



D&CART CAPITAL LLC

A Distinguished
Building for Noble
and Nobel Scientists

Emery Station East

www.emerystationeast.com



DaCart Life Science
DaCart Cleantech

**INVEST IN FUTURE
TECHNOLOGIES**

Investing in High Technology

- Russian wealth needs investments in stable economies & access to centers of innovation (Silicon Valley)
- European economies are threatened by upcoming currency crisis
- 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 5 investments are ready, 3 backups
- 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
 - Biofuels – current “big thing”
 - Water – next “big thing”



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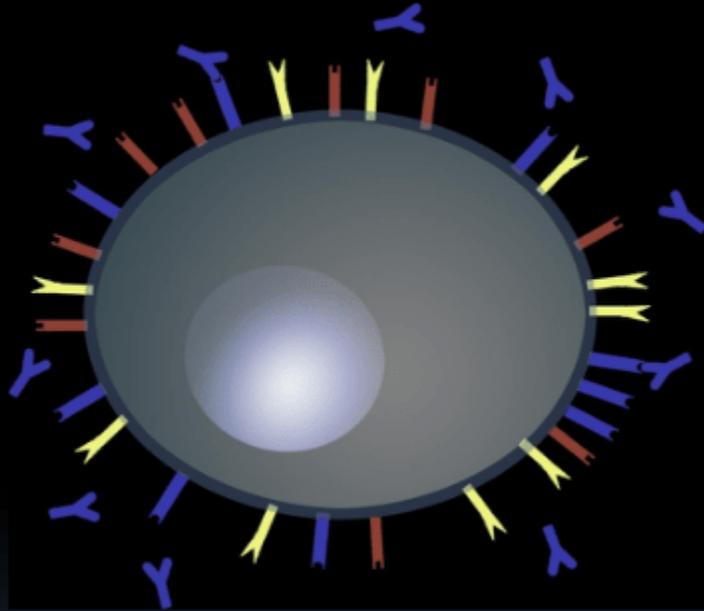
Ovation Therapeutics



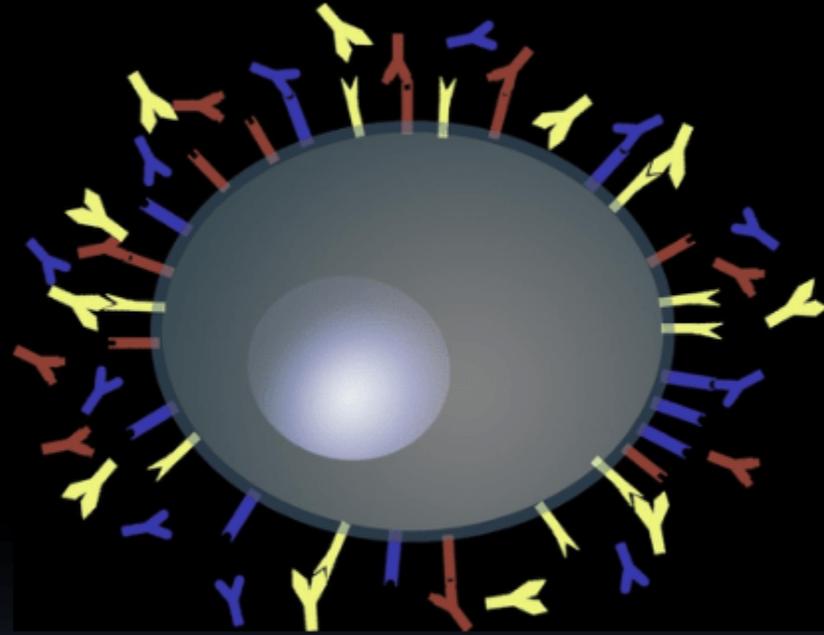
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Ovation Therapeutics

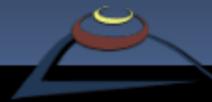
Monoclonal



Polyclonal



Multivalency
Increased avidity
Increased potency
Increased effector function



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Ovation Therapeutics

- Next-generation antibody therapy
- Monoclonals are big (\$26B in 2010), polyclonals are better
- Polyclonal production available in Q4, 2012
- “Killer app” in hospital acquired infections

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



Ovation Therapeutics

■ What Is It?

Ovation has a proprietary platform to create next-generation polyclonal antibody therapeutics and improved monoclonal antibody therapeutics.

■ How Does It Work?

Ovation's genetically modified chickens (transgenic) contain a humanized immune system that can generate human sequence polyclonal antibodies. The ability to make these humanized antibodies is passed to the offspring. The transgenic chickens can be immunized to generate antibodies that are specific to target antigen challenges.

The transgenic chickens produce their polyclonal antibodies in the yolk of the eggs they lay. The therapeutic protein is purified from the egg for clinical use. A small flock of chickens is sufficient to generate commercial quantities of disease-specific therapeutics.

■ Why Is It Important?

Although monoclonal antibodies will generate over \$26B in pharmaceutical sales in 2010, monoclonal antibodies target only individual disease related molecules. However, diseases are complex with many molecular components, and in fact, our natural immune response is polyclonal. Polyclonal antibodies offer the promise of significantly more effective therapeutics for a wide range of human diseases.



Ovation Therapeutics

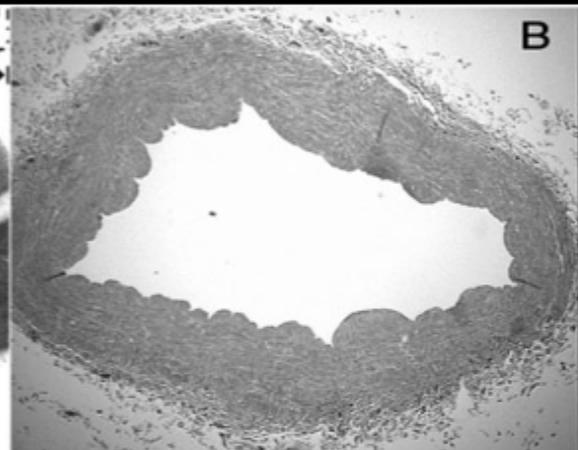
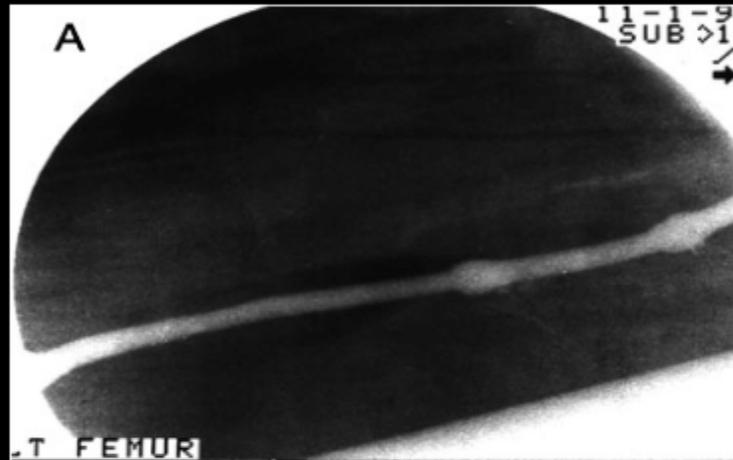
■ Investment Thesis

- Ovation has demonstrated proof of concept by humanizing a part of the chicken antibody locus and demonstrating an antigen specific immune response. The next significant value inflection for the company is the production of humanized polyclonal antibodies that are specific to a disease (in Q4, 2012), which will occur well in advance of an FDA approval of an actual polyclonal product.
- We have the intellectual property.
- We have significant scientific and commercial validation from strategic partnerships and government grants.
- Our system can both discover and produce commercial quantities of human sequence polyclonal antibodies, and to do it on extremely cost-effective basis.
- EVERY PHARMACEUTICAL COMPANY WILL BE INTERESTED IN THIS TECHNOLOGY.

