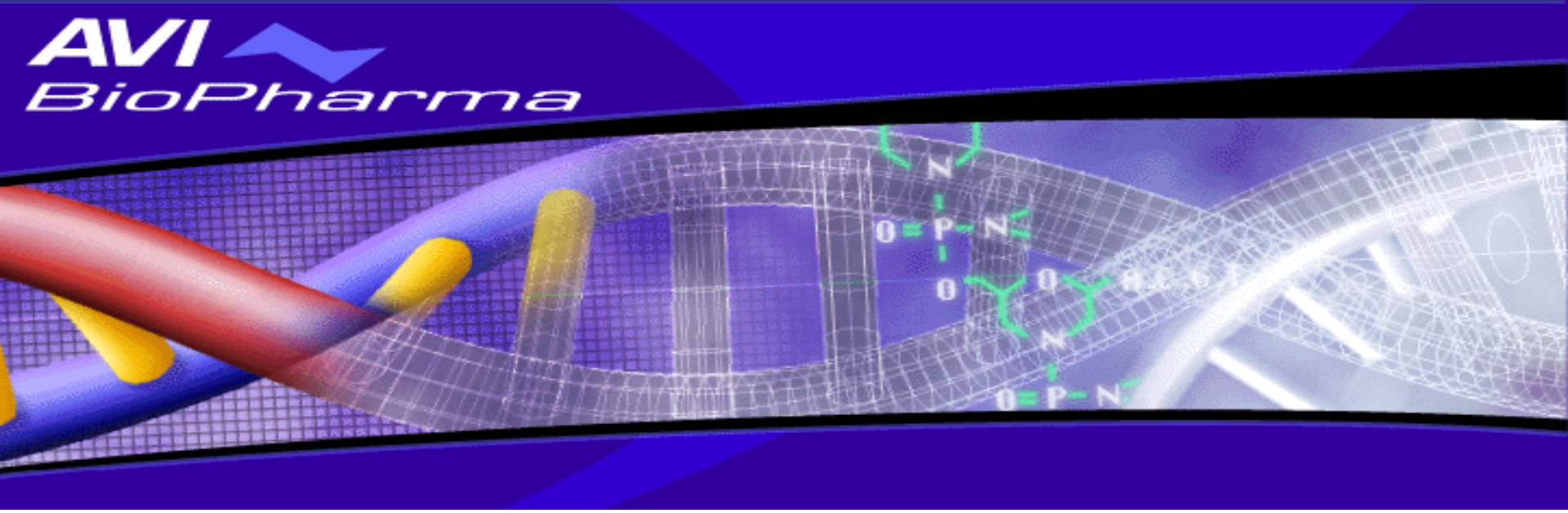
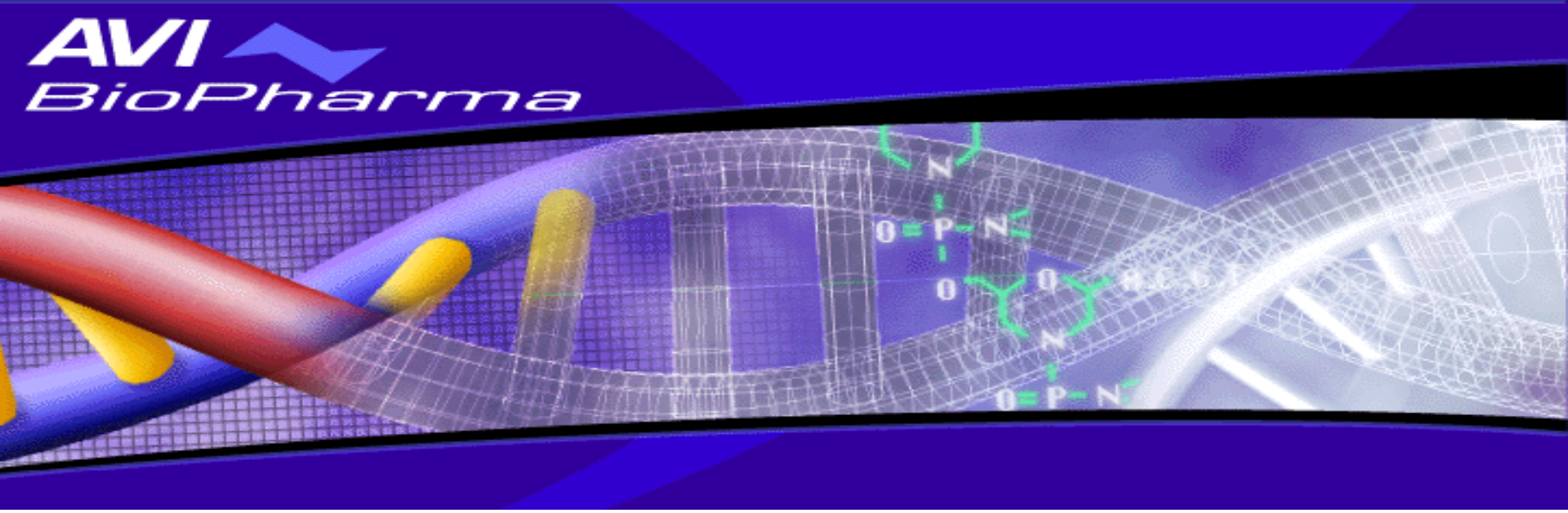


