



Universal Blood, Donor Free

April 2025

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Vision

Become global leaders in enabling unlimited supply of universal, donor-free, red blood cell transfusions for life saving treatments and advanced therapies.

Company Summary

Business

[RedC Biotech Ltd.](#) is an innovative, Israel-based preclinical biotech company revolutionizing healthcare with its groundbreaking technology for large-scale production of universal donor red blood cells. Our task is to provide unlimited, safe, and life-saving red blood cell transfusions to support advanced therapies and critical treatments worldwide, leveraging our patented stem cell cultivation technology.

Values

We are committed to providing patients and hospitals with safe, effective blood transfusions, upholding the highest standards in blood production.

Mission

To eliminate blood shortages worldwide by ensuring a reliable supply of high-quality red blood transfusions for all blood types.

We are dedicated to save lives!

Team

Dr. Ari Gargir, founder & CEO, 25-year experience in leading bio-medical products development from idea to market.

Dr. Oren Inzelberg-Yifa, Stem cell scientist with a PhD from the Weizmann Institute of Science, with vast experience in industrial stem cell cultivation in various industries.

The Critical Need for Blood

1 Oxygen Carriers

Red blood cells carry oxygen to our brain and body, essential for life.

2 Life-Saving Treatment

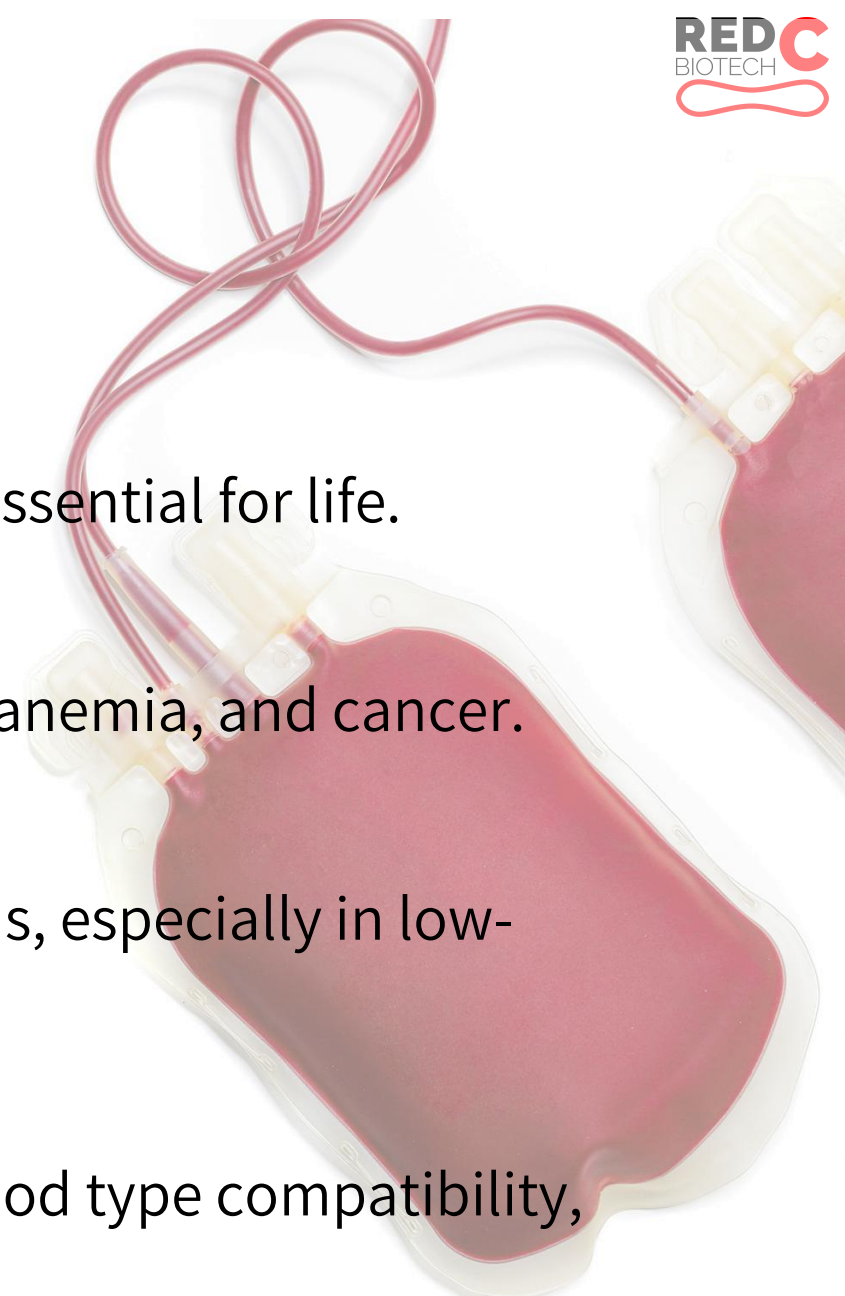
Critical for trauma, surgery, childbirth hemorrhages, anemia, and cancer.