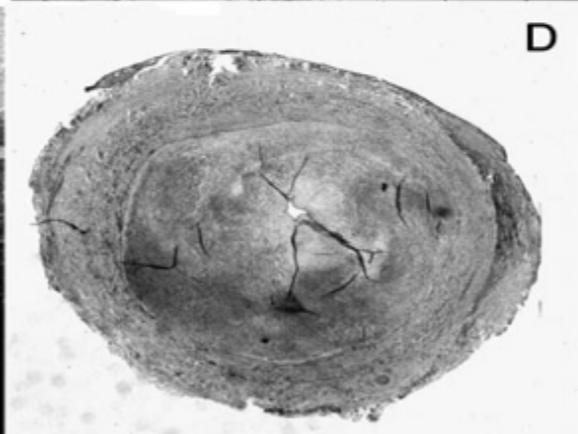
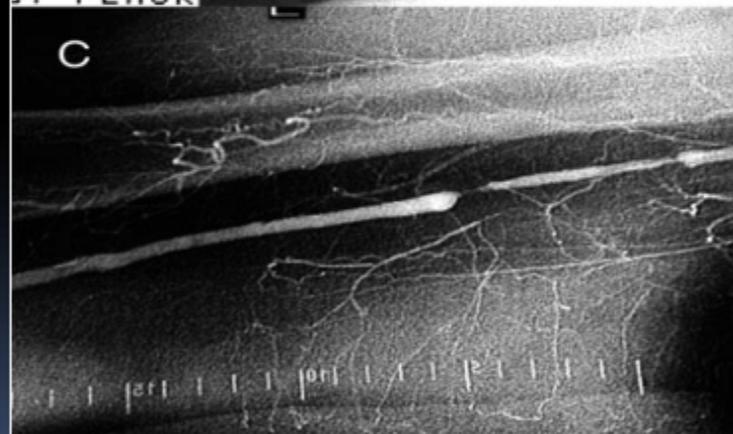


Maji Therapeutics

Intra-op



Post-op
(8 months)

