



San Francisco, California: Where Biotechnology Was Born



DaCart Life Science
DaCart Cleantech

INVEST IN ENDURING INVESTMENT THEMES

- HEALTH OF HUMANS
- HEALTH OF THE PLANET

DaCart Investment Charter

Focused on funding Humanitarian Projects that are based on breakthrough technologies designed for the benefit of human health, and the health of the planet.



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Investing in High Technology

- Russian wealth needs investments in stable economies & access to centers of innovation (Silicon Valley)
- European economies remain vulnerable
- Investors need diversification
 - Various economies
 - Different industries
 - Mix of risk levels
- Demand for life science and cleantech independent from economic growth



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DaCart Capital \$160 - \$210M

USA Life Science
Fund #1
\$75M – \$100M

- \$75M Institutional
- 10 Units @ \$2.5M/Unit
- Available/Optional

European Life Science
Fund #1
\$50M – \$75M

- \$30M Institutional
- 8 Units @ \$2.5M/Unit
- Available

USA Cleantech
Fund #1
\$35M

- \$25M Institutional
- 16 Units @ \$625K/Unit
- Available



David Carter, Managing Director

- 25+ years executive-level experience
- Chairman, CEO/President – 7 companies
- Co-founder – 3 companies
- 3 , 1 IPO
- >\$500M raised
 - Vision
 - Leadership
 - Experience
 - Track record

I have the ability to distinguish “interesting science” from a good investment.



The Case for Investment

- Investment opportunities identified
- First 4 investments are teed up
- Short time & limited capital to profit/liquidity
- Managing Director's hands-on involvement
- Competitive fees – 2%/20%



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The Case for Investment

- Biotechnology
 - Big markets – big valuations
 - Big need – big pharma
 - Modern medicine
- Clean Technology
 - Green chemistries – here now
 - Clean power – next generation batteries/solar are coming



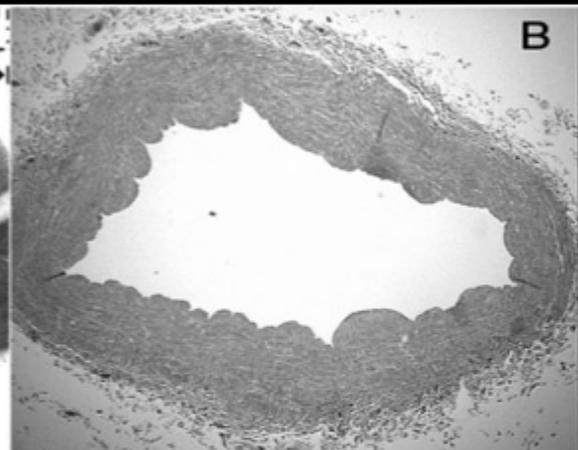
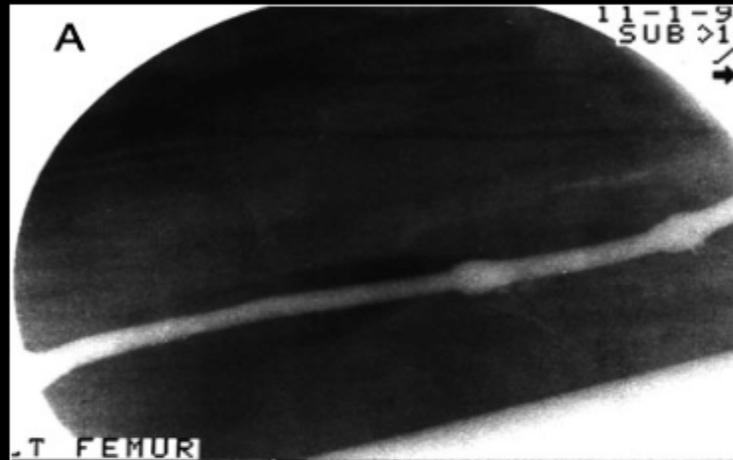
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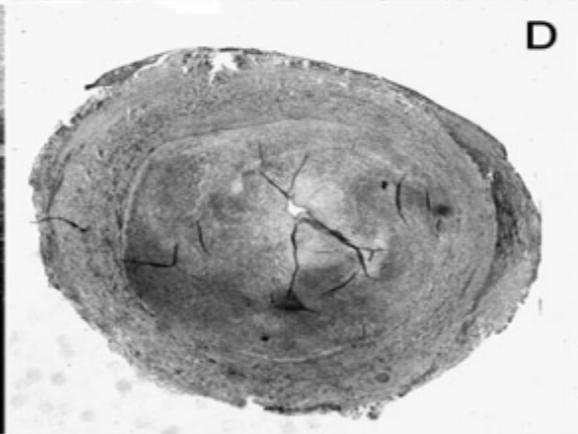
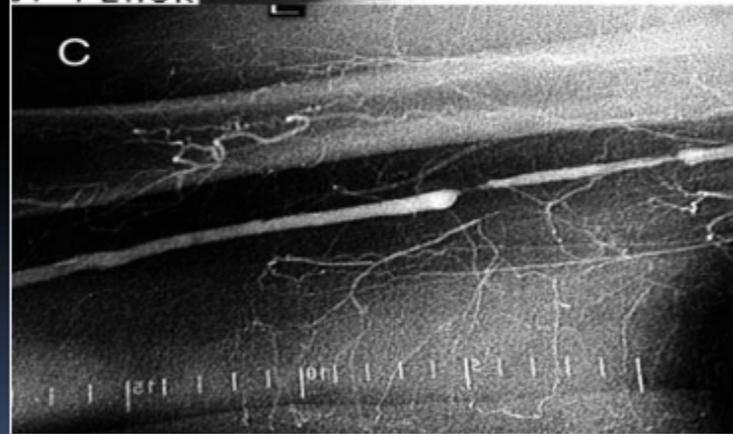
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Maji Therapeutics

Intra-op



Post-op
(8 months)