Dr. Leslie Hudson

President and CEO
AVI BioPharma

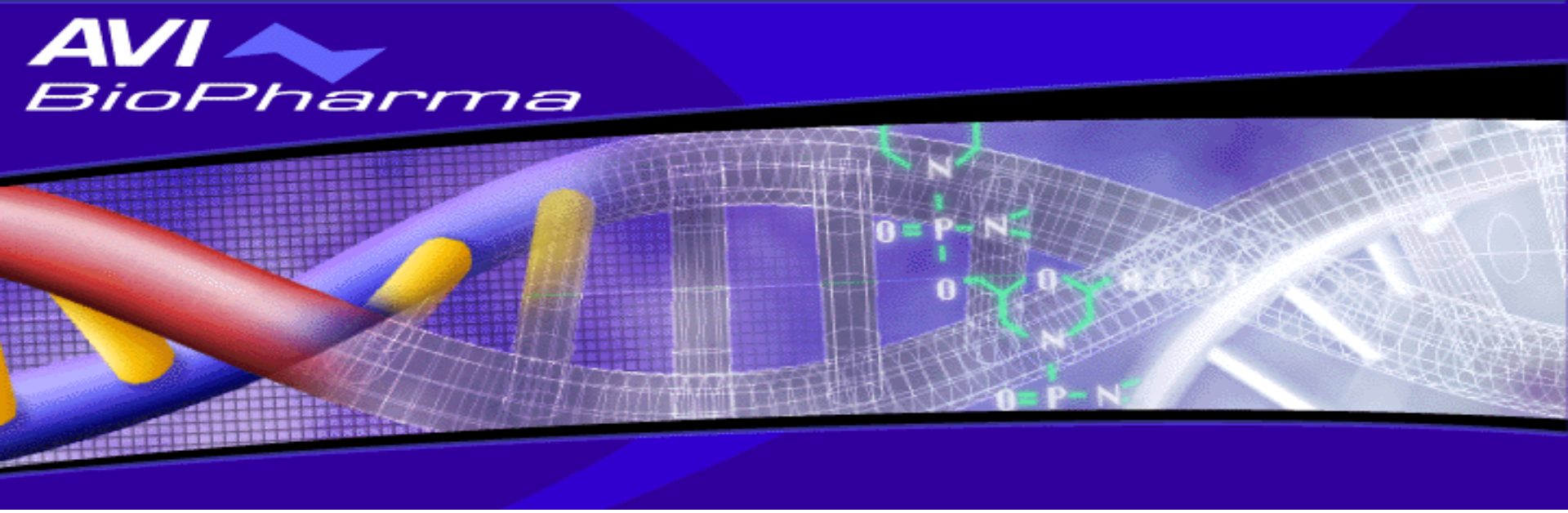
Maxim Growth Stock Conference

October 7, 2008



Safe Harbor Statement

This document contains forward-looking statements that involve significant risks and uncertainties, including those discussed below and described more fully in our annual report on Form 10-K and quarterly reports on Form 10-Q as filed with the Securities and Exchange Commission. These statements are made as a verbal and written presentation. They reflect our current expectations concerning future events, and thus our actual results could differ materially from those anticipated in these forward-looking statements as a result of many factors. These factors include our ability to achieve and maintain profitability, the extent to which we collaborate with third parties on drug discovery and development activities, the ability of our collaborators and of AVI BioPharma to meet drug development objectives tied to milestones and royalties and our ability to attract and retain experienced scientists and management. We undertake no duty and have no intention to update any forward-looking statement to reflect new facts that come to light.



Significant Growth in RNA-based Therapeutics

Maxim Growth Stock Conference

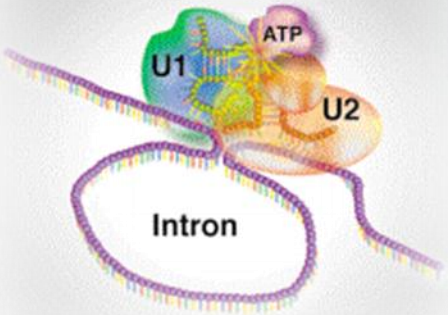
October 7, 2008

AVI Near Term Catalyst Opportunities

- Duchenne muscular dystrophy
  - Grow high value specialty pharma franchise
- Cardiovascular restenosis – drug-eluting stent
  - Partnered with Cook Medical for double digit royalty
- Ebola, Marburg and Dengue Viruses
  - Ebola and Marburg poised for IND entry
  - New chemistry against viral resistance
- Expand Viral Program
  - Opportunity to re-enter HCV with a strategic partner