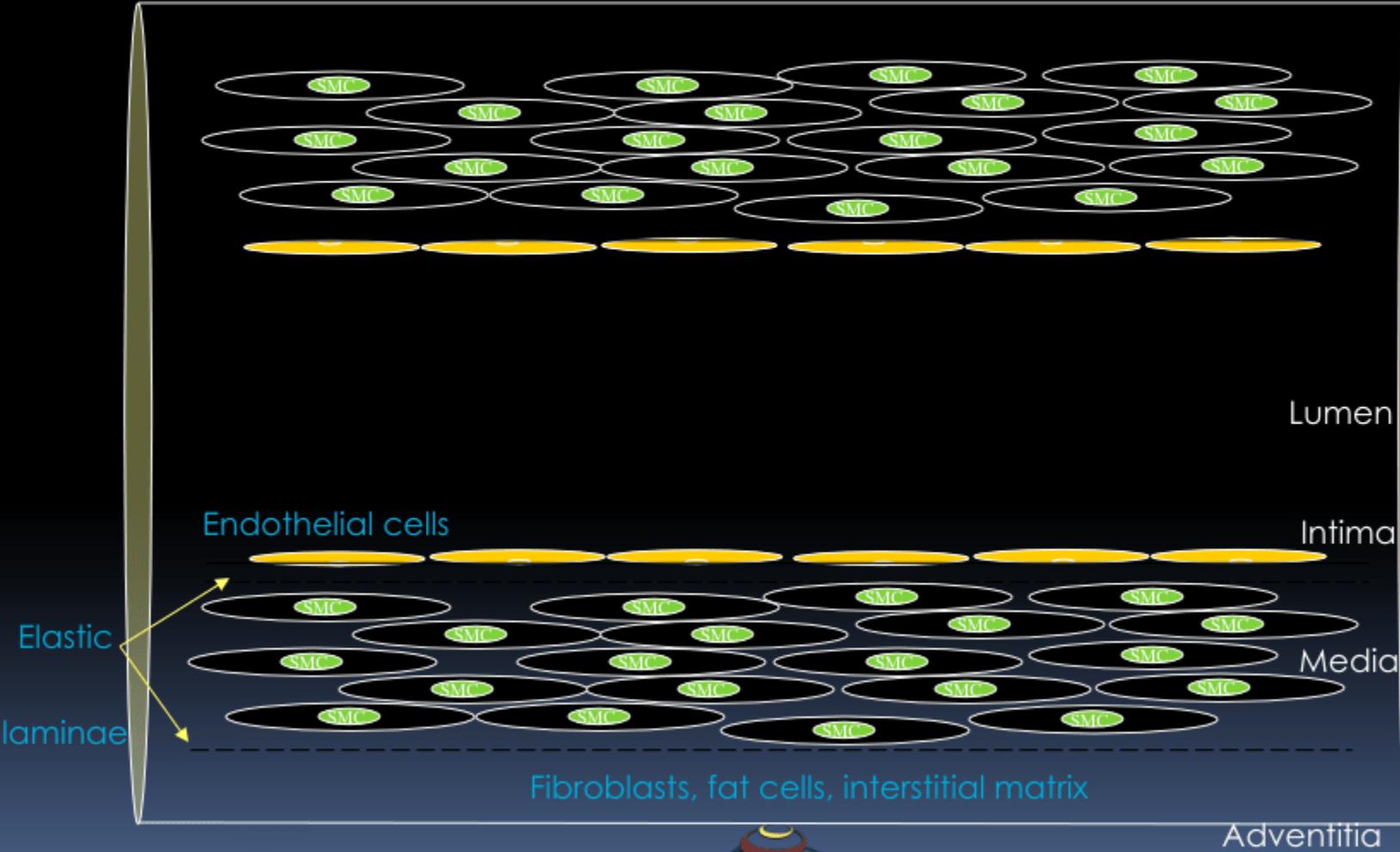


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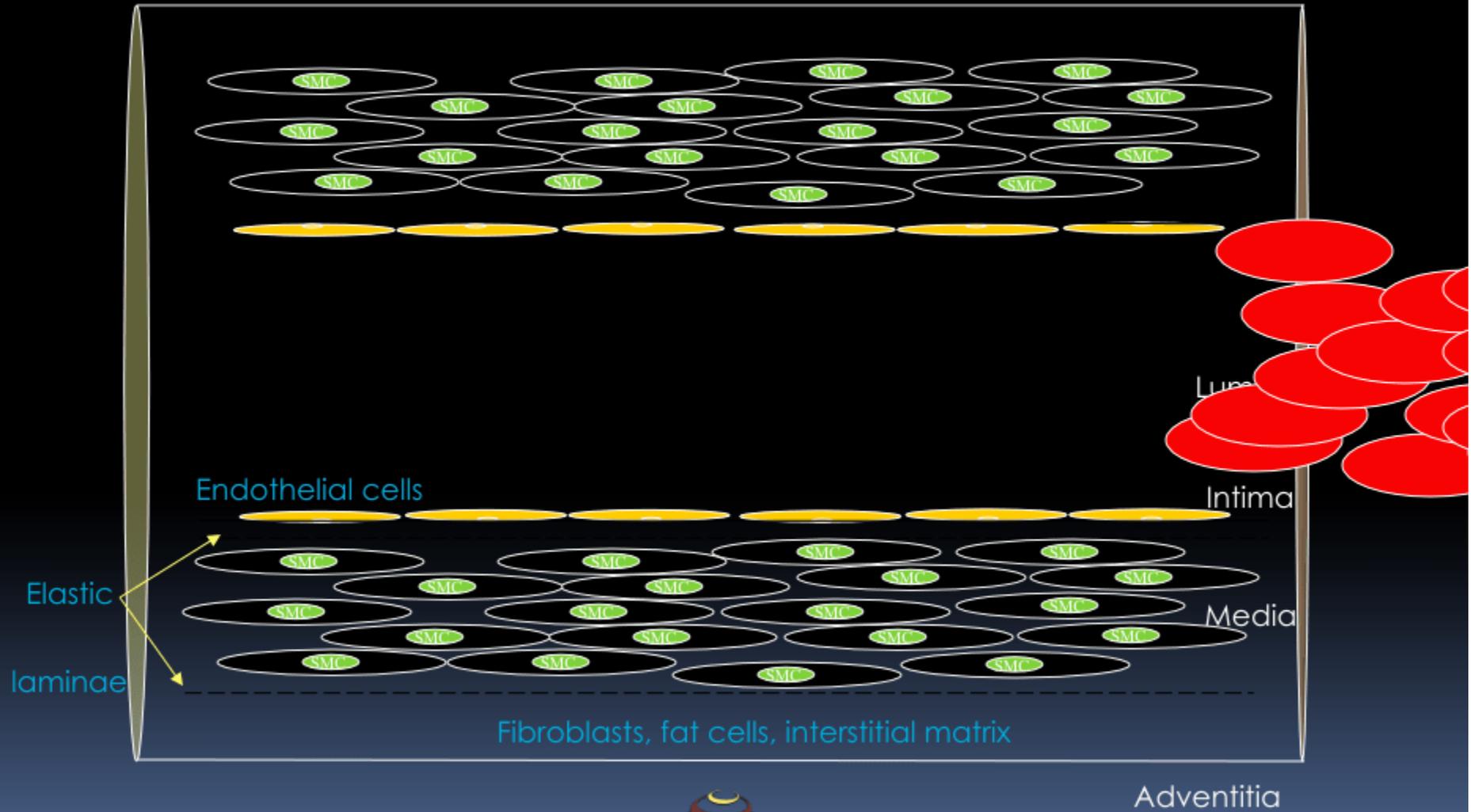
Maji Therapeutics