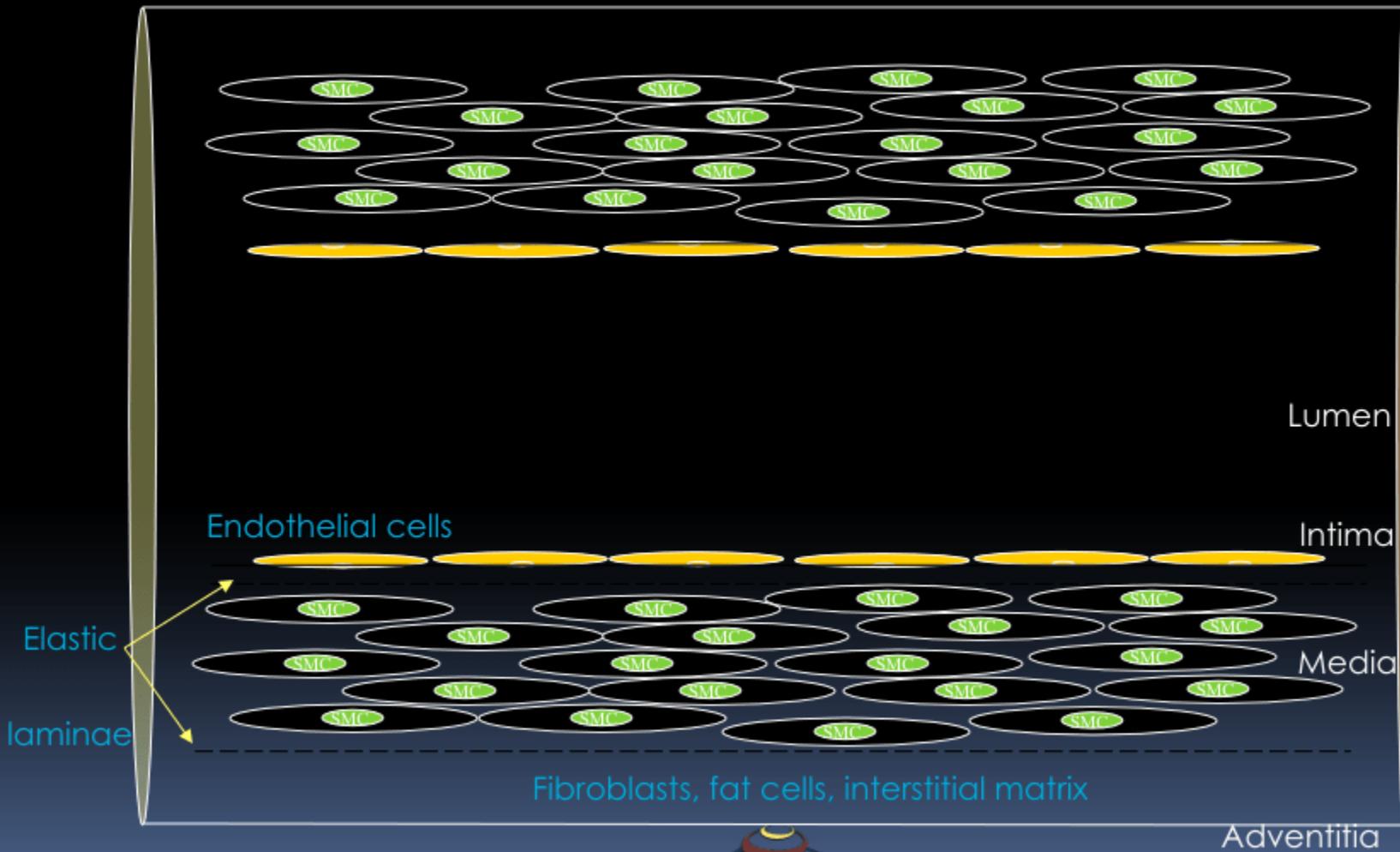


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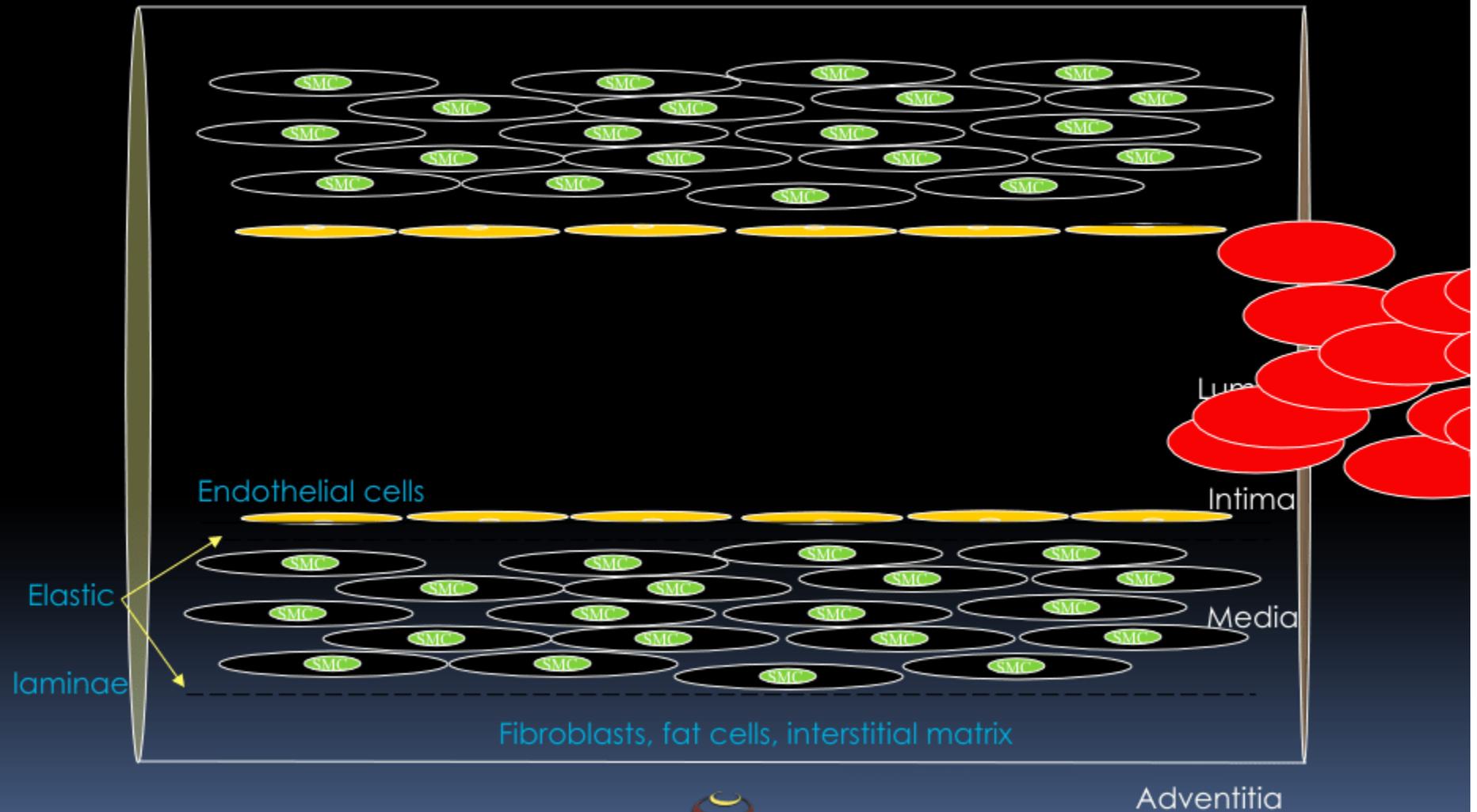
Maji Therapeutics