3 Global Challenge

Millions die yearly from insufficient blood transfusions, especially in low-income regions.

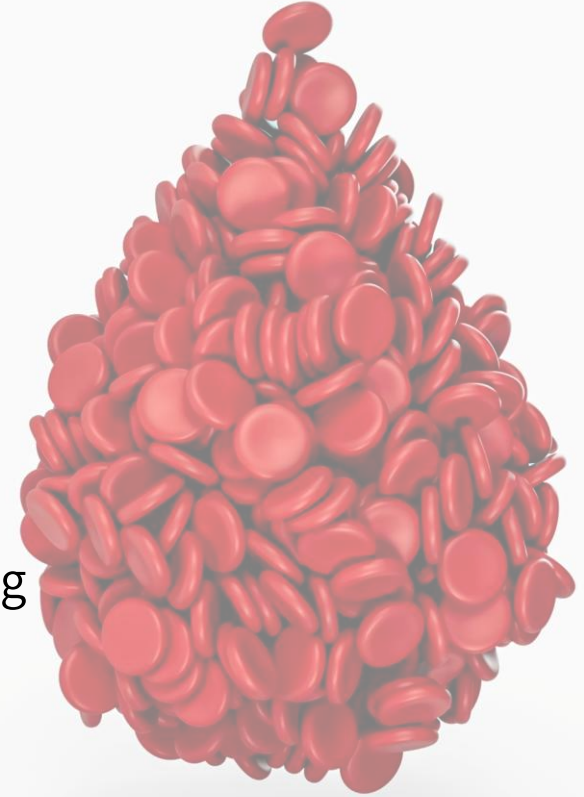
4 Donor Limitations

Blood supply is constrained by donor availability, blood type compatibility, and shelf life.



Problems & Challenges

- **The most challenging factor is DONOR availability!**
- Blood supply is costly and complex due to:
 - Blood type distribution
 - Limited shelf life
 - Requires refrigeration
 - Extensive testing for a transfusion transmitted infections and blood typing
 - Occasional adverse reactions to residual blood components
- High income countries suffer from occasional blood shortages
- Millions die every year or suffer from insufficient and inadequate blood transfusions, mainly in low income-regions



References

<https://americasblood.org/news/understanding-the-state-of-the-nations-blood-supply/>
<https://www.who.int/news-room/fact-sheets/detail/blood-safety-and-availability>

Our Revolutionary Solution



Patented Technology

Stem cell cultivation technology enables large-scale production of red blood cells.



Universal Compatibility

One blood type compatible with all humans, eliminating matching issues.



Enhanced Safety

Free of pathogens and residual blood components with extended shelf life.



Donor-Free

No human donors needed, ensuring unlimited supply anywhere.

Why Now?