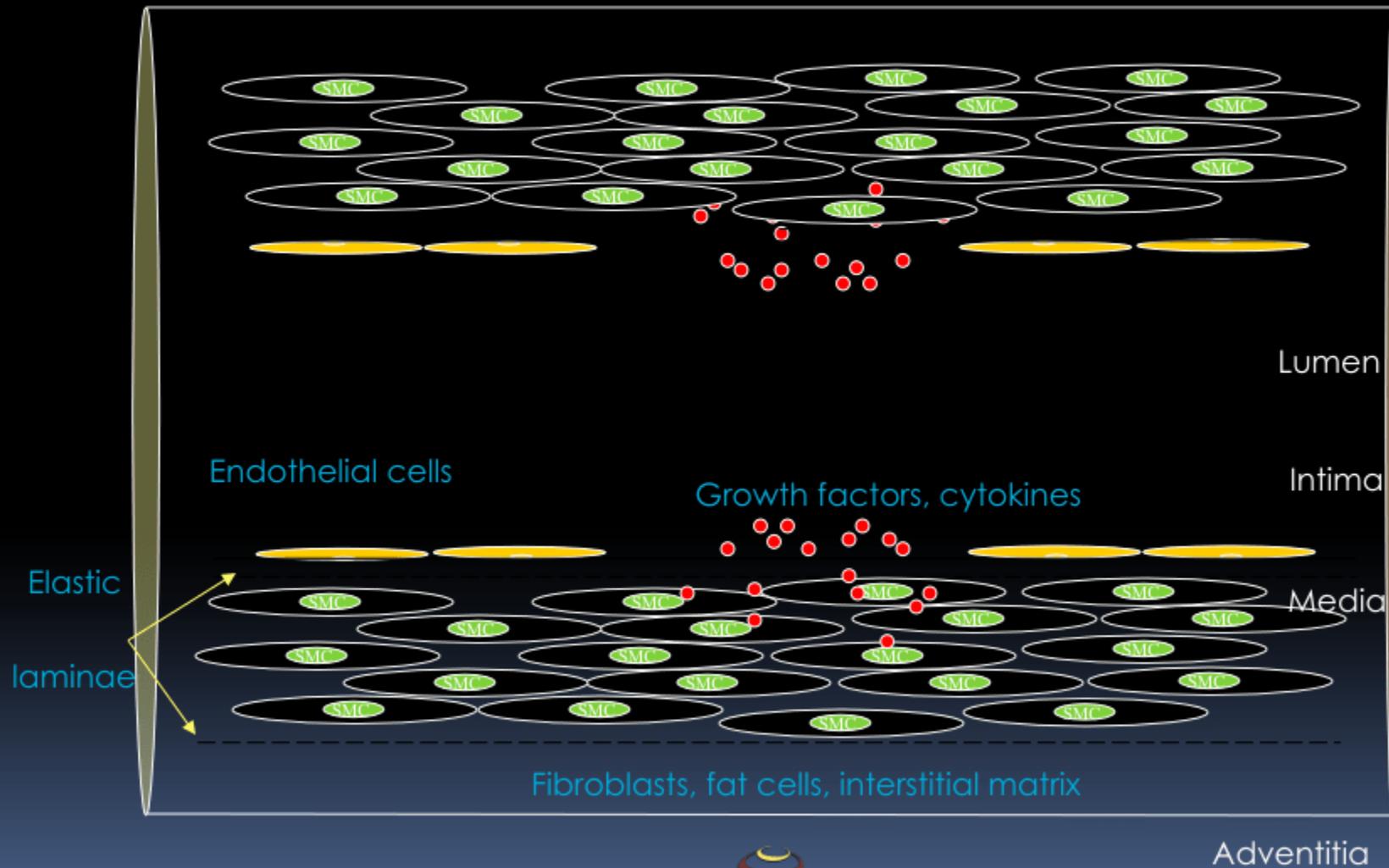
Normal Vein Structure



Injury to the Vessel During Surgery

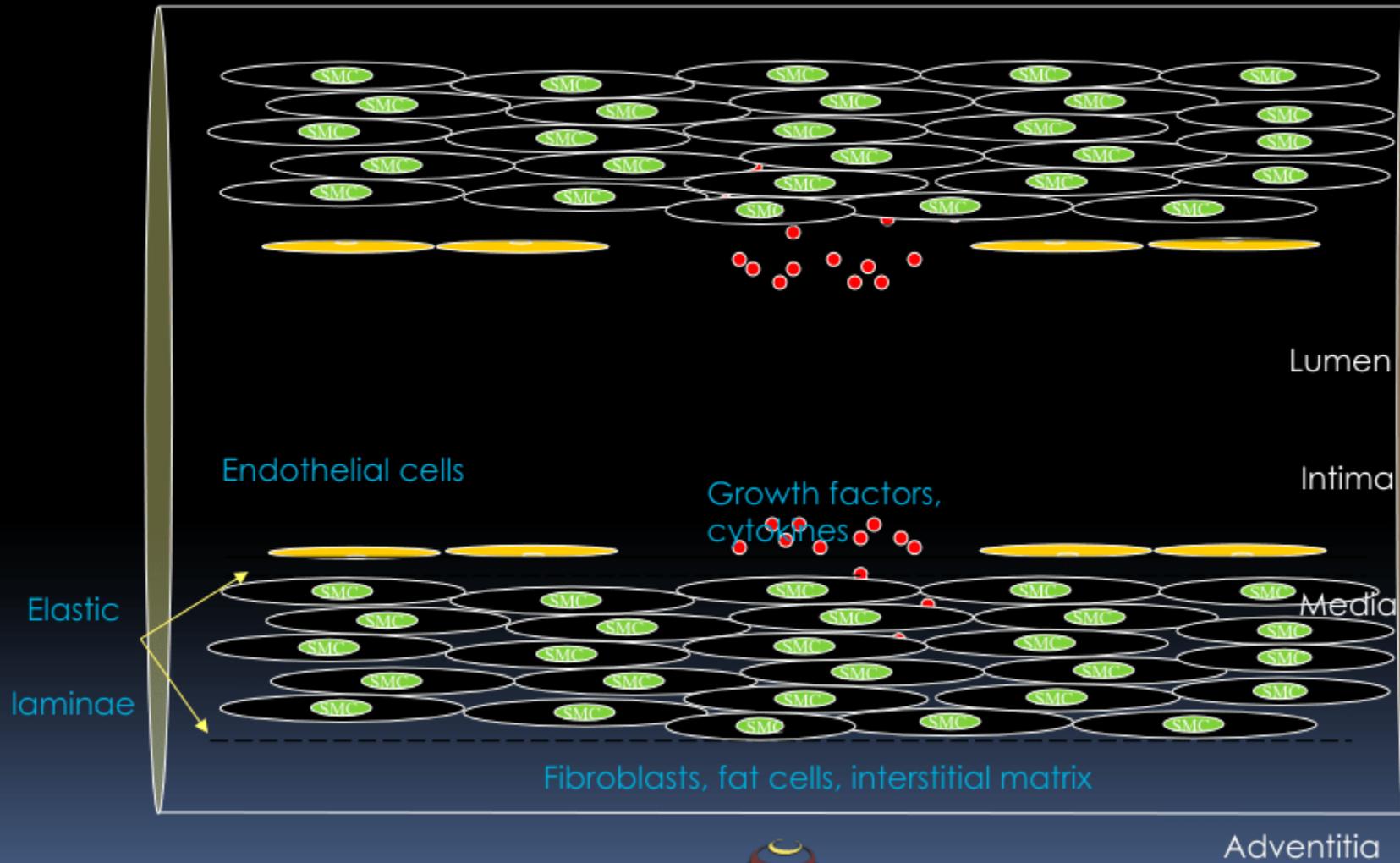