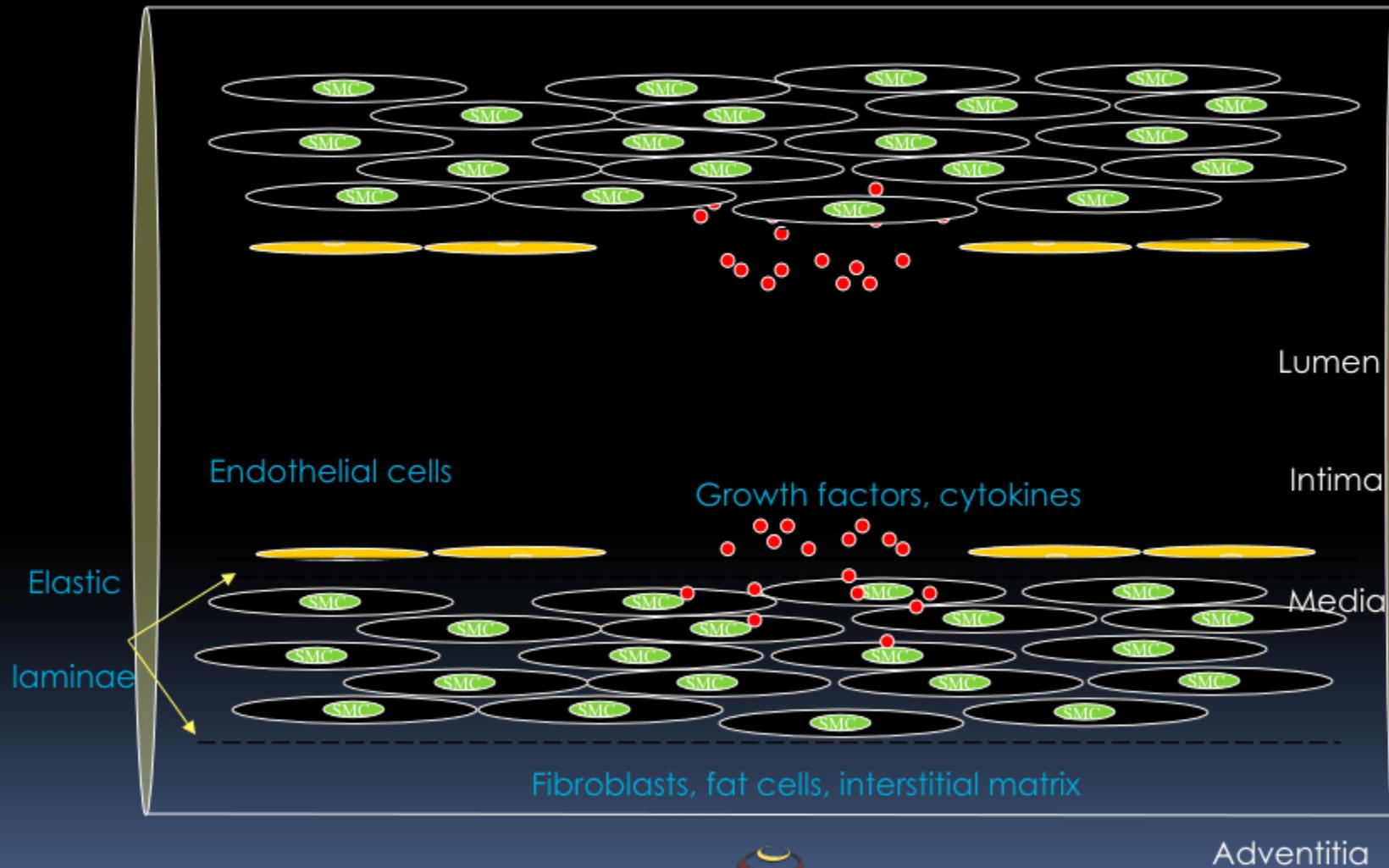
Normal Vein Structure



Injury to the Vessel During Surgery

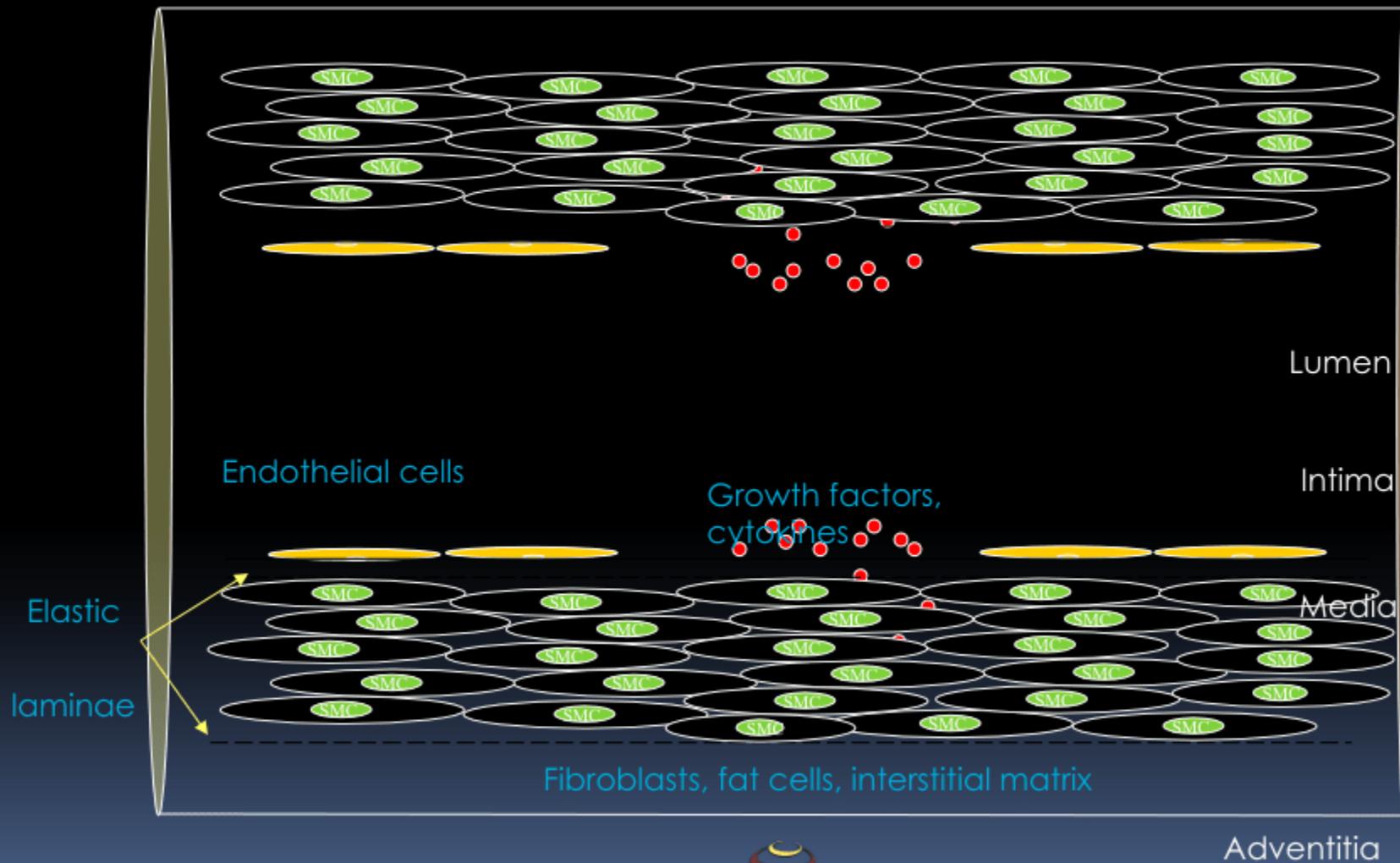


Growth factors, cytokines leading to smooth muscle cell proliferation

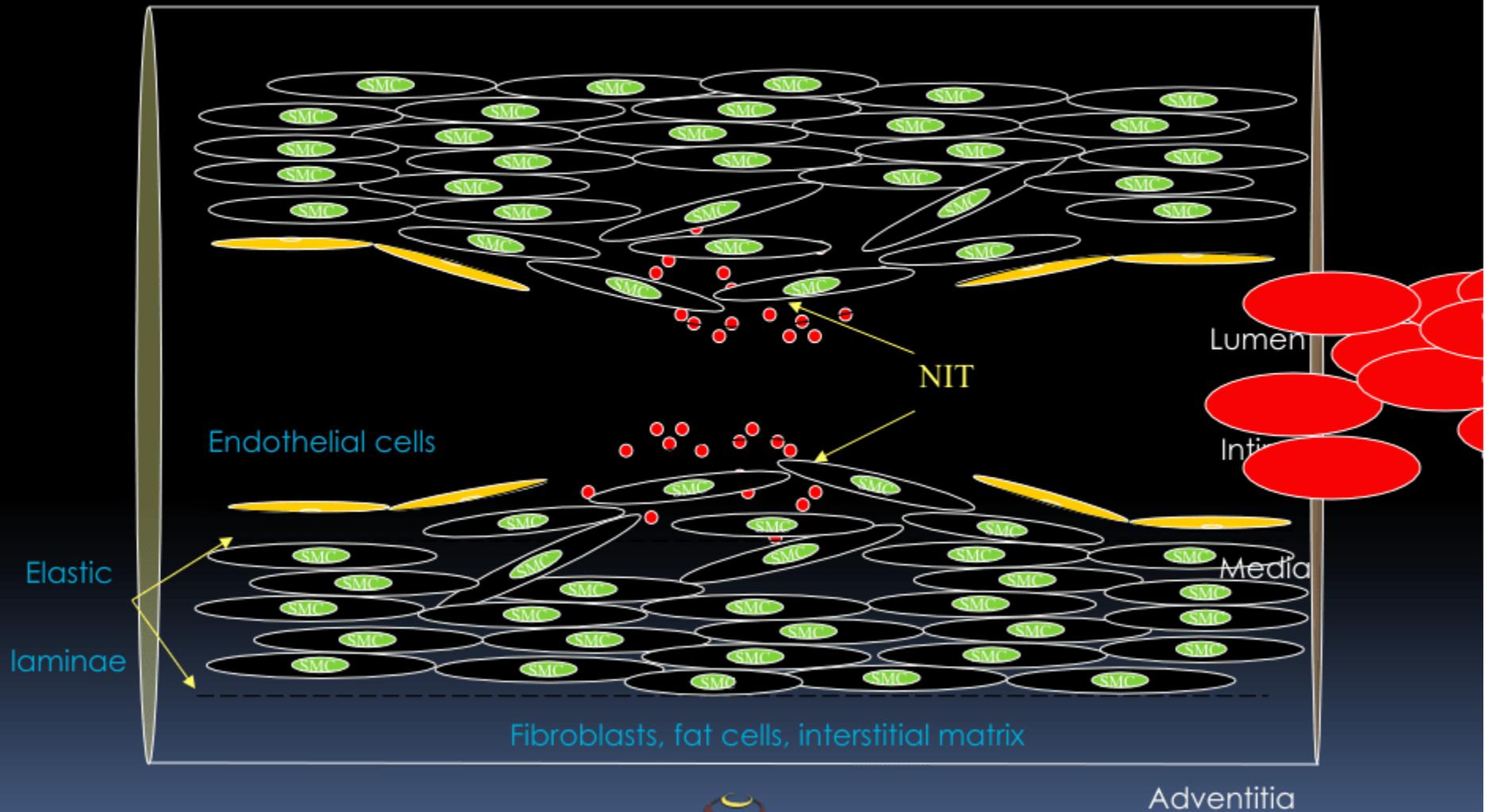


Mechanism of Neointimal Thickening

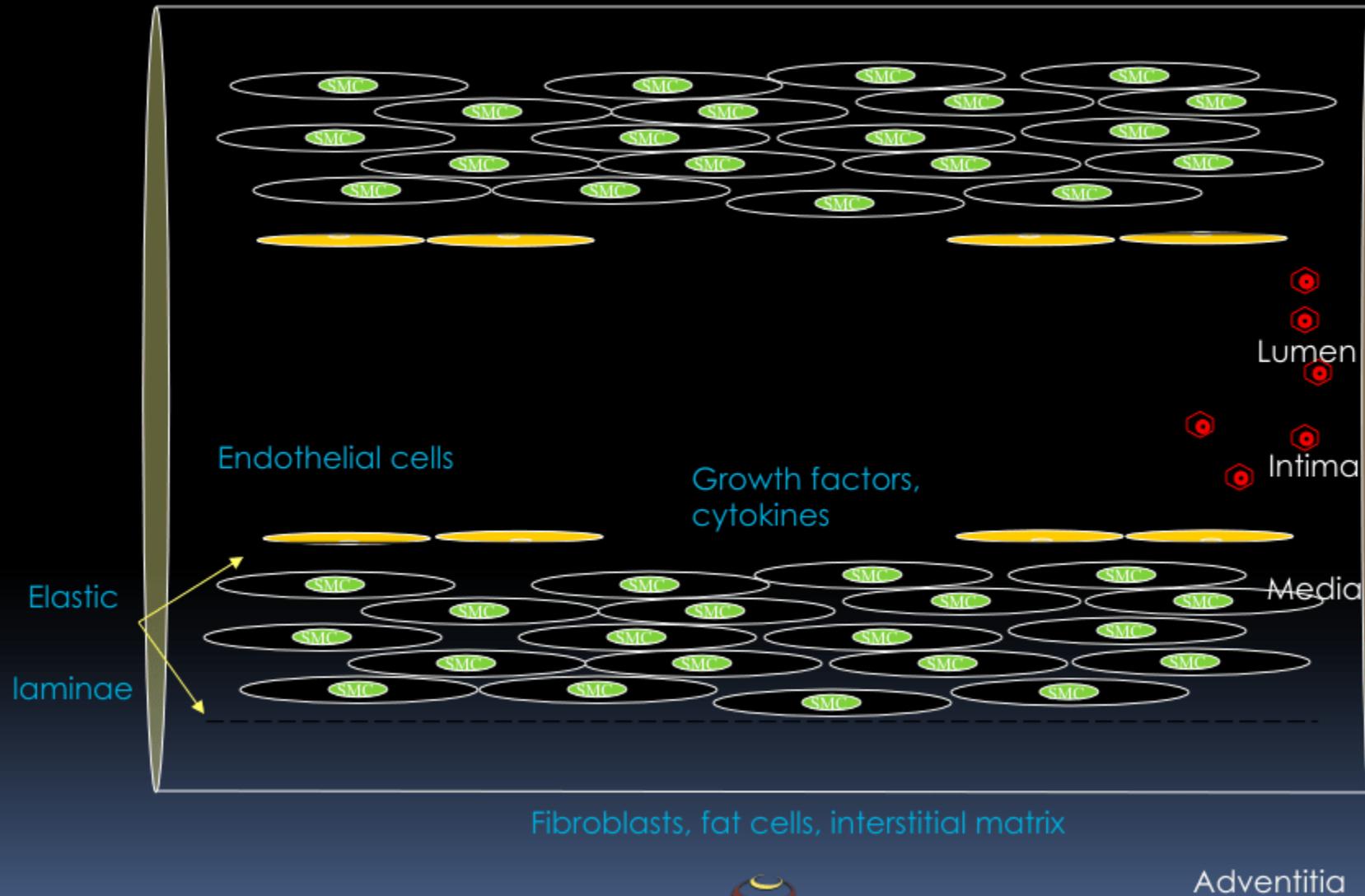
Medial SMC proliferation



SMC migration and neointimal lesion development and graft failure

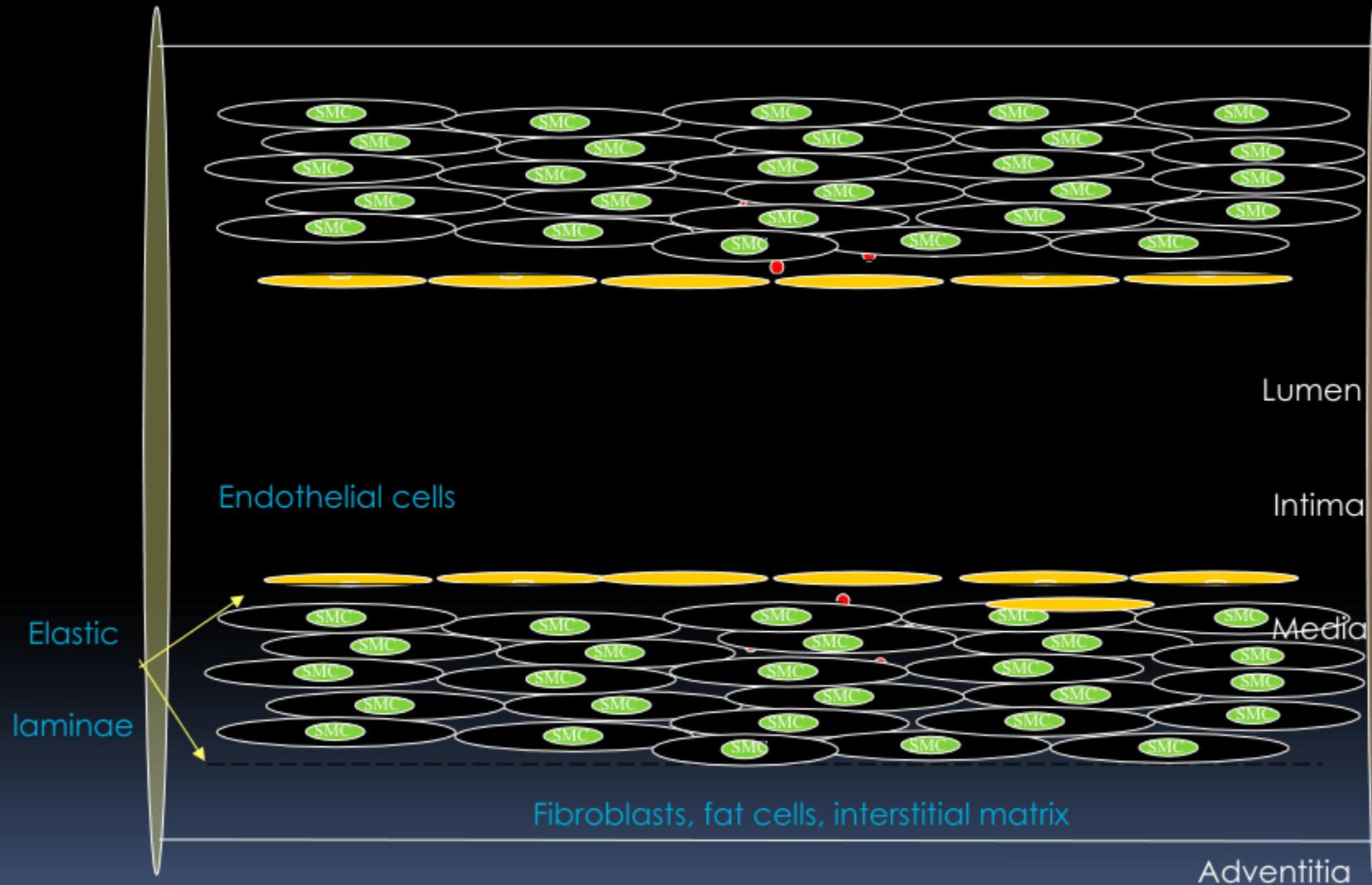


Delivery of Virus

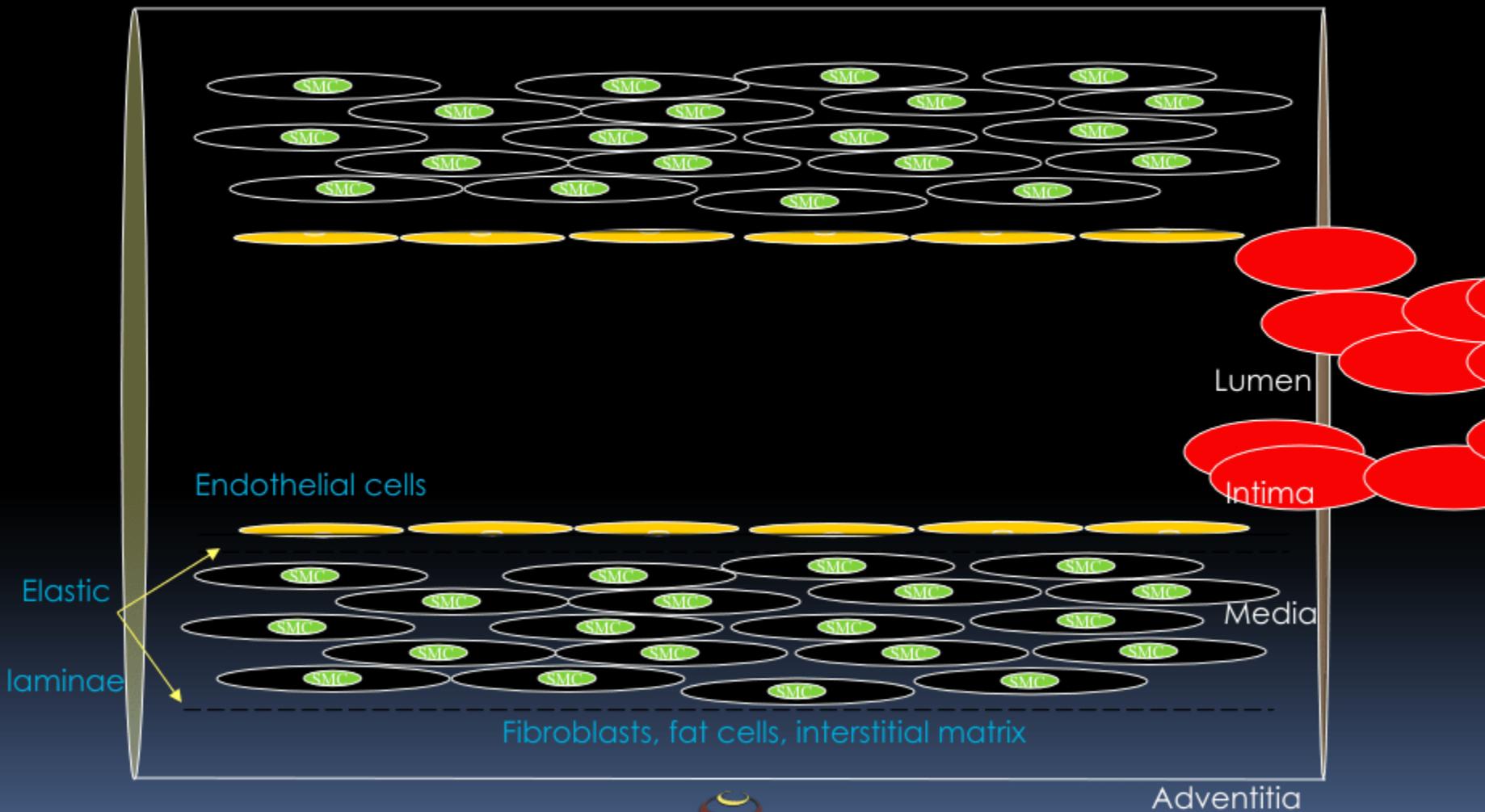


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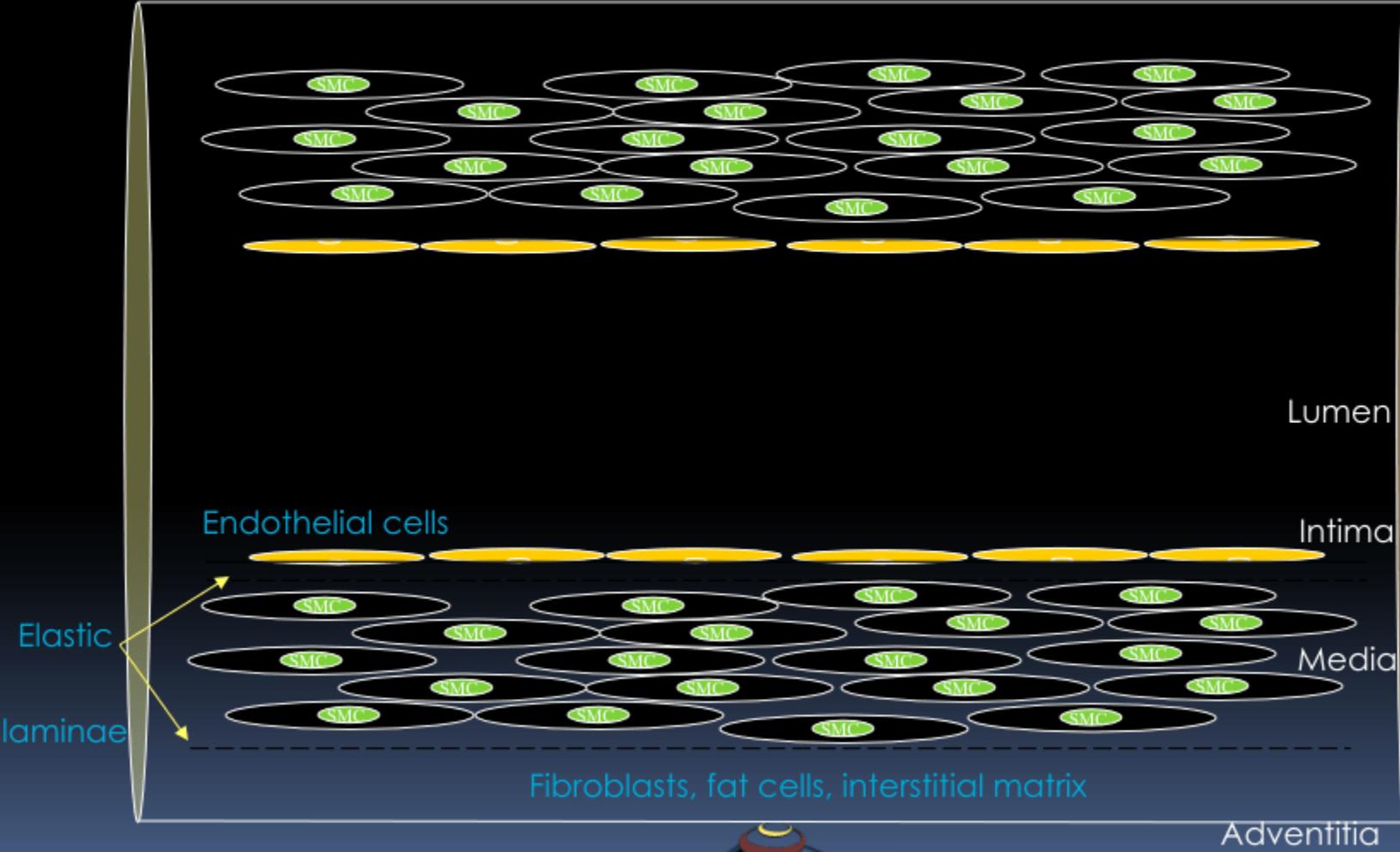
Virally mediated prevention of SMC proliferation



Prevention of Graft Failure



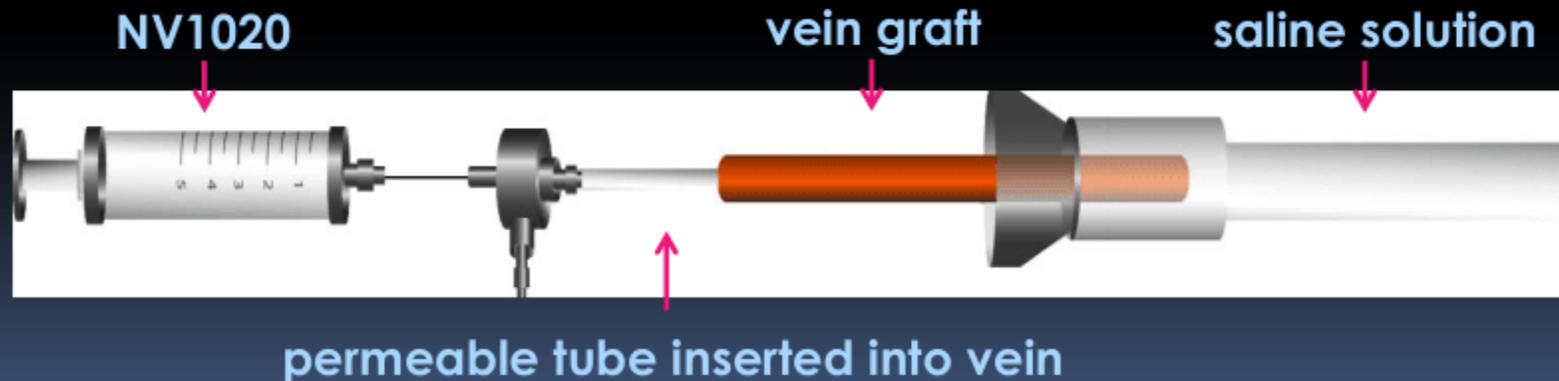
Clinical Objective



Maji Therapeutics



