

KFSH Builds Local Cell and Gene Therapy Capability, Cutting CAR-T Cost and Manufacturing Time

NY, UNITED STATES, September 12, 2026 /EINPresswire.com/ -- King Faisal Specialist Hospital and Research Centre (KFSH) has transformed its CAR T-cell program from dependence on therapies manufactured abroad into a locally produced clinical and research capability. Since launching the program with imported therapies in 2020, KFSH has treated more than 200 patients and, from 2024, begun manufacturing genetically modified T cells on site to shorten the time between clinical decision and treatment.



CAR T-cell therapy works by extracting immune cells from a patient's blood, genetically modifying them to recognize and attack cancer cells, and reinfusing them. Because the therapy is manufactured from each patient's own cells, delivery time is a clinical variable rather than a logistical one: patients with aggressive disease may deteriorate while cells are shipped, processed and returned.

KFSH began manufacturing genetically modified T cells on site in 2024. The process, which previously took up to 28 days when cells were sent abroad, now takes approximately 14 days at the hospital's dedicated facility. Local production has also reduced the cost of therapy from around SAR 1.3 million to approximately SAR 250,000 per patient, while maintaining cell viability and quality standards.

The transition reached the bedside when KFSH treated the Kingdom's first patient with locally manufactured CAR-T cells in a Phase I clinical trial for refractory acute lymphoblastic leukemia. The case connected patient selection, cell collection, local manufacturing, quality control and specialist clinical care within one institution, reducing the logistical risk created when a critically ill patient's cells must be shipped abroad and returned.

KFSH is expanding this capability through the Kingdom's first dedicated facility for manufacturing genetic and cellular therapies, located on its Riyadh campus. Spanning more than 5,000 square meters and designed around 16 modular clean-room clusters that can adapt as therapeutic technologies evolve, the facility is intended to produce CAR T-cell and stem-cell therapies and to meet a meaningful share of national demand for advanced therapies.

The economic case runs alongside the clinical one. Domestic manufacturing removes cross-border shipping dependencies, shortens the interval between decision and treatment, and allows a health system to plan capacity rather than purchase it case by case. The hospital has set a target of scaling to 100 gene therapy treatments annually.

This work supports the National Biotechnology Strategy, which aims to localize biotechnology industries and position Saudi Arabia as a global hub for life sciences innovation by 2040. Advanced therapy manufacturing is among the capabilities KFSH will discuss at the C3 US NYC Davos of Healthcare™ Summit 2026 on September 14 in New York City.

King Faisal Specialist Hospital and Research Centre has been ranked first in the Middle East and Africa and 12th globally among the world's top 250 academic medical centers for 2026. It was also recognized as the most valuable healthcare brand in the Kingdom and the Middle East for 2026, according to Brand Finance, and listed by Newsweek among the World's Best Hospitals, World's Best Smart Hospitals, and World's Best Specialized Hospitals for 2026.

KFSH
Riyadh
[email us here](#)

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