Growth factors, cytokines leading to smooth muscle cell proliferation

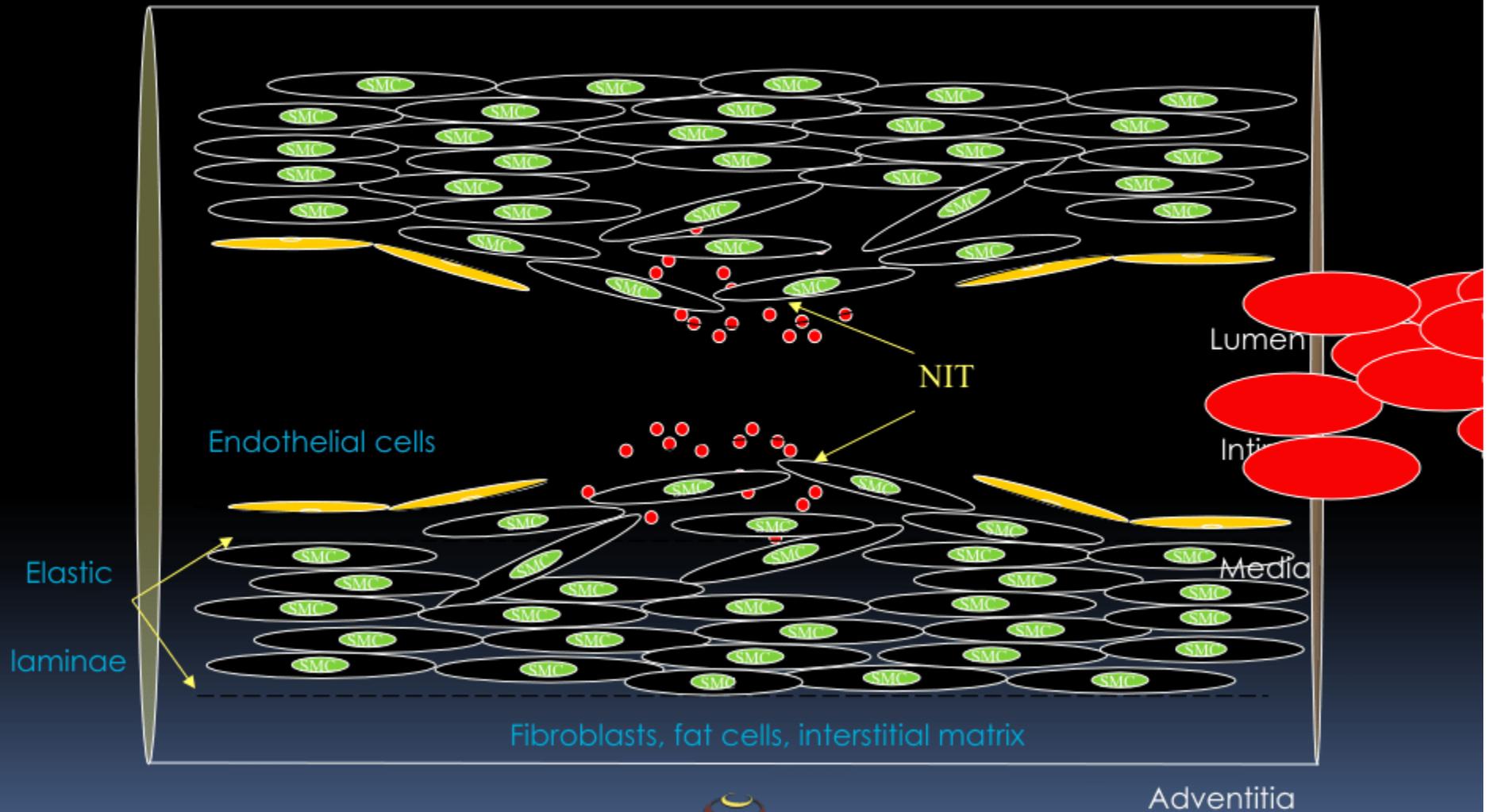


Mechanism of Neointimal Thickening

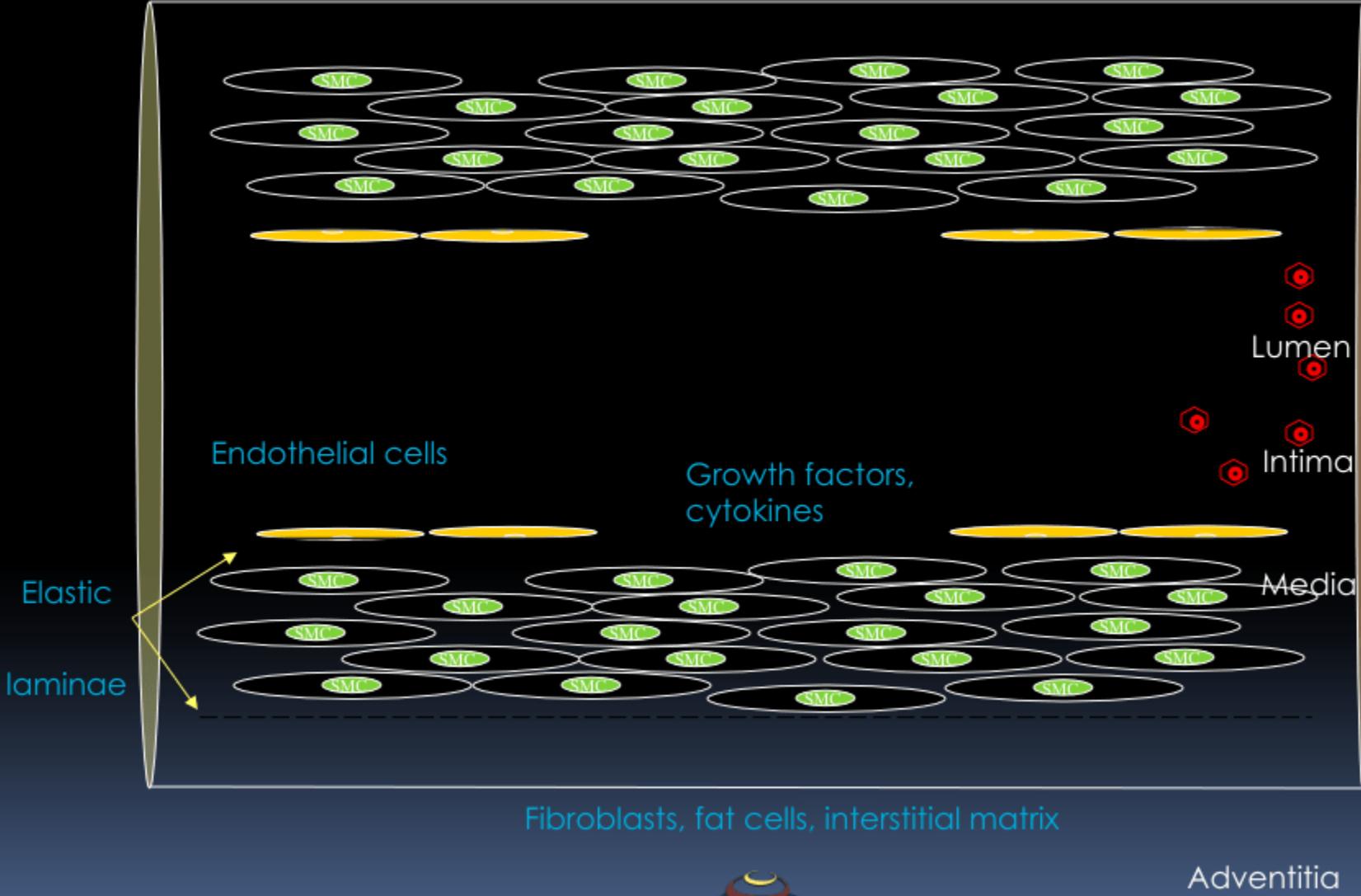
