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CAR T-Cell Therapy May 2023



ARANCA'S QUARTERLY SECTORIAL UPDATE ACROSS FOUR DIMENSIONS....

Developments • Technology updates • Company expansion • Disruptive innovations • Competitor trackin • New product • Under-research technologies • Product USPs •		 Dynamics New entrants/ start-ups Supply chain activities New business 	models Company financials Other initiatives
Drivers • Government policies • Product ratings & regulations • Influencers • Litigations • Other details • Customer Insights •	04 03	 Diversification Mergers & acquisitions VC investments Company collaborations 	 Licensing activities Exploring alternate applications



	Develop	MENTS
Product Launch	eurofins Viracor BioPharma	Eurofins Viracor ExPeCT™ CAR-T multiplexed quantitative real-time PCR (qPCR) assay provides a powerful diagnostic tool to monitor and optimize CAR-T therapy involving patients with pre-B cell acute lymphoblastic leukemia and B cell lymphomas. Source: <u>Company Website</u>
Technology/Innovations	University Clinic Tuebingen German Cancer Research Center MD Anderson Cancer Center LMU Klinikum LMU Murich University Clinic Heidelberg Weizmann Institute of Science University Clinic Regensburg	Recent study published in Nature showed that certain components of human gut microbiome could be used as biomarkers to better predict the efficacy of CAR-T cell therapy using machine learning. Source: <u>Nature</u>
Technology/Innovations	Delening of Chinese Laderey of Sciences	A research group from the Chinese Academy of Sciences has developed a CAR T cell-based microrobot (M-CAR T) with magnetic-acoustic sequential actuation that can autonomously navigate to tumor sites for cell immunotherapy. Source: <u>Wiley</u>
Technology/Innovations	Uniklinikum Erlangen	University Hospital Erlangen in Germany is the first in the world to use chimeric antigen receptor (CAR) T-cells to successfully treat a patient suffering from a severe case of muscle inflammation (myositis). Source: European Pharma
Technology/Innovations	Penn.	A preclinical study from researchers at the Perelman School of Medicine at the University of Pennsylvania suggests that CAR T cell therapy may also improve the outcomes of surgical treatment for solid tumors. Source: <u>Science Advances</u>

	DRIVERS	
Regulation/Approvals	ECTREMPEDINGS	The U.S. FDA has granted both Regenerative Medicine Advanced Therapy (RMAT) designation and Fast Track designation to its investigational new drug BCMA CAR-T CT103A (Equecabtagene Autoleucel) for relapsed/refractory multiple myeloma. <i>Source: Company Website</i>
Regulation/Approvals	Lilly	Jaypirca has been approved under the FDA's Accelerated Approval pathway for adult patients with relapsed or refractory mantle cell lymphoma based on response rate from the open-label, international, Phase 1/2 study, called the BRUIN trial. <i>Source: Company Website</i>
Regulation/Approvals	Sana C	The U.S. FDA has cleared the Sana Biotechnology's Investigational New Drug (IND) application to initiate a first-in-human study of SC291 in patients with various B-cell malignancies. <i>Source: Globe Newswire</i>
Regulation/Approvals	ImmPACT-Bio	The U.S. FDA has cleared an investigational new drug (IND) application for the bispecific autologous CAR T-cell therapy, IMPT-314, for the treatment of patients with aggressive B-cell lymphoma, including diffuse large B-cell lymphoma (DLBCL). <i>Source: PR Newswire</i>
Regulation/Approvals	₩ <mark>carina</mark>	FDA has given the "safe to proceed" letter for Carina Biotech's Investigational New Drug (NDA) application to conduct a first- in-human clinical trial of CNA3103, its LGR5-targeted CAR T therapy candidate, in patients with advanced colorectal cancer. <i>Source: BioSpace</i>

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Investment		CARGO Therapeutics has raised \$200 Million in oversubscribed, upsized series A financing to advance CARGO's autologous CD22 CAR T-cell therapy candidate, CRG-022, through a pivotal multicenter Phase 2 trial. Source: <u>Company Website</u>
Investment	MPC 28	MPC Therapeutics, a Swiss biotechnology company focused on metabolism and rejuvenation, announced the closing of its CHF 1.5 million seed-funding round. Their lead program aims to improve the performance and durability of CAR-T therapy. <i>Source: Business Wire</i>
Collaboration	ThermoFisher SCIENTIFIC -ArsenalBio	This research and process development-focused collaboration has enabled ArsenalBio to develop a robust manufacturing process for their next-generation, programmable autologous T cells for the treatment of cancer. Source: <u>Company Website</u>
Collaboration	Leucid	In a first-of-its-kind commercial agreement, Great Ormond Street Hospital NHS Foundation Trust (GOSH) will work with Leucid Bio to manufacture LEU011, a lateral Chimeric Antigen Receptor (CAR) targeting NKG2D ligands. Source: <u>GOSH</u>
Collaboration	Penn Danaher	Danaher has partnered with the University of Pennsylvania to develop technologies for improving the consistency of clinical outcomes for patients and overcome manufacturing bottlenecks in the delivery of next generation engineered cell products. <i>Source:</i> <u>Company Website</u>
Collaboration		Nexcella has entered into a manufacturing agreement with a well-known U.S. GMP cell therapy manufacturer that will supply a US Phase 1b/2 clinical trial of NXC-201 in relapsed/refractory multiple myeloma and AL amyloidosis. Source: <u>Globe Newswire</u>



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IP Valuation	 Technology Watch 	 Open Innovation
 Prior Art Searches 	 Market Analysis / Trends 	 Product Development



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