- Using cutting-edge cultivation technology
- Cost reduction of raw materials for blood production makes it affordable for production
- Filling the ongoing shortage of blood for emergency treatments
- An alternative source for red blood cell supply has been proven as much needed:
 - Eliminating the need for donors
 - No risks in blood donations due to transfusion transferred infections or residual donor blood components
 - Short supplies of sufficient matched blood
 - Younger generation donation rates decline, less donors come to donate

Global Blood Supply Market

1

Market Size

220M red blood cell units needed yearly; 120M donated; 100M shortage

2

Growth Drivers

\$20B market with 6-7% CAGR; 1% population growth; 2-4% life expectancy increase

3

Additional Costs

\$13B blood testing; \$5B adverse transfusion responses

4

Infrastructure

160,000 hospitals worldwide; 300+ blood donation agencies

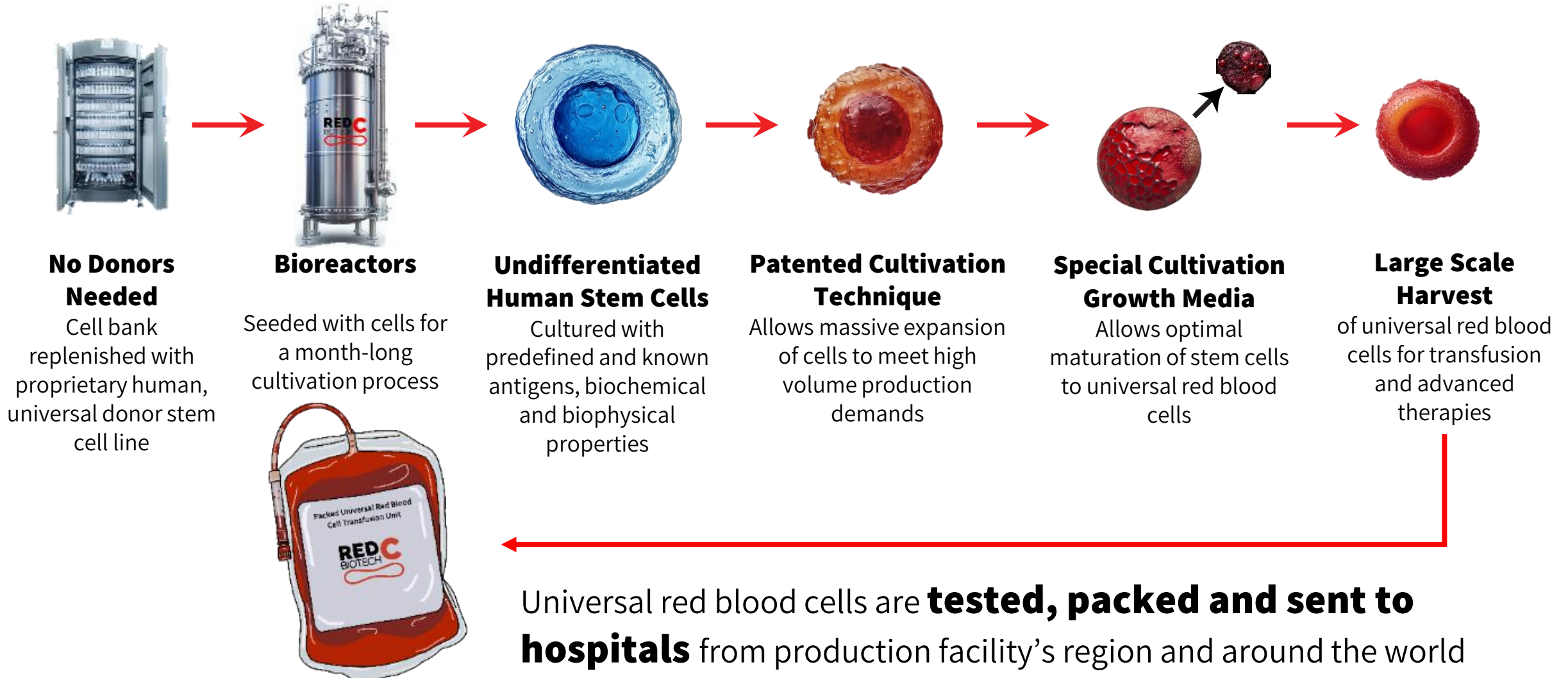


Product & Production

- A transfusion unit will contain 2 Trillion (10^{12}) universal (O negative) red blood cells
- Shelf life/stability of over 35 days when stored in refrigeration 2-8°C
- **Universal, packed, red blood cells for transfusion**
 - 220M units/year
 - More than \$45bn market
- **Universal red blood cell advanced therapy payload delivery platform**
 - Hundreds of thousands units/year
 - High gross margins >\$5bn market
- Mass Production in bioreactors - thousands of liters
- Advanced pharma-grade bio-production facilities
- Hub & Spoke distribution to hospitals