Medial SMC proliferation



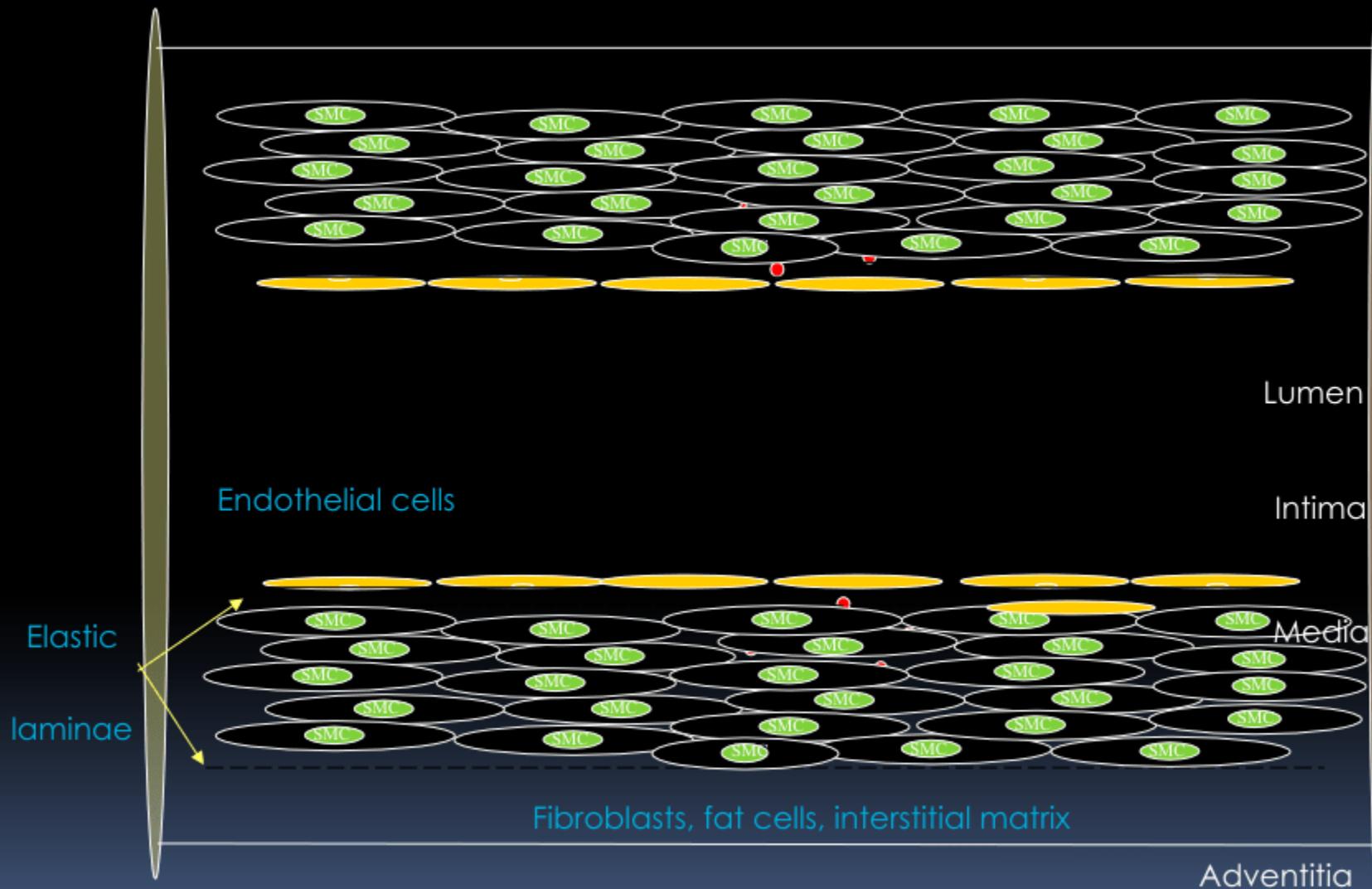
SMC migration and neointimal lesion development and graft failure



