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â??Our long-term vision is to establish Singapore as a worldwide hub for allogeneic cell therapyâ?•

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Singapore has rapidly emerged as a leading hub for cell therapy innovation with the country offering a strong regulatory framework, advanced infrastructure, and a highly skilled workforce. And these factors are making it an ideal environment for developing complex therapies such as allogeneic CAR-T. Amidst this scenario, Singapore-based biotech startup Tikva Allocell, developing engineered, allogeneic (donor-derived) cell therapies for adult and paediatric patients with solid tumours, has recently announced the closing of an $8 million Series A financing led by Kantharos Capital. BioSpectrum Asia took this opportunity to speak with Dr Ivan Horak, Chief Executive Officer of Tikva Allocell about how the company is planning to strengthen its presence within the biotech ecosystem in Singapore.

How will the new investment accelerate the development of TAVST01? When do you plan to launch the product in the market?

Tikva Allocell is entering a critical phase in its evolution as an IND-stage biotechnology company headquartered in Singapore. Our mission is to combine natural biology with innovative engineering to deliver safe, efficacious, and affordable cell therapies to patients faster, more reliably, and at significantly lower cost. The recent investment we have secured directly accelerates this mission and enables us to advance our lead programme, TAVST01, toward clinical entry. It also strengthens our position as a future global leader in allogeneic CAR-T therapy for both cancer and autoimmune diseases.

The investment provides critical momentum for the development of TAVST01, our first-in-class allogeneic B7-H3, SB9, CAR-EBVST therapy. With this funding, we can execute development activities in parallel, rather than sequentially, significantly shortening our timeline to the clinic. We have already completed successful pre-IND meetings with both the FDA and HAS, which validated our regulatory strategy and confirmed the readiness of our pre-clinical package.

The investment enables us to scale our GMP manufacturing campaigns, finalise release testing, and prepare for clinical-grade production using our simplified, peptide-based EBV-specific T-cell enrichment process. This approach avoids CRISPR editing and reduces manufacturing complexity, allowing us to maintain high consistency and safety while accelerating production.

Based on our current trajectory, we expect TAVST01 to enter the clinic in 4Q 2026, as outlined in our executive summary. Market entry will depend on clinical outcomes and regulatory review, but our allogeneic, outpatient-ready platform positions us for efficient progression once early data are available.

What makes Tikva Allocell's EBV-specific T-cell platform different from other existing cell therapies for solid tumour?

Tikva Allocell's platform is differentiated by its ability to achieve more with fewer genetic modifications. While many competitors rely on extensive CRISPR engineering to overcome safety, persistence, and tumour-homing challenges, our approach leverages the natural biology of EBV-specific T-cells (EBVSTs) and augments them with targeted protein engineering.

Our EBVSTs retain intact EBV-specific TCRs, enabling precise recognition of EBV pMHC complexes expressed in certain solid tumours. This provides a unique therapeutic window and reduces the risk of off-target toxicity. To enhance persistence, we incorporate engineered SerpinB9 (CAS), which protects cells from allorejection and activation-induced cell death, without requiring knockout of MHC molecules or overexpression of HLA-E or CD47.

EBVSTs also possess a natural repertoire of chemokine receptors, allowing them to infiltrate solid tumours without the need for additional modifications. This inherent tumour-homing capability is a major advantage over conventional CAR-T approaches.

Finally, our manufacturing process is streamlined and robust. We avoid CRISPR editing entirely and rely on peptide-based enrichment rather than EBV-infected LCLs, reducing risk and improving scalability.

How does Tikva Allocell plan to stay ahead in the rapidly evolving cell therapy landscape?

Our strategy for leadership in the cell therapy field is built on precision, simplicity, and scalability. Tikva Allocell is developing a first-in-class allogeneic platform that integrates natural T-cell biology with targeted protein engineering to deliver safe, affordable, outpatient-ready treatments.