- Modified to reduce systemic infectivity
- Positive clinical safety data established
- CMO protocols developed
- History of successful large scale GMP production
- Strong patent position
- Pharmaceutical margins



Maji Therapeutics

- High failure rate of bypass grafts
 - ~45 % at 12 mo. – CABG
 - Novel, ex vivo HSV-1 therapy
 - Strong value proposition, very low COGS
 - 850,000+ annual procedures worldwide
 - \$6.5 billion worldwide
 - Little to no competition

\$25M needed to reach \$250M enterprise value in 5 years



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Maji Therapeutics

■ What Is It?

A unique and patented method for preventing the failure of coronary artery bypass grafts.

■ How Does It Work?

The genetically engineered therapeutic virus, with which the veins are perfused (prior to transplant), stops the rapid, smooth muscle cell growth on the interior walls of transplanted veins. This rapid growth of smooth muscle cells (called neointimal hyperplasia) occurs because the transplanted veins are not used to the hydrodynamic pressures they are subjected to when they are converted from veins to arteries .

■ Why Is It Important?

46.3% of all CABG procedures will experience at least one vein graft failure within the first year of surgery, principally due to neointimal hyperplasia. CABG patients who experience vein graft failure have a dramatically higher incidence of myocardial infarction, death, revascularizations and hospital readmissions. Reducing vein graft failure in CABG patients by 33% saves the payor at least \$10,000 per procedure.