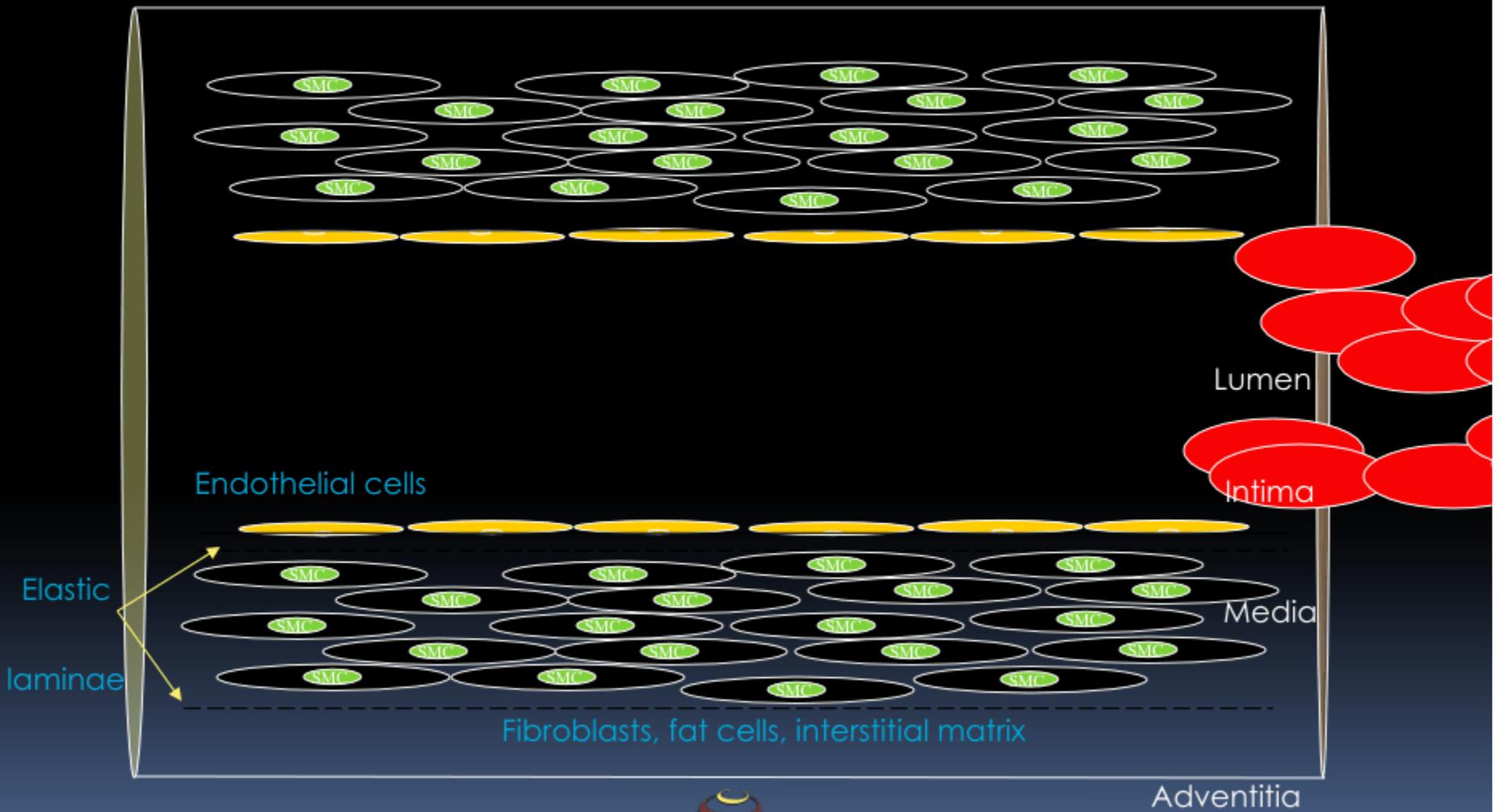
Delivery of Virus



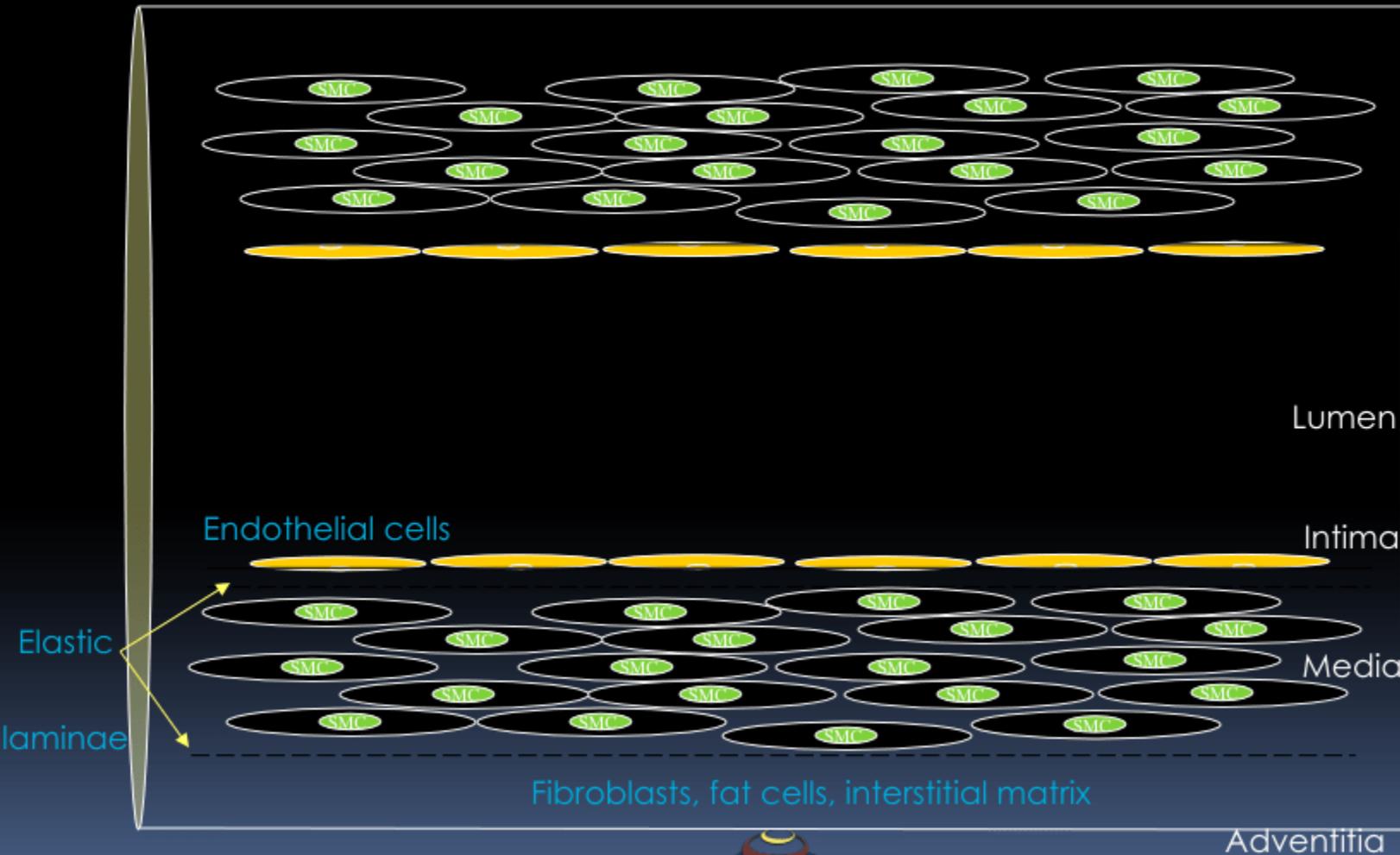
Virally mediated prevention of SMC proliferation



Prevention of Graft Failure



Clinical Objective



Maji Therapeutics

saline solution



vein graft



HSV 1



Permeable tube inserted into vein



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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
 - 900,000+ annual procedures worldwide
 - \$7.6 billion worldwide
 - Little to no competition

\$35M needed to reach \$200M enterprise value in 4 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 profused (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 GABG procedures fail within the first year of surgery due to neointimal hyperplasia. These grafts then need to be either repaired or redone at a medical cost of \$105K per failure, and not to mention the "quality of life" cost to the patient.



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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 payer.
- The market potential for the therapeutic is \$7.6B per year.
- We can generate “pharmaceutical margins”.
- THERE IS LITTLE TO NO COMPETITION.



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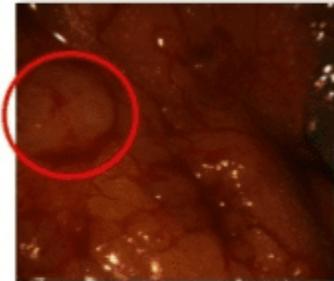
SurgOptix

SurgOptix, Inc.

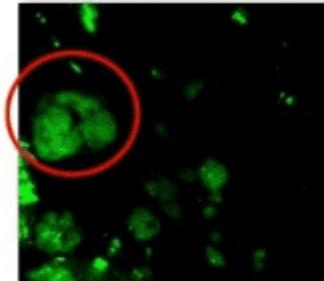
Light up cancer cells, remove them, and save lives.



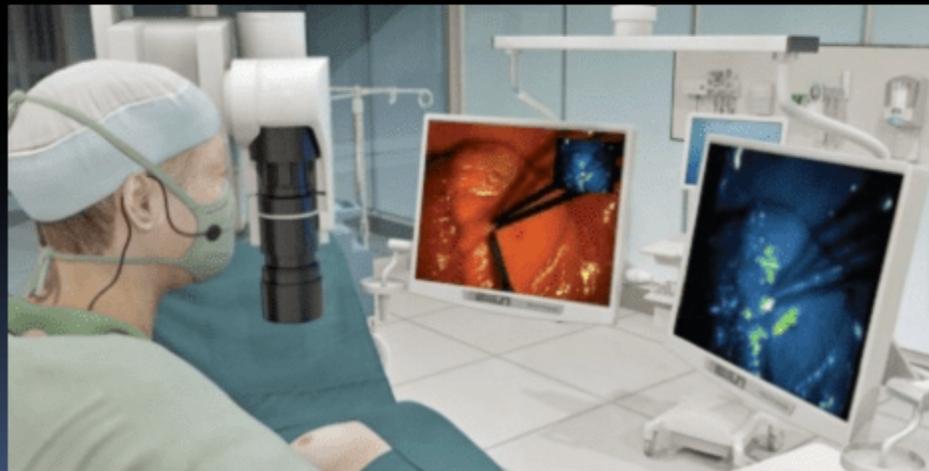
What the eye sees



Expert surgeon sees tumor



SurgOptix sees all cancer
(false green)



SurgOptix

- Pioneering company in fluorescence-guided surgery
- “Holy grail” – precisely distinguish healthy from diseased tissue in the surgical field
- Real-time feedback, safe, not disruptive to workflow
- System in the clinic in EU, compelling data being generated
- Big market - \$1.8 billion in equipment, \$1.3 billion in annual consumables

\$15M needed to reach \$100M enterprise value in 3 years



D&CART CAPITAL LLC

SurgOptix

■ What Is It?

A way to positively distinguish diseased and damaged tissue from healthy tissue during surgery. The initial focus will be on detecting primary and metastatic cancers that would otherwise be invisible to the surgeon.

■ How Does It Work?

The integrated system consists of a "targeting optical contrast agent" that is specific for the patient's cancer, and a "low light optical imaging camera" which is used by the surgeon to view the surgical site. The targeting optical contrast agent is administered systemically and carries a fluorescent probe to the tumor cells specifically. When the fluorescent probe is exposed to laser light, it "fluoresces". When the patient is "opened up" and the surgeon shines the laser light on the surgical site, only the cancer cells will light up. This fluorescence is only visible through the highly sensitive imaging system. Simultaneously, real-time video with visible light showing color of the operation field is provided. The surgeon can select either the fluorescent video mode, color image mode or a fused video of both fluorescence and color. The surgeon uses the imaging system to view the surgical site and removes only glowing "cancerous" cells.

■ Why Is It Important?