RNA-based Therapeutics

Pre-mRNA

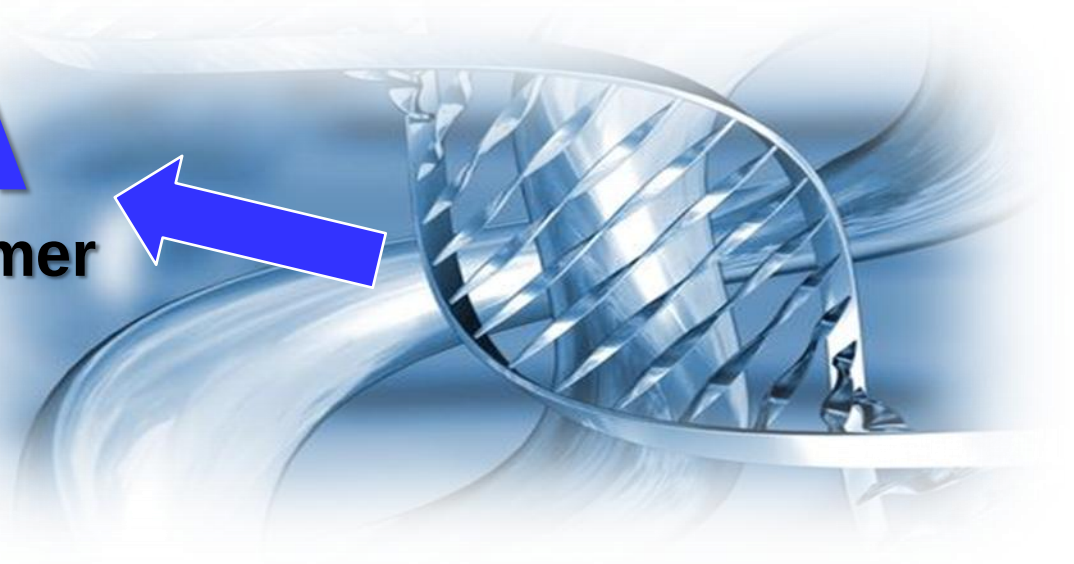


mRNA

Protein Expression

AVI BioPharma

RNA-based Therapeutics



Pre-mRNA

Splice-Switching Oligomer

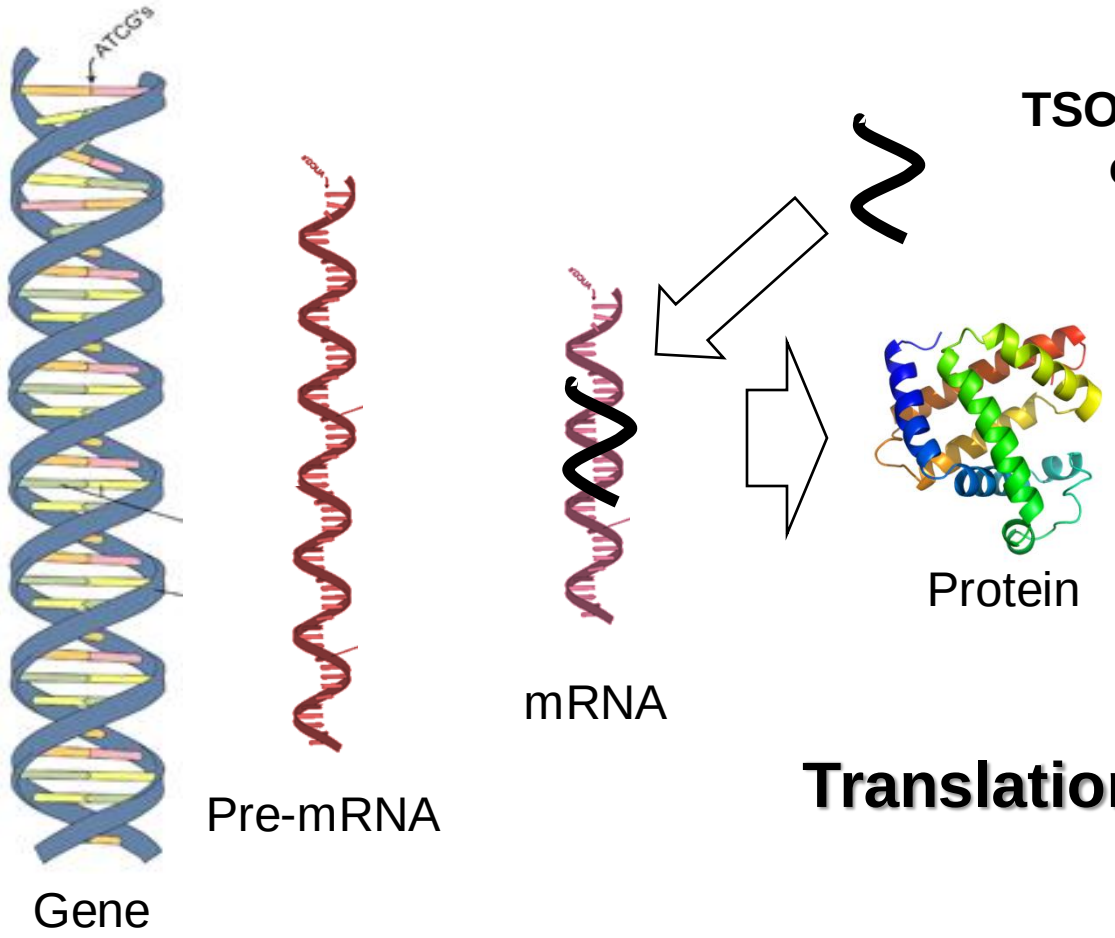
(SSO)

mRNA

Translation-Supressing Oligomer

(TSO)

RNA-based Therapeutics – RNA Blockade



Translation-Supressing Oligomer (TSO)