Scalable Blood Production Process



Business Model

Blood Transfusion Units

Licensed Production Sites Worldwide

Future Revenue Streams

- Anticipated large scale COG \$50/unit, 75% gross margin at \$200 sales price
- Traditional franchise model to commercialize, distribute and sell red blood cells, returning royalties (TBD) and license fees (TBD).
- Novel blood transfusion such as artificially produced whole blood and long term preserved red blood cell transfusions
- Advanced therapies based on core technology and proprietary payloads in red blood cells for drug delivery
- OEM supplier of safe, universal red blood cells for drug delivery payload platform

Competition

Company	RedC Biotech	Scarlet Tx	Safi BioTx	ArtBlood	Garuda Tx	Kalocyte	HbO2 Tx
Location	Israel	UK	USA	Korea	USA	USA	USA
Category	Cultured red blood cells					Chemical substitute	
RBCs	Yes	Yes	Yes	Yes	Yes	No	No
Donor	No	No	Yes	No	No	No	No
Scalability	Yes	No	No	Yes	N/A	N/A	Yes
Product description	• Universal blood • No donations • Available anywhere • Unlimited scale • Competitive cost	• Express therapeutic proteins in cultured RBCs • Use immortal cells lines & autologous cells	• Technology licensed from EryPharm • Requires donations • Limited scale, 100 units/donation	Production of red blood cells from hematopoietic stem cells (HSCs)	• Red blood cell production using self renewing HSC platform	• ErythroMer • Resuscitation only • Nano-encapsulated human hemoglobin	• Hemopure & Oxyglobin: • Resuscitation only • Chemically crosslinked hemoglobin

Green – Advantage; Red – Not scalable, disadvantage; Orange – Chemical substitutes, so far not in market, not approved

Traction

Identity

- 2018 - RedC signed a worldwide exclusive licensing agreement the Accellta Ltd. Technology for indefinite scaling of stem cell production. Accellta is an R&D company for stem-cells research, a spin-off of the Technion Institute of Technology, Israel.
- 2019 - Lab research
- Capital raised - \$3.5M, Grants - \$0.5M



Intellectual Property

- **7 patent families, over 50 patents, on cultivation technology**

Successfully accomplished

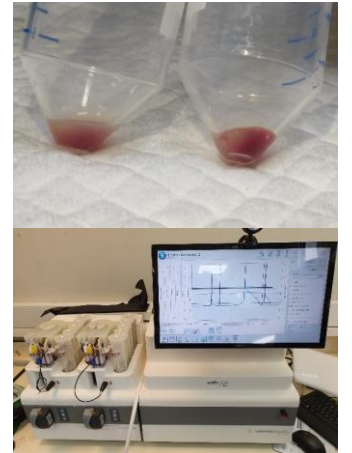
- 2023 - Proof of concept (POC) cultivating Red blood cells from iPSCs

Executing

- 2024 - Process optimization, scale-up activities, cell line development

Recognition

- 1st Prize won \$500K from the Aviram Foundation 2022
- “Tech for Humanity in the Middle East competition”



Collaborations



In process:
IDF Medical corps,
Israel DoD



RedC Biotech Ltd.