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Maji Therapeutics

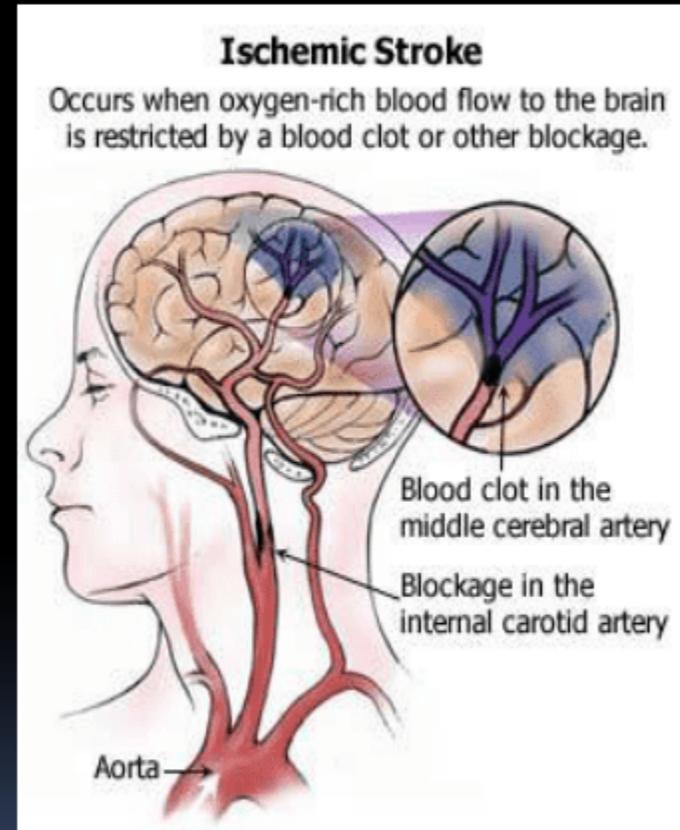
■ Investment Thesis

- CABG failure is “an unmet medical need”.
- We have the intellectual property.
- We have compelling preclinical data.
- We can make a compelling pharmco-economic case for reimbursement. We can save more than the therapy will cost the payor.
- The market potential for the therapeutic is \$7.6B per year.
- We can generate “pharmaceutical margins”.
- THERE IS LITTLE TO NO COMPETITION.



Prediction BioSciences

- Over 2 million strokes in EU and the US alone each year (85% ischemic)
 - \$110 billion annual costs
- Only one FDA/EMA approved clot buster –tissue plasminogen activator (t-PA)
 - \$1.4 billion WW sales (2014)
 - \$2 billion est. (2018)
- t-PA causes fatal bleeding for 6 - 11% of treated patients
- **Presently, there is no reliable way to predict if a patient will suffer a significant bleed following t-PA therapy**



Prediction BioSciences

First-to-Market Combination Diagnostic/Therapeutic
For Ischemic Stroke

Biosimilar t-PA

Biosimilar of t-PA
Producing t-PA in lab
Clinical program is
developed
COGS: 12% of dose



**Point of Care
Companion
Diagnostic
(c-Fn)**

Screens 100% of bleeders
FDA/EMA approved platform
Results <15 min
5 patents; expiring 2032
COGS: \$10/test



Prediction BioSciences

- One approved product (off-patent t-PA) to treat ~1.7 M ischemic stroke episodes annually (US & EU only).
- 30 - 50% of patients treated with t-PA will experience bleeding events, 6 - 11% are fatal.
- First-to-market therapeutic-diagnostic combination that eliminates the significant risks and liabilities associated with t-PA therapy.
- Improved safety profile with similar efficacy drives rapid penetration of existing t-PA patient base and opens new opportunities for market expansion.
- Strategic investor in place to cover \$17.5 – 24.5 M (65 - 90%) of capital requirements through CYE 2018.

\$9.3 M needed to reach \$150 M enterprise value in 2 years, \$25.9 M needed to reach \$500M enterprise value in 4 years.



Prediction BioSciences

- **What Is It?**

A biosimilar to t-PA and companion diagnostic for the prevention of bleeding episodes in ischemic stroke patients.

- **How Does It Work?**

Prediction BioSciences' proprietary "theranostic" approach employs a proprietary, rapid diagnostic that selects only those stroke patients with the highest safety profile for treatment, and then treats them with a proprietary biosimilar to t-PA.

- **Why Is It Important?**

Lack of effective patient screening results in less-than-desirable safety profile for t-PA, the only approved acute treatment for the ~1.7 M ischemic stroke episodes occurring annually (EU & US). This results in only 40% and 25% of eligible patients receiving treatment in the EU and US, respectively.

A predictive screen for bleeding episodes in stroke patients would capture significant share of the existing \$1.4 B WW (12% AGR) market, and further expand this market opportunity by 2x and 3x in the EU and US, respectively.



Prediction BioSciences

■ Investment Thesis

- Strong market need – 30-50% of ischemic stroke patients treated with t-PA will experience bleeding episodes, 6-11% of which are fatal.
- Highly differentiated product (better safety profile, only proprietary, bundled offering) in an large (\$1.4 B) and growing (12% AGR) market.
- Short path to commercialization (42 - 48 months) due to advanced state of development & low regulatory hurdle.
- Experienced management team with successful track record commercializing biosimilars and companion diagnostics.
- Strong patent protection through 2032.
- Commitments from strategic partner and other non-dilutive funding sources limit dilution.
- Other applications for anti-coagulants in cardiovascular disease represent significant upside.



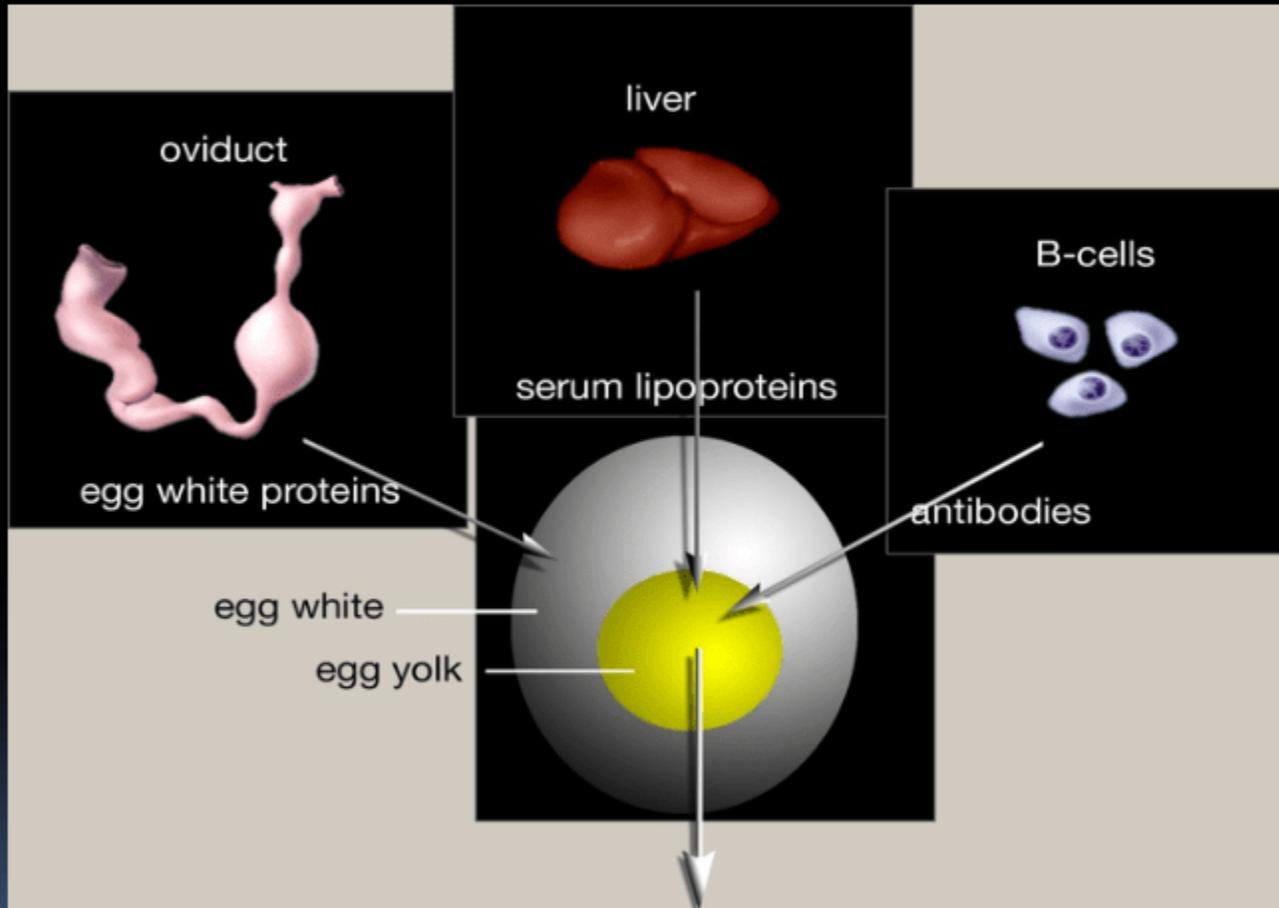
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OvationBio