We are advancing a suite of armouring technologies—including B7-H3 CARs, engineered SerpinB9, constitutive IL-7 receptor, and a VHH CAR discovery platform supported by AI-driven optimisation. These innovations strengthen cell persistence, enhance tumour targeting, and improve manufacturing efficiency.

Our allogeneic approach also dramatically reduces cost and time to treatment. Autologous CAR-T therapies can cost approximately $270,000 per patient and require weeks to months of manufacturing. This cost-efficiency is essential for global accessibility and long-term competitiveness.

Singapore's ecosystem further supports our leadership strategy, offering strong regulatory engagement, and access to world-class clinical partners.

Do you plan to expand your platform into additional indications in the future?

Yes. Our platform is intentionally designed for broad oncology expansion. The B7-H3, SB9, CAR-EBVST programme addresses multiple high-value solid tumour indications, including lung cancer, colorectal cancer, triple-negative breast cancer, gastric cancer, prostate cancer, paediatric epithelial tumours. These indications represent a combined US market opportunity of approximately $1.6 billion in selected third-line settings.

We also see strong potential in EBV-associated malignancies, where viral antigen expression provides a clear biological rationale for EBVST-based therapies. Our natural tumour-homing and safety profile make the platform well-suited for solid tumour where traditional CAR-T therapies have struggled.

How important are strategic partnerships in supporting Tikva Allocell's growth?

Strategic partnerships are essential to a startup biotech company. We maintain close collaborations with leading Singapore institutions, including the National Cancer Centre Singapore (NCCS) and the National University Hospital (NUH). These partnerships support translational research, clinical trial design, and early patient access.

Our scientific leadership team includes world-renowned experts from Baylor College of Medicine and St. Jude Children's Research Hospital, ensuring that our platform is grounded in decades of pioneering cell therapy research.

As we scale, partnerships will help us expand clinical trial sites internationally, build a global manufacturing footprint, and accelerate commercialisation across oncology and autoimmune indications.

What are Tikva Allocell's key priorities and future plans for the next five years?

Our five-year roadmap is anchored in three core priorities: advancing TAVST01 into the clinic, expanding our pipeline, and close manufacturing partnership in preparation for pivotal trials.

We aim to complete early-phase clinical trials for TAVST01 and prepare for regulatory discussion on pivotal trial design. In parallel, we are advancing our autoimmune pipeline, including the CD19.SB9.CAR-EBVST programme targeting a plethora of autoimmune diseases, representing combined market opportunities exceeding $300 billion across major markets and China.

We also plan to expand our Singapore preclinical and clinical activities and explore regional partnerships to support global distribution. Our long-term vision is to establish Singapore as a worldwide hub for allogeneic cell therapy.

How do you view the current cell therapy market in Singapore, and what opportunities and challenges exist for startups?

Opportunities include access to cutting-edge research facilities, supportive government programmes, and a collaborative ecosystem that encourages innovation. Singapore's clinical network is also well-positioned to support early-phase trials, particularly for therapies targeting cancers prevalent in Asia.

Challenges include high operational costs, competition for specialised talent, and the complexity of scaling cell therapy manufacturing. However, for companies with a clear scientific vision and disciplined execution, Singapore provides an exceptional foundation for growth.

How is Singapore supporting the growth of biotech startups?

Singapore's government plays a significant role in fostering biotech innovation. Agencies such as A*STAR and Enterprise SG offer infrastructure, financial support, and regulatory guidance. Tikva Allocell has secured multiple grants, which have been instrumental in advancing our research and manufacturing capabilities.

The country's emphasis on translational research ensures that scientific discoveries can move efficiently toward clinical application. Singapore's regulatory environment is very sophisticated, and collaborative, enabling companies to engage early with authorities and align development plans with regulatory expectations. This support has enabled us to establish our headquarters, build our IND-stage capabilities, and prepare for clinical entry in 2026.

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