Exceptional Leadership

RedC
Biotech



Dr. Ari Gargir [in](#)

Founder & CEO

- PhD in **Microbiology**
- Over 20 years leading **R&D and product development in startups & multinationals**
- **Developed & commercialized** dozens of products: pharma, bio-medical, research tools, diagnostics



Dr. Galia Yirme [in](#)

- PhD in **Bioengineering**
- **Bioproduction Specialist**
- Over 30 years experience in **scaleup & COG reduction** in major Israeli biotech companies
- Consultant to **stem cell & cultured meat** companies



Dr. Oren Inzelberg-Yifa [in](#)

- PhD in **Stem Cell Biology**
- Vast experience in **industrial stem cell cultivation** in various industries



Research Team

- Dozens of years in **stem cell cultivation R&D**
- Specialize in the proprietary cultivation technology & **red blood cell cultivation**

Scientific
Advisory



Prof. Eilat Shinar [in](#)

- **Head of Israeli National Blood Services, MDA**
- **Hematology & Transfusion Medicine**
- Associate professor in the Faculty of Medicine in Tel-Aviv University
- Leader in international **transfusion medicine** organizations



Prof. Cedric Ghevaert [in](#)

- **Cambridge University UK**
- **Hematology & Transfusion Medicine**
- Red blood cell and platelet *in-vitro* production from **hematopoietic and pluripotent stem cells**
- Leader in the **NHS-RESTORE clinical trial**



Prof. Dan Kaufman [in](#)

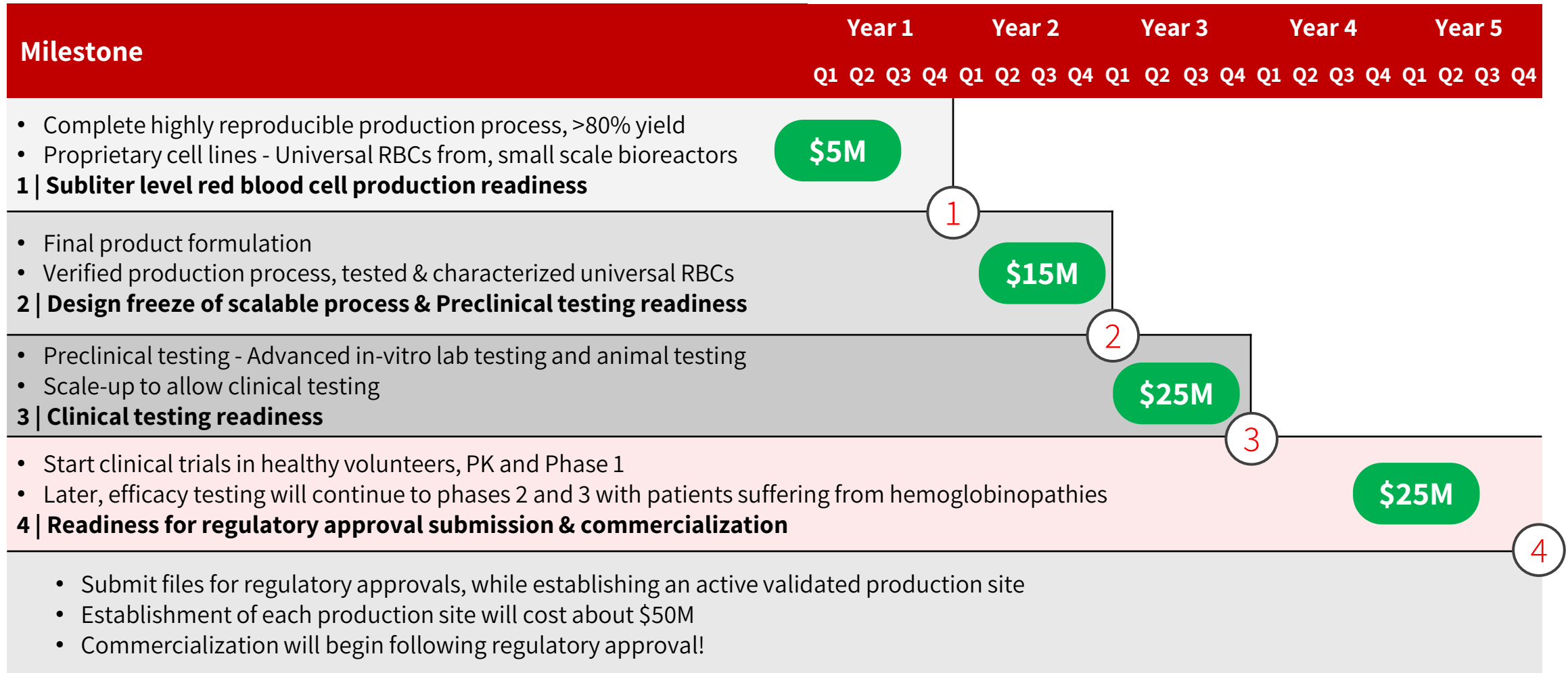
- UC San Diego
- **MD hematology, blood & bone marrow transplantation**
- **Stem cell biology** & production of natural killer cells (NK) from induced pluripotent **stem cells**
- Co-founder of Shoreline Biosciences