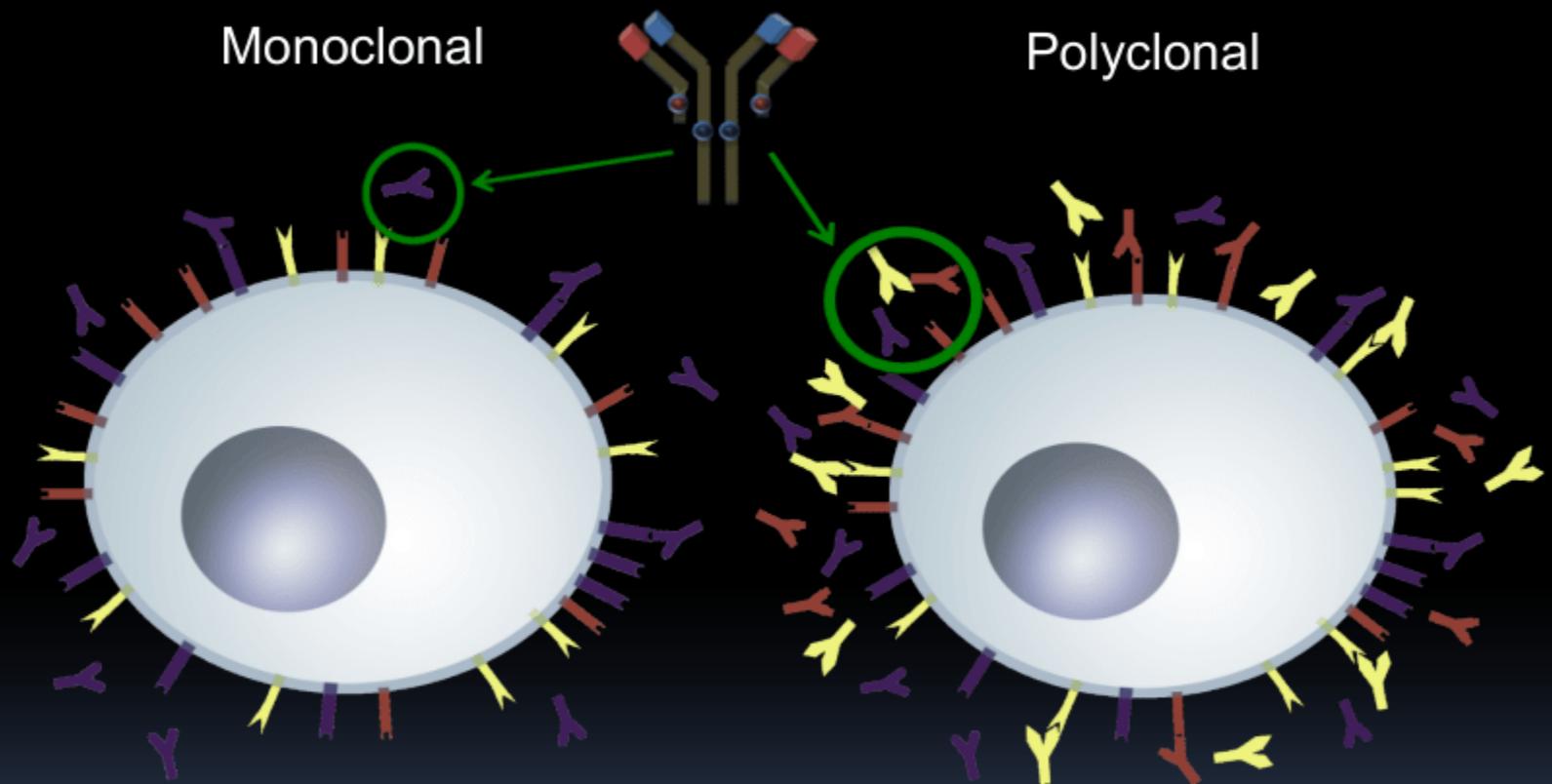


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Products Deposited in Eggs



Polyclonal Antibodies



Multivalency
Increased avidity
Increased potency
Increased effector function



OvationBio

We can produce entirely novel molecules in several multi-billion dollar markets.

- Huge market opportunity
 - Enzyme Replacement Therapy - \$15.0 B
 - Polyclonal Antibodies: *c. difficile*, MRSA - \$10.0 B
 - Factor VII Deficiency - \$5.8 B

\$25M needed to reach \$200M enterprise value in 3 years



OvationBio

Avian facility

Facility cost
\$22.5 M (@\$450/sf)

15,000 chickens
1000 kg per year
\$50/g for therapy

Revenue	\$50.0 M
Opex	<u>3.4 M</u>
EBITDA	\$46.6 M
Net Income	\$26.9 M

Payback period <12 months

Cell Culture Facility

Facility cost
\$625 M (@ \$25K/L)

25,000 L (1g/L)
25 Kg X 40 runs
1000 kg per year
\$50/g for therapy

Revenue	\$50.0 M
Opex	<u>17.5 M</u>
EBITDA	\$32.5 M
Net Income	(\$55.5 M)

Payback period ██████.



OvationBio

- **What Is It?**

The egg - a novel bioreactor. A patented manufacturing platform, with proprietary genes and novel manufacturing methods for the production of therapeutic enzymes, and human sequence monoclonal and polyclonal antibodies.

- **How Does It Work?**

OvationBio selects the most active and effective protein for our application. By using our proprietary transgenesis technology, we introduce the gene for this protein into primordial germ cells to create transgenic chicken strains. These transgenic chicken strains produce these proteins in the eggs they lay. The protein is then purified from the eggs for therapeutic applications.

- **Why Is It Important?**

OvationBio technologies enable the development of completely novel, patentable molecules that can be produced in facilities at 1/30th of the capital cost and 1/7th of the operating costs associated with current production technologies.



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OvationBio

Investment Thesis

- Our patented manufacturing platform yields significant reductions in capital (30x) and operating costs (7x).
- Current market opportunity for enzyme replacement therapy, polyclonal antibodies, and factor VIII deficiency is >\$30 B.
- We already have a significant investor/strategic partners willing to participate, and non-dilutive funding is available.
- We have experienced scientific and management teams that have successfully done this before.

