

Reprogramming Hope: Saudi Arabia's KFSHRC Brings Gene Therapy Within Reach

RIYADH, SAUDI ARABIA, October 23, 2025 /EINPresswire.com/ -- In 2020, a small team at King Faisal Specialist Hospital and Research Centre (KFSHRC) in Riyadh quietly made medical history. They became the first in the Middle East to deliver CAR T-cell therapy, a form of personalized gene treatment that re-engineers a patient's own immune cells to recognize and attack cancer.



Five years later, the therapy that once required overseas laboratories is now being produced locally inside KFSHRC's biomanufacturing facility. More than 200 patients have benefited from the treatment so far, marking one of the fastest program expansions of its kind in the Middle East.

The milestone came when KFSHRC treated its first patient with refractory acute lymphoblastic leukemia using locally manufactured CAR T cells as part of a clinical study designed to localize production and accelerate gene medicine innovation across the Kingdom.

Local manufacturing has transformed both the economics and logistics of care. The cost of each treatment dropped from about USD 350,000 to USD 67,000, while the production cycle fell from 28 days to less than two weeks. That reduction means patients who once waited a month for cells to return from foreign labs can now begin therapy within days, an interval that can determine survival for those with aggressive blood cancers.

CAR T therapy is rapidly reshaping oncology worldwide, offering new hope for patients who do not respond to chemotherapy or bone marrow transplants. Scientists expect its reach to extend beyond cancer to immune disorders and other nonmalignant conditions, positioning it as one of the most promising frontiers in genomic medicine.

For Saudi Arabia, KFSHRC's breakthrough is more than a scientific milestone. It signals a shift toward a self-sustaining biotechnology ecosystem, one that designs, manufactures, and delivers

advanced therapies within the Kingdom.

The initiative echoes a national vision that places biotechnology at the heart of Saudi Arabia's future economy. Under the National Biotechnology Strategy, the Kingdom aims to become the Middle East's leading hub for advanced therapeutics by 2030 and an emerging global player by 2040. The effort reflects a broader shift toward scientific self-reliance, where innovation in medicine contributes not only to better health outcomes but also to a diversified and knowledge-driven economy.

KFSHRC has been ranked first in the Middle East and North Africa and fifteenth globally among the world's top 250 academic medical centers for 2025, and recognized by Brand Finance as the region's most valuable healthcare brand. It is also listed among Newsweek's World's Best Hospitals 2025, Best Smart Hospitals 2026, and Best Specialized Hospitals 2026, underscoring its growing role in shaping the future of gene-based care.

Riyadh

King Faisal Specialist Hospital and Research Centre

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