Prof. James Palis [in](#)

- University of Rochester, NY
- **MD pediatric hematology**
- **Erythrocyte biology** (RBCs), studying cellular and molecular events underlying the initiation of hematopoiesis & erythropoiesis

Roadmap: Timeline & Milestones



Financials (5 years)

	Year 1	Year 2	Year 3	Year 4	Year 5
Operating Expenses					
G&A expenses	103,950	297,875	303,450	1,439,850	1,921,350
R&D expenses	947,600	1,405,000	5,029,000	13,269,000	21,049,000
Staff Costs	622,500	1,227,916.7	2,643,750	2,863,333.3	4,765,000
CapEx (lab, production, IT)	302,500	450,000	1,220,000	1,212,500	327,500
Total Opex	1,976,550	3,380,791	9,196,200	18,784,683.3	28,062,850
EBITDA	(1,976,550)	(3,380,791.7)	(9,196,200)	(18,784,683.3)	(28,062,850)

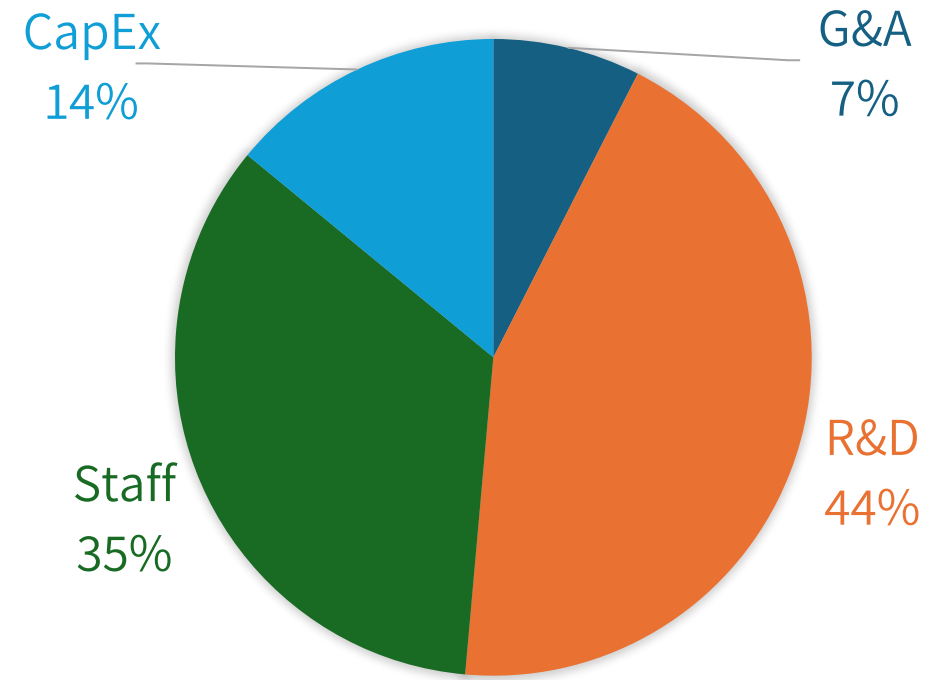
Investment Round

We Are Raising SEED

- Raise: \$5m
- Type: SAFE
- Cap: \$13m
- Discount: 20%
- Closing: Q4/2025
- 20-month runway
- Early-Stage Investors:
Interested potential investors will be provided access to the data room where they can access the scientific deck, patent portfolio, financial forecasts, the detailed cap table, and other pertinent material.

Source & Use of Funds

- \$5M - Total SEED round use



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