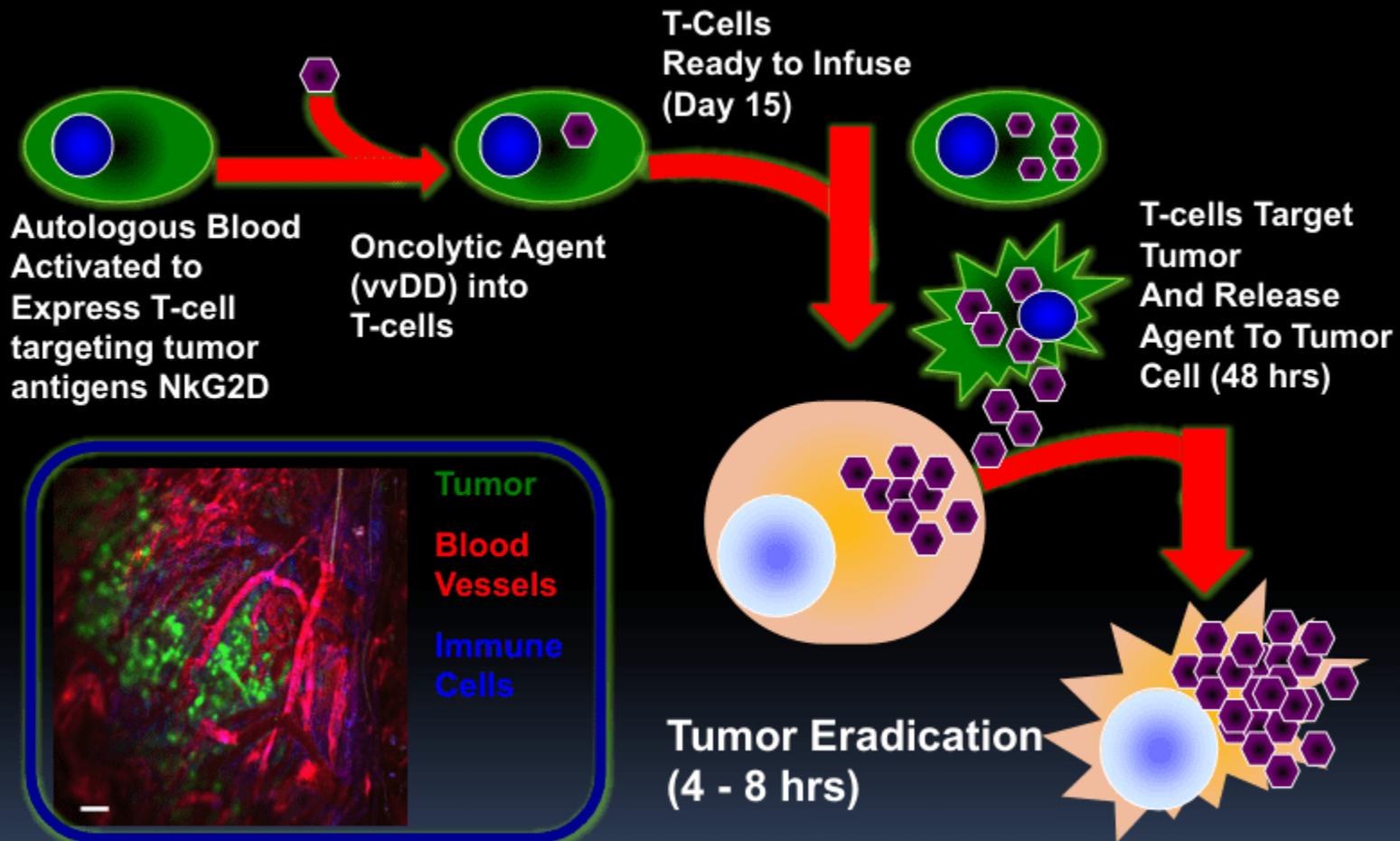


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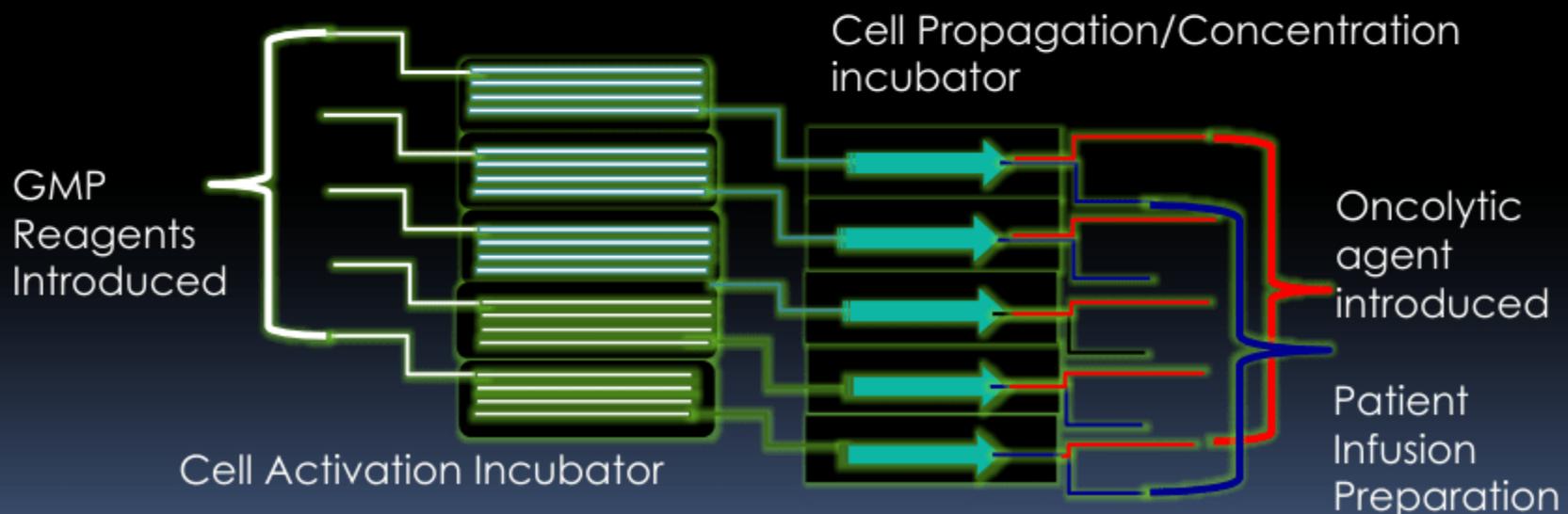
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ConcentRx



ConcentRx

A **cell-based therapy platform** that is fully automated, high throughput, scalable, and lower cost that allows a patient's cells to be activated and propagated **at the point of care** with specific and optimized therapeutic function.



ConcentRx

Clinical studies (e.g. Dendreon, Juno) have unequivocally shown that combining an appropriate autologous immune cell with an appropriate tumor cell antigen can achieve a demonstrable oncolytic effect in humans.

The ConcentRx technology platform further advances the state of the art in autologous immune cell cancer therapies by:

- Employing the patient's own enriched, activated T cells as a delivery vehicle to protect the oncolytic agent from the patient's immune system prior to reaching its target.
- Highly efficient targeting by employing an abundant and specific tumor cell antigen (NKG2D).
- Conferring long term immunity to tumor cells, post-therapy
- Incorporating simplified, cost-effective, and scalable immunotherapy production at the point of care.



D&CART CAPITAL LLC

ConcentRx

- **What Is It?**

A proprietary technology platform that adds critical therapeutic function to a patient's own cells, and allows the formulation of specific strategies to treat disease with a precision medicine approach. The platform enables simplified, scalable and cost-effective therapeutic production at the point of care.

- **How Does It Work?**

In the ovarian cancer application, autologous blood cells are drawn from the patient, these cells are activated to express molecules that target tumor antigens (NKG2D). An oncolytic agent (vaccinia virus) is incorporated into the targeting T-cells, the T-cells are injected into the patient, where they then target the tumor cells, release the oncolytic agent into the tumor cells, and eradicate the tumor cells via lysis.

- **Why Is It Important?**

The technology platform produces oncolytic agents that are highly tumoricidal, and after therapy there is *sustained immunity* against the cancer type that was treated. The platform has the potential to target all tumor types, and it can confer *sustained immunity* to all tumor cells (both bulk tumors and metastatic disease).



D&CART CAPITAL LLC

ConcentRx

Investment Thesis

- Poised to quickly file IND with unprecedented preclinical data in an area of high unmet medical need – ovarian cancer.
- Both components of the dual biotherapy (CIK cells, vaccinia virus) have been extensively vetted by the scientific and regulatory community, and have both been FDA approved for human therapy.
- Platform technology play in autologous cell-based immune therapy
 - production of therapy for other partners in the space
 - joint development deals with companies seeking to develop autologous therapies
 - own product portfolio
- Scientific and management team has a proven track record.

ConcentRx

Broadly enabling technology platform in autologous cell-based immunotherapy.

- Next generation cancer immunotherapy
- Regenerative medicine for organs & joints
- Immune system prophylaxis and restoration

\$5 M needed to reach \$40M enterprise value in 18 months.
\$25M need to reach \$300M enterprise value in 4 years.



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Summary

- Investment opportunities identified
- 4 projects teed up
- We are hunting “big game”
- Short time & limited capital to profit/liquidity
- I have hands-on experience doing this successfully
- Competitive fees – 2%/20%

Target >25% ROI for the portfolio. 3x return in 5 years, 5x return in 7 years



Return on Investment

Xenogen



Cobalt Biofuels



Advisory Board

Thomas Shenk,

Dr. Shenk is the Elkins Professor in the Department of Molecular Biology at Princeton University. Professor Shenk is the recipient of the Eli Lilly Award from the American Society of Microbiology, an American Cancer Society Professorship and an Investigatorship from the Howard Hughes Medical Institute. He is a past president of the American Society for Virology and a past president of the American Society for Microbiology. He is currently a member of the National Science Advisory Board for Biosecurity, and a member of the Board of Directors of CV Therapeutics, and Merck and Company.

Robert Dow, BSc MBChB FRCP (Edin)

Dr. Dow's current position is as Vice President of Strategic Product Development for PPD, a global Contract Research Organization. Previously, Dr. Dow served as Chief Medical Officer and Senior Vice President of medical affairs at Cell Genesys. He oversaw all clinical, regulatory and medical affairs activities associated with Cell Genesys' product portfolio. Prior to Cell Genesys, he was Chief Executive Officer of Biolitec Pharma Ltd., a U.K.-based biotechnology company, and also previously held senior executive positions with Quantanova and Scotia Holdings, plc. Prior to that, Dr. Dow was head of Global Drug Development with Hoffman-La Roche in Basel, Switzerland and previously was with Syntex Corporation for over 10 years in various senior positions in drug development. Dr. Dow holds a B.Sc. in Medical Science from the University of St. Andrews and his medical qualification, an MBChB degree, from the University of Dundee in Scotland. He also is a Fellow of the Royal College of Physicians of Edinburgh and a Fellow of the Faculty of Pharmaceutical Physicians.



Advisory Board

Pamela R. Contag,

Dr. Contag most recently served as Founder and CEO of Cobalt Technologies, Inc. a venture-backed biofuels company, and raised \$40M dollars and placed Cobalt in the top 20 clean tech companies in the US in 2008. Prior to Cobalt, she served as Founder and President of Xenogen Corporation from 1995-2006, with an IPO in 2004 and a merger with Caliper Life Sciences in 2006. She has 36 issued patents and over 65 publications in the field of Microbiology and Engineering and she is a founding Board Member of the Startup America Foundation.

Howard Pien

Mr. Pien most recently served as Chairman of the Board and CEO of Medarex, Inc. from 2007 to its acquisition by Bristol Myers Squibb Company in September 2009. Prior to that, he was a private consultant from 2006 to 2007. Prior to that he served as President and CEO of Chiron Corporation from 2003 to its acquisition by Novartis AG in 2006. Prior to that he served in various executive capacities for GlaxoSmithKline plc (GSK) and its predecessor companies, culminating in his tenure as President of GSK's International Pharmaceuticals business from 2000 to 2003. Prior to joining SmithKline Beecham plc Mr. Pien worked for six years at Abbott Laboratories and for five years at Merck & Co. Mr. Pien is also a director of Vanda Pharmaceuticals and ViroPharma Incorporated.



References

- Michael Eisenson – Charlesbank, Managing Partner
- Alan Salzman – VantagePoint, Managing Partner
- Kevin Hrusovsky – Perkin Elmer, President of Life Sciences & Technology
- Dan Junius – Immunogen, CEO
- Al Sommers – JHU, Former Dean, School of Public Health
- Chris Jones – J Walter Thompson, former CEO
- Bill Halter – Lt. Governor, Arkansas





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