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## Carcell Welcomes Prof. Harvey Lodish as Chair of its Scientific Advisory Board



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Carcell Biopharma, an EVX Ventures company, is pleased to announce Prof. Harvey Lodish as the Chair of the Scientific Advisory Board. He joins Prof. Jianzhu Chen of the Massachusetts Institute of Technology (MIT) and Dr. Hagop Youssoufian of Brown University on Carcell's Scientific Advisory Board to propel scientific advancement of its cell and gene therapy platforms.

Prof. Lodish brings onboard decades of experience in biotech and especially red blood cell (RBC)-based therapeutics to the team. He is a founding member of the Whitehead Institute for Biomedical Research and a Professor of Biology and of Biological Engineering at MIT. During his illustrious scientific career, he uncovered many groundbreaking discoveries in molecular and cell biology and has trained brilliant individuals who have gone on to win Nobel Prizes: Aaron Ciechanover (Chemistry, 2004) and James Rothman (Physiology or Medicine, 2013). Eight of his students or fellows are elected Members of the US National Academies of Science or Medicine. Prof. Lodish is also a well-respected seasoned entrepreneur in the biotech industry. He has cofounded biopharma companies such as Genzyme and Millennium Pharmaceuticals which were acquired by Sanofi and Takeda respectively. He was elected a Member of the US National Academy of Sciences in 1987 and is a Fellow of the American Association for the Advancement of Science, the American Academy of Arts and Sciences and the American Academy of Microbiology. He is also an Associate (Foreign) Member of the European Molecular Biology Organization.

Carcell's Exogenously-Engineered Erythrocyte (E3) Platform builds on Prof. Lodish's earlier research with Prof. Shi Jiahai, a scientific co-founder of Carcell and Assistant Professor at the National University of Singapore. The platform creates engineered RBCs (eRBCs) through the covalent ligation of whole proteins onto mature donor RBCs using a proprietary enzyme. These surface-modified eRBCs circulate in the bloodstream and have a similar lifespan as natural RBCs. Given their close interaction with immune cells, Carcell's eRBCs offer a new allogenic off-the-shelf therapy to treat diseases arising from immune dysregulation including several autoimmune diseases and cancers.

Prof. Lodish shares Carcell's excitement about its next generation eRBCs therapeutics. "Carcell's E3 Platform differentiates itself from its predecessors, especially in its drug-like properties and manufacturing process. For first-generation engineered RBCs, hematopoietic stem cells are genetically engineered, culture-expanded and differentiated into reticulocytes over 21 days. Although these engineered reticulocytes yielded some promising results in cancer, they have limited circulation time, and manufacturing these cells at scale proved very difficult and irreproducible. Carcell's next generation eRBCs have a circulation time comparable to endogenous mature RBCs. Also, eRBCs have a straightforward manufacturing process that does not involve a culture system and can be commercially scaled with ease. I am pleased to help Carcell develop these technologies in many biomedical areas as I see an enormous future for their technologies," he said.

XQ Lin, the Chairman of Carcell, commented, "We are delighted to have Prof. Lodish join us as the Chair of our Scientific Advisory Board. With his extensive experience and knowledge in RBCs and rare diseases, we are confident that Prof. Lodish will make valuable contribution to Carcell and enable us to reach even greater heights. We look forward to developing transformative medicines for patients!"

Source: [Carcell Biopharma](#)

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