth **USD 12Mn** from M Ventures and Insight Partners to Advance Novel Natural Killer (NK) Cell-based Immunotherapies.

UNMET NEEDS

Gene therapy is showing promising treatment for diverse diseases. However, several gaps and challenges must be overcome before it can achieve widespread adoption.

Need for Safer Therapies	<ul style="list-style-type: none">▪ The current cell therapies for autoimmune diseases, such as hematopoietic stem cell transplantation, can have serious side effects, such as graft-versus-host disease.▪ New delivery methods such as nanoparticles or encapsulation technologies are being developed to help protect cells from the immune system and deliver them to the right location in the body. This increases the safety of the treatment.
Increased occurrences of immune rejection	<ul style="list-style-type: none">▪ NGTs are often rejected by the patient's immune system as the cells are foreign to the patient's body.▪ Immunosuppressive drugs such as Anti-CD20 antibodies are currently under development to solve this issue.
Cost of Care	<ul style="list-style-type: none">▪ The average treatment cost for NGTs has more than doubled from 2019 (approximately USD 275,000) to 2023 (around USD 550,000). This increase is attributed to the complex manufacturing process and the growing demand and usage of NGTs to treat severe diseases.▪ However, organizations such as National Cancer Institute and Patient Access Network Foundation provide financial assistance to patients who cannot afford these therapies.

NGTs are a new area of medicine with the potential to treat a wide range of diseases. Despite challenges, this field is advancing rapidly, and therapies are expected to become more affordable and effective in the future.

Right from understanding key issues to advising you through the right set of insights and recommendations, Aranca Research, consolidation, and insightful analysis will aid in-depth understanding of therapy and effective decision-making

HOW CAN ARANCA HELP?

- 01 Epidemiological Analysis:** Prevalence and diagnosis of the diseases based on geography, gender, race and ethnicity, etc.
- 02 Diagnosis and Treatment Paradigm:** Analysis of diagnosis and treatment algorithm adopted in clinical practice
- 03 Current and Future Landscape:** Current treatments and latest pipeline landscape assessment for a particular therapy area
- 04 Humanistic, Economic Burden and Unmet Need Analysis:** Impact of a disease on the patient's mental and economic well-being
- 05 Health Technology Assessment:** Analysis of HTA decisions published by various countries

Connect with us



info@aranca.com



www.aranca.com/contact-us.php



www.linkedin.com/company/aranca