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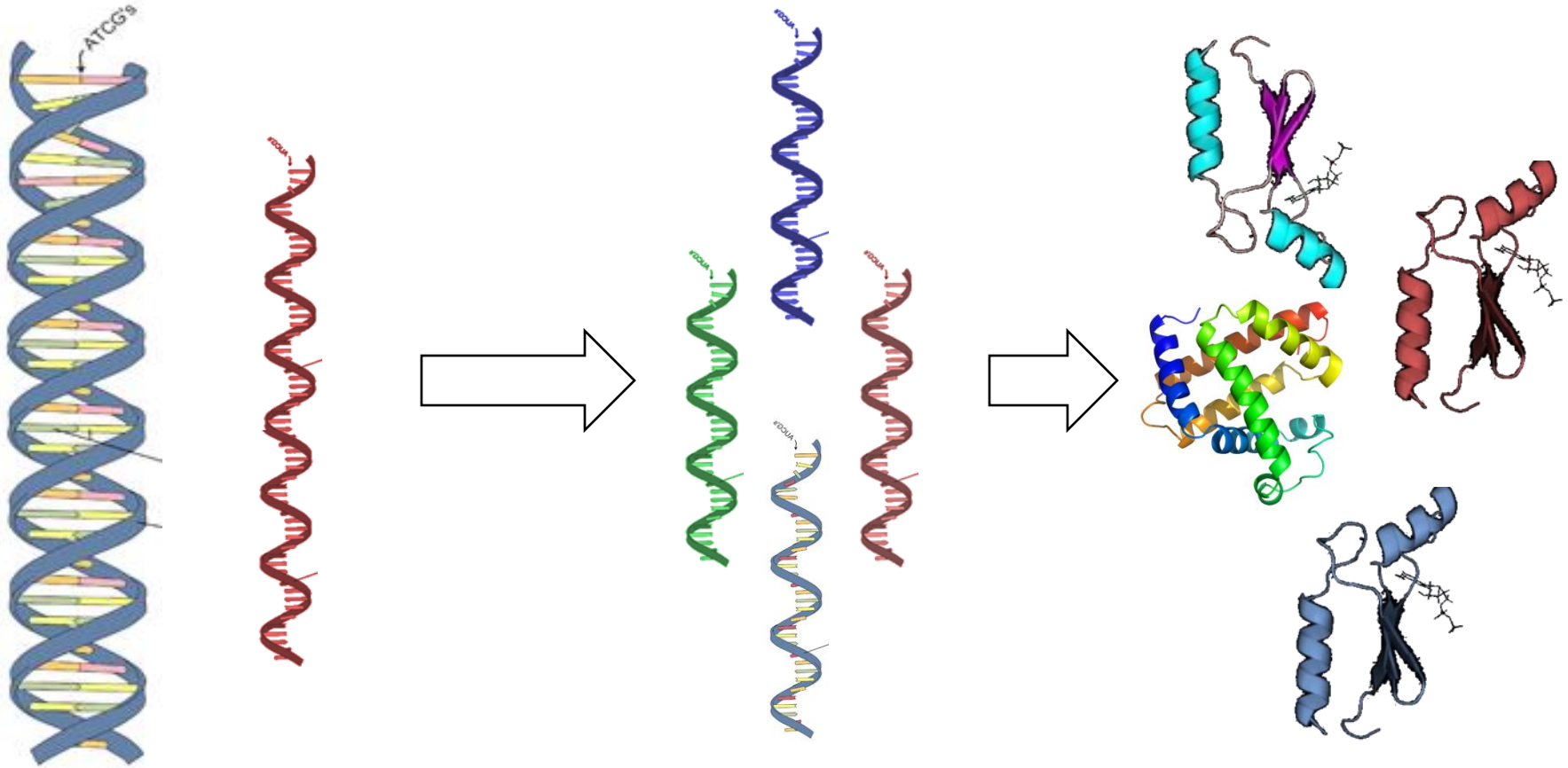
One Gene - Several Proteins - Splicing



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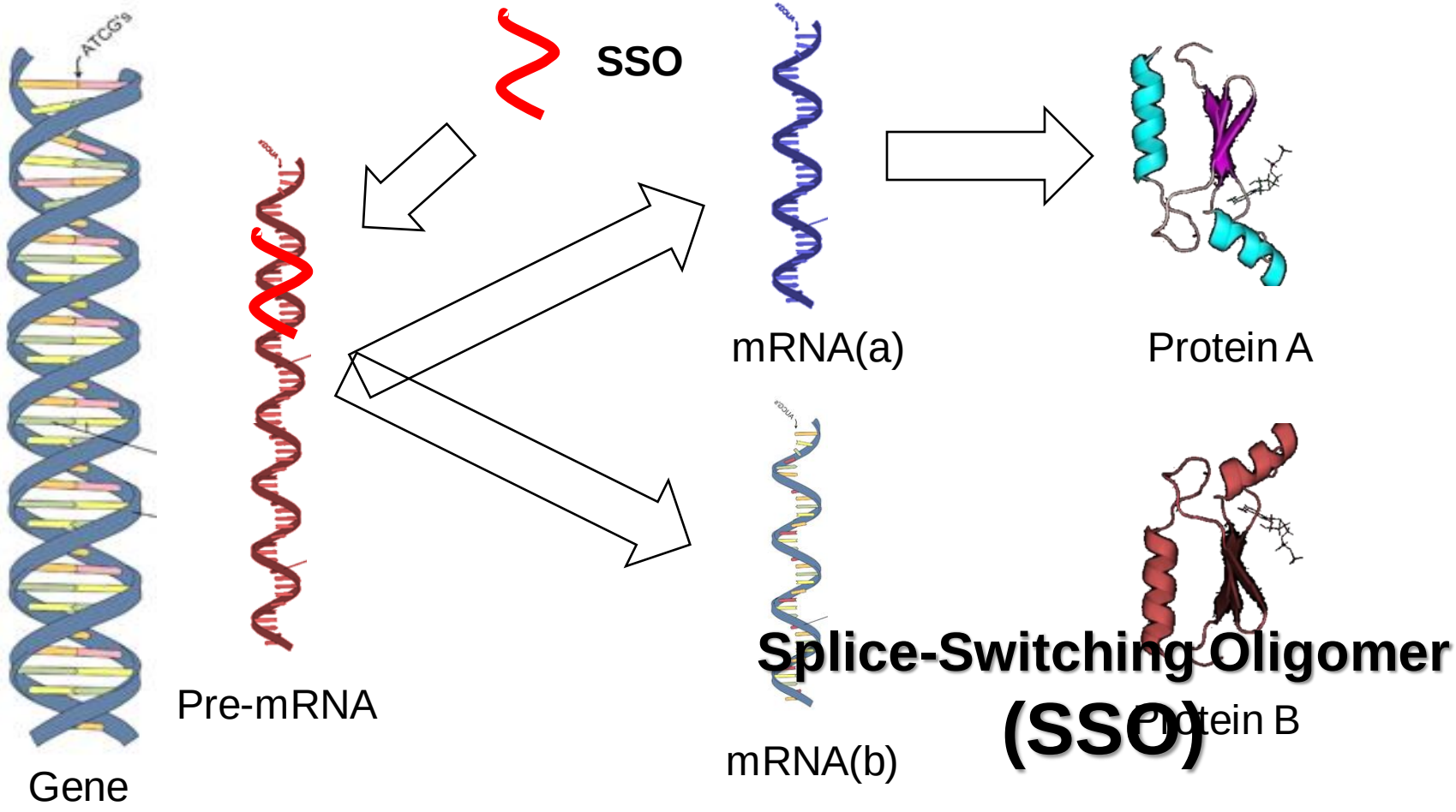
RNA-based Therapeutics – Splice Switching