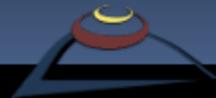
Being able to remove ALL the cancer cells without removing excessive healthy tissue is the Holy Grail in oncology surgery. It is estimated that by removing all the cancer cells, patient survival will improve by 30%.

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SurgOptix

■ Investment Thesis

- This integrated real-time clinical imaging system is already in the clinic in Holland. It is producing “spectacular” data.
- We have a patent-protected position for both the probes and imaging system + deconvolution software.
- The market opportunity is estimated at \$1.8B for equipment and \$1.3B in annual consumables.
- We already have a strategic investment and commercialization partner.



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Bantam



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Bantam

- Low cost enzymes for therapeutic and industrial applications
 - Capital costs reduced 30X
 - Operating costs reduced 7x
- Proprietary platform comprising
 - Transgenic chickens & protein production in eggs
 - Proprietary strains & enzymes
 - The egg as a novel bioreactor (biology designed to concentrate protein)
- Huge market opportunity
 - Enzyme Replacement Therapy - \$15 B
 - Factor VIII Deficiency - \$5.8 B
 - High-Value Industrial Enzymes - \$3.3 B

\$30M needed to reach \$500M enterprise value in 5 years



Bantam

■ What Is It?

An industrial enzyme platform technology, with proprietary genes and novel manufacturing for the production of enzymes with a variety of therapeutic and industrial applications.

■ How Does It Work?

Bantam is a joint venture between Origen Therapeutics and Cygnet Biofuels to use the low cost manufacturing platform and the proprietary strain library to make low cost enzymes in eggs.

■ Why Is It Important?

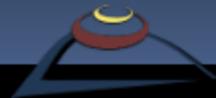
- Bantam technologies are up to 30x more capital cost efficient and up to 7x more operating cost efficient than current production technologies.
- Bantam can pursue a cost leadership strategy in several multi-billion dollar markets:
 - Enzyme replacement therapies - \$15 B
 - Factor VIII deficiency - \$5.8 B
 - High-value industrial enzymes- \$3.3 B



Bantam

Investment Thesis

- Our patented manufacturing platform yields significant reductions in capital (30x) and operating costs (7x).
- Current market opportunity for industrial enzymes, enzyme replacement therapy and factor VIII deficiency is ~\$25 B.
- We already have a significant investor/strategic partner willing to participate, and non-dilutive funding is available.
- We have experienced scientific and management teams from Genencor and Cobalt that have successfully done this before.



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Cygnet Biofuels

- 33 - 50% of feedstock carbon is lost to CO₂
- Feedstock carbon (corn) is 70 – 80% of production costs
- Carbon capture & recycle significantly improves production yield & plant economics



Cygnets Biofuels

- In 2011, ~200 refineries in the U.S. will produce ~14.0 B gallons of ethanol (E10 demand).
- Margins under pressure due to the rising cost of the predominant feedstock (corn).

	<u>2006</u>	<u>2011</u>	<u>% Δ</u>
Ethanol price	\$2.55	\$2.62	2.7
Feedstock cost (corn)	\$0.56	\$1.81	223.2
Other variable costs	<u>\$0.53</u>	<u>\$0.46</u>	<u>(13.2)</u>
Margin	\$1.46	\$0.35	(76.0)

- Rising cost of crude oil and government policies drive transition from fossil fuels:
 - 2007 EISA (Energy Independence & Security Act) – 36.0 BGPY in 2022
 - VEETC - \$0.45/gal (starch-derived), \$1.01/gal (cellulose-derived)
 - EPA Waiver – blending limit raised (E10 to E15)
- Cellulosic biofuels cannot meet higher RFS due to technical hurdles + high cost of new plants (\$5/gal).
- Cygnets technology increases production yield by 20 - 25%, generating \$0.30 - \$0.35/gallon of incremental margin (\$16.25 M per annum at 50 MGPY faceplate).
- Huge commercial opportunity
 - \$0.10/gallon royalty - \$363 million/year (@ 2.5 % share), \$725 million/year (@5% share), \$1.45 billion/year (@ 10 % share)

\$X M needed to reach \$Y M enterprise value in 5 years

Cygnets Biofuels

■ What Is It?

An equipment module, consisting of a novel bioreactor and proprietary organisms, that "bolts onto" an existing refinery and converts waste CO₂ into high value end-product (ethanol), thereby dramatically improving production yield and plant economics.

■ How Does It Work?

33 - 50% of total biomass carbon used to produce ethanol is released into the atmosphere as waste CO₂. Cygnets's technology captures and converts CO₂ to ethanol, resulting in ~20% more production yield per unit of feedstock.

■ Why Is It Important?

The USA consumes 145 billion gallons of transportation fuel annually.

U.S. government mandates that X billion of this fuel be classified as renewable.

Corn-derived ethanol is the predominant (>95%) renewable fuel, but rising feedstock costs limit its potential.

We need a sustainable energy solution. Such a solution requires access to multiple low cost, renewable feedstocks.

-
- Our system is cost and capital efficient. It is modular and thus highly scalable.



Cygnet Biofuels

■ Investment Thesis

- The integrated bioreactor produces biofuels at an operating cost of \$1.30/gallon. The capital cost for the bioreactors themselves is \$2.50/gallon at commercial scale.
- The servable market in the USA is 20% of 145 billion gallons - \$58 billion/year.
- We already have a significant investor/strategic partner willing to participate, and non-dilutive funding is available.
- The scientific and management teams have successfully brought biofuel technology to commercial scale.



Other Opportunities

- ConcentRx - Oncology
 - Personalized cancer therapy
 - A potential cure?
 - Huge market opportunity
- CallImmune – AIDS
 - David Baltimore founded
 - Gene therapy
 - Fixes the problem
 - Eliminates long-term medication
- Zephyr – Water Reclamation & Purification
 - Purity up to WFI
 - Low operating/capital cost
 - Huge market opportunity



Summary

- Investment opportunities identified
- 5 ready, 3 backups
- 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



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.



Advisory Board

Andreas Bremer,

Dr. Bremer currently serves as Senior Vice President and Chief Business Officer of The Medicines Company (NASDAQ: MDCO). Prior to that, he was Founder and CEO of the Brilleon Group a venture capital firm focusing on early and late-stage biotech opportunities in Europe and the US. Prior to that he was Co-Managing Director of AP Anlage & Privat Bank. Prior to that he was Co-founder and Managing Director of AP Asset Management where he built AP Asset Management to >\$300 million in assets in two years. Prior to AP Asset Management, he served as Managing Director, and co-founder of MPM's Asset Management's first fund. Prior to MPM, Dr. Bremer served as Fund Manager for BB Biotech where he grew BB Biotech from >\$300 to >\$1,000 million in net asset value while achieving +21% returns over the course of four years.



References

- Michael Eisenson – Charlesbank, Managing Partner
- Alan Salzman – VantagePoint, Managing Partner
- Alex Barkas – Prospect, Managing Partner
- Kevin Hrusovsky – Caliper Life Sciences, CEO
- 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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A Distinguished
Building for Noble
and Nobel Scientists

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