RNA-based Therapeutics Need to

SSO and TSO Up- and down-regulate both pre-mRNA and mRNA

SSO and TSO

Pre-mRNA **mRNA**

siRNA down regulates mRNA only

mRNA

CURRENT DEVELOPMENT PORTFOLIO

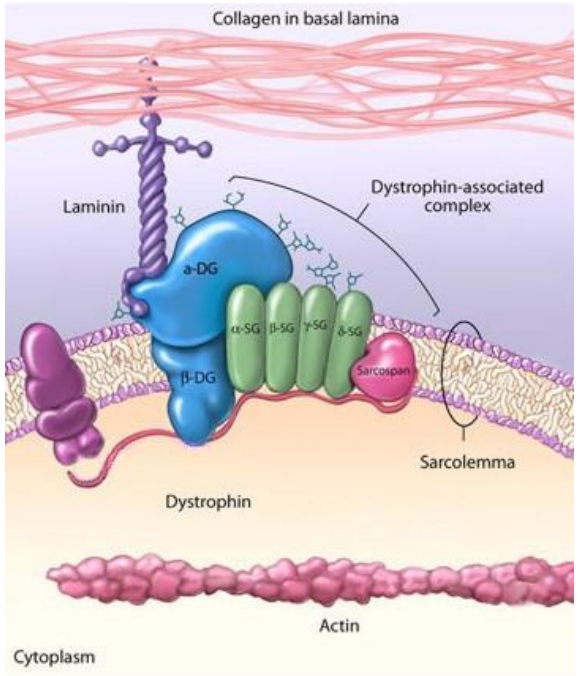
DMD – Grow to High Value Specialty Pharma Marketplace

- Annual heath care cost $500,000 per non-ambulatory patient
- Excellent precedents which have captured significant proportion of patient cost as premium drug price
- Sales Potential for Exon-Skipping Drugs:
  - Number of patients in US and EU: 26,500
  - % amenable to exon-skipping therapy: >65%
  - Potential range of revenue per year per eligible patient: $100,000 - $200,000
- US & EU potential market for exon-skipping drugs in DMD drugs estimated at $3.0 billion
- Details for clinical use guidelines and market estimates have yet to be established

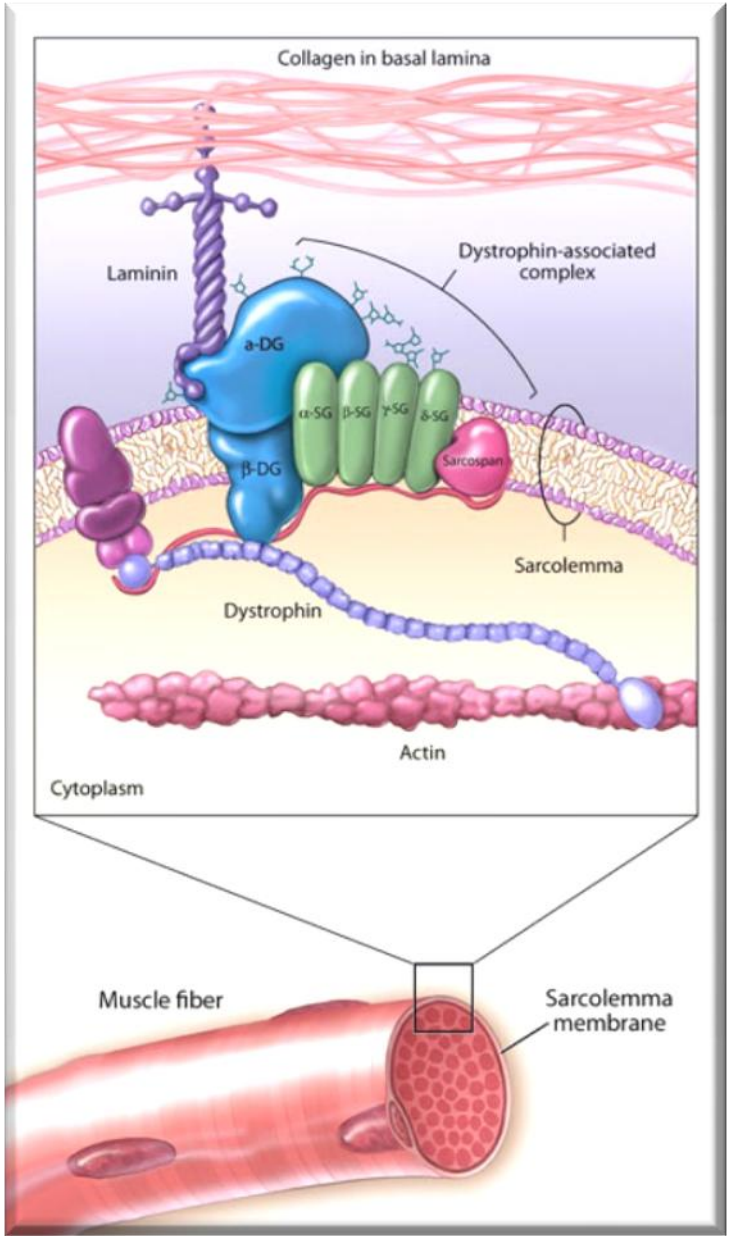
Duchenne Muscular Dystrophy (DMD)

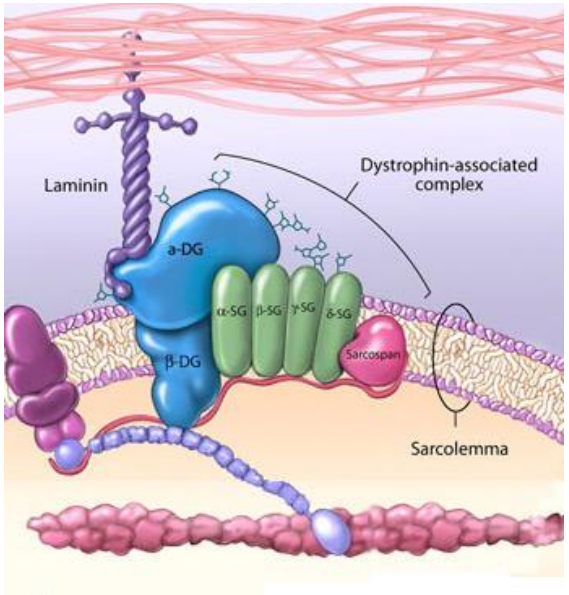
- Defects in the dystrophin gene; no protein expression
  - X-linked recessive
  - Mutational hot spot: exons 45 and 55: *functionally silent* region
  - 1 in 3 cases arise by spontaneous mutation; limits control via genetic counseling
- Symptoms present at 3-5 years of age
  - Muscle degeneration overwhelms regenerative capacity
  - Patients restricted to wheelchair by age 12
  - Death from cardiac respiratory complications
- Effects 1 in 3,500 male births; High yearly cost of care

Clinical Expectations for Exon Skipping



Duchenne muscular dystrophy





Becker muscular dystrophy

AVI's DMD Exon Skipping Strategy

- Clinical trials for exon 51 (29% of treatable cases)
  - CTA for systemic trial approved by MHRA in EU
  - Preclinical pathway for IND negotiated with FDA
- PMO drug candidate: AVI-4658
- First generation drugs: 5 single-SSO drugs covering 88% of treatable patients

AVI-4658 Pre-clinical Efficacy: Two Species

- Single treatment in mdx mouse model of DMD leads to 10-100% dystrophin production; HE dose 2.5 to 8.3 mg/kg
- Results in sustained functional improvement
  - Reduced serum CK and improved muscle force measurements
- Serial injections have cumulative effect on expression and clinical benefit
- Serial IV administration of PMOs at 20 mg/kg (exons 5, 6 and 7) in canine DMD model leads to significant functional improvement

Exon Skipping “Proof of Concept” Performed by Collaborators in Dystrophic Canine Model

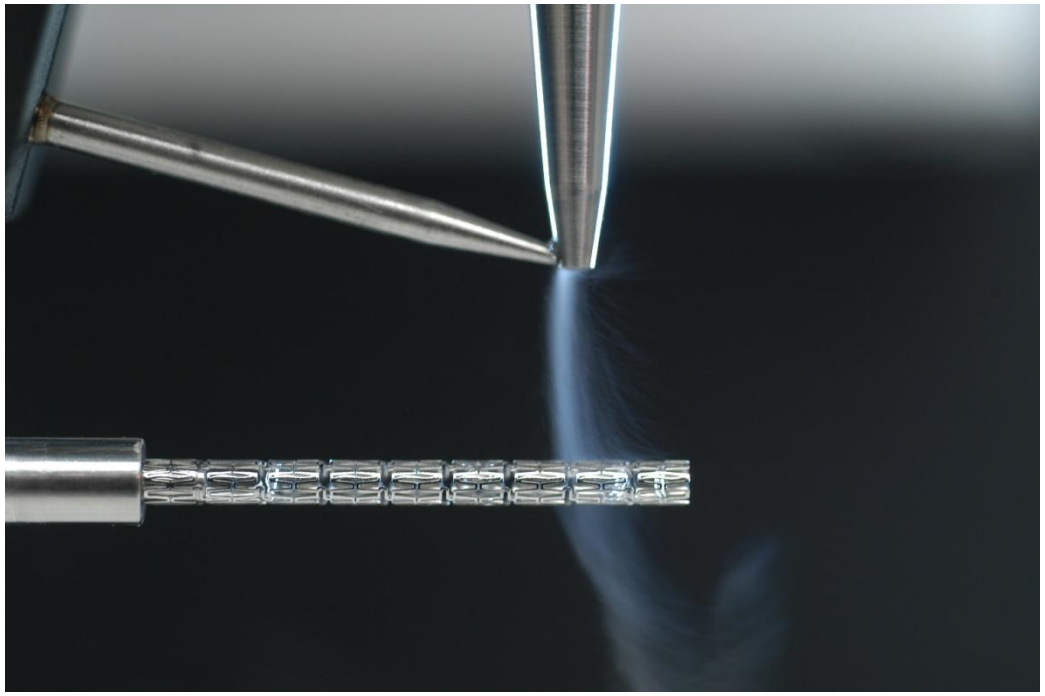
Courtesy of Toshifumi Yokota, Shin'ichi Takeda, National Institute of Neuroscience, Tokyo, Japan and Eric Hoffman, Children's National Medical Center, Washington DC

Equivalent clinical assessment scales

Near Term Milestones in DMD Program

		Event
2008	Q4	• Exon 51 IM AVI-4658 Study completed • Exon 51 IV AVI-4658 First patient dosed • Exon 23 AVI-4225 Mechanistic toxicology study in *mdx* mouse
2009	Q1	Note Filing of IND for exon 50 study in US will await completion of *mdx* mouse toxicology study
	Q2	• Exon 51 IV AVI-4658 Data on third cohort of patients • Exon 23 AVI-4225 Mechanistic toxicology study in *mdx* mouse study completed

Cardiovascular Restenosis Program



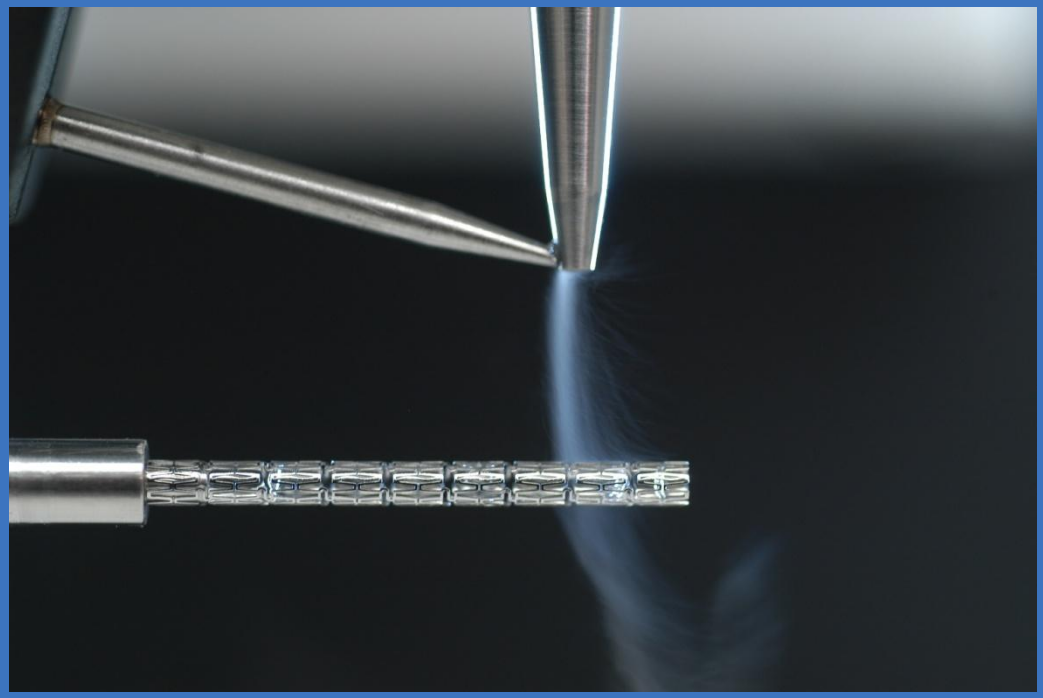
AVI-5126 is a PPMO against *c-myc;* partnered to Cook Global Therapeutics for use on a new drug-eluting stent

The Drug Eluting Stent Market

- Current market at $5B
- US DES market ~$4B
  - 6 DES products on market by 2009 (Cypher, Taxus, Endeavor, Zomaxx, Promus, Liberte)
- OUS market has more than 20 DES

GLOBAL THERAPEUTICS®
A COOK® Group Company

Global Therapeutics Silencer™ System



- Rapid release of drug
- Equivalent to bare metal stent after 2 hours once implanted

GLOBAL THERAPEUTICS®
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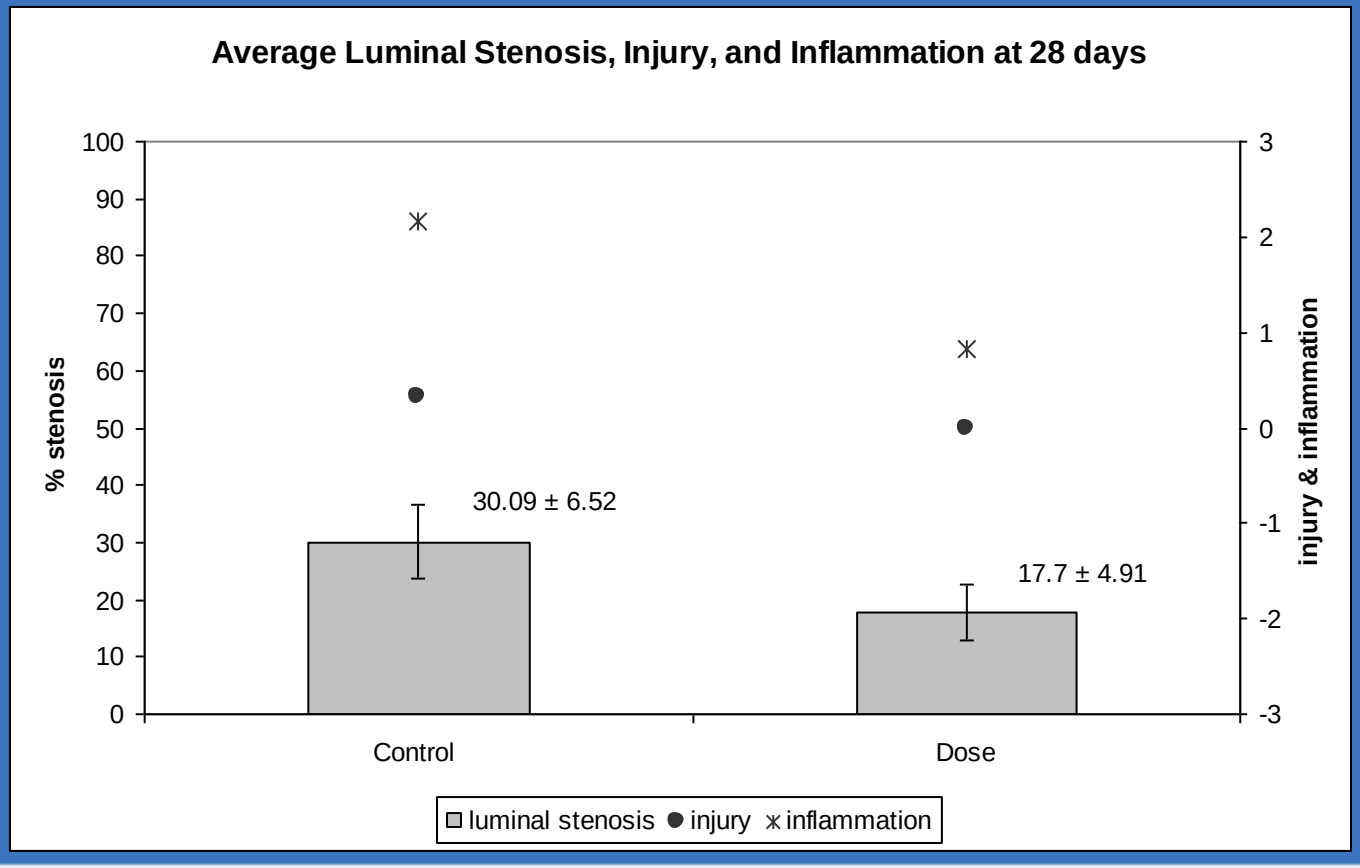
Preclinical Results



Unpublished, Global Therapeutics, LLC

Clinical Plans

- SMART I Study
  - 50 patients
  - Discrete, de novo lesions
  - 6 month QCA and IVUS follow-up
  - Multi-centered
  - Q4 2008

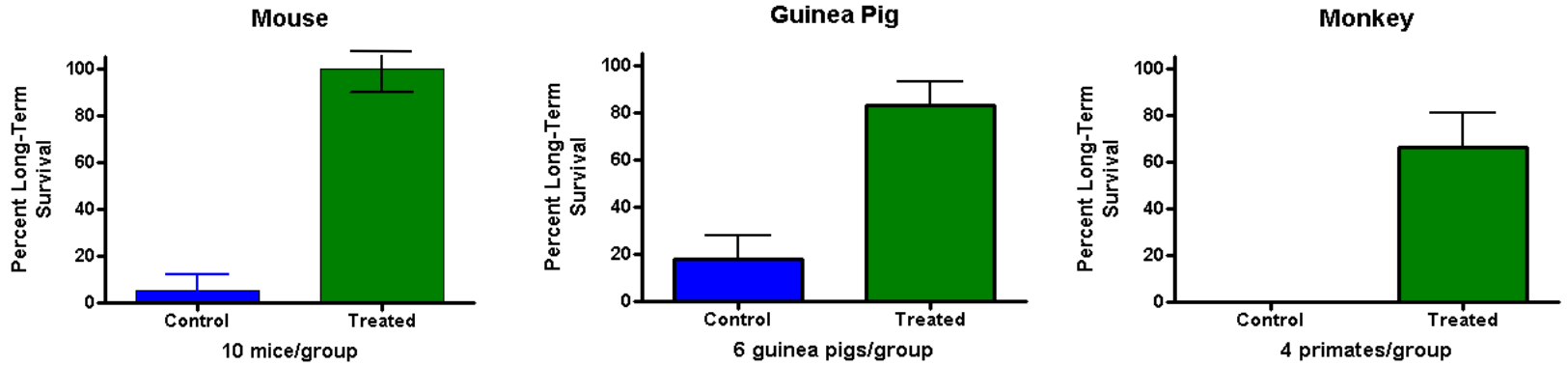
Ebola and Marburg Viruses

Human infections:

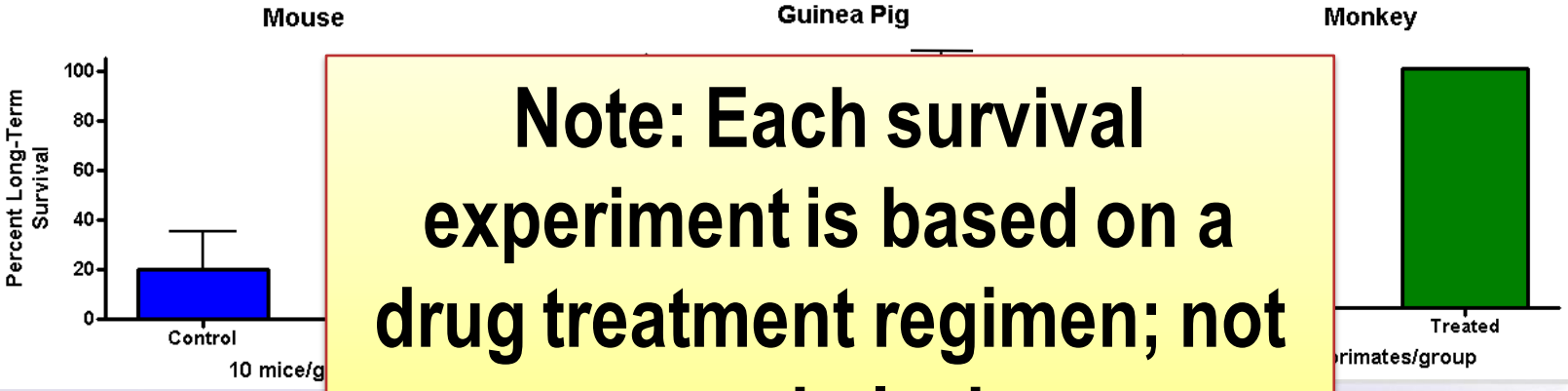
- ~85% cases are lethal
- To date no therapeutic agents
- Major priority for Bioshield
- Ebola and Marburg are single-stranded(-) sense RNA viruses

Unparalleled Survival Data for Two Viruses in Three Preclinical Models

AVI-6002 Ebola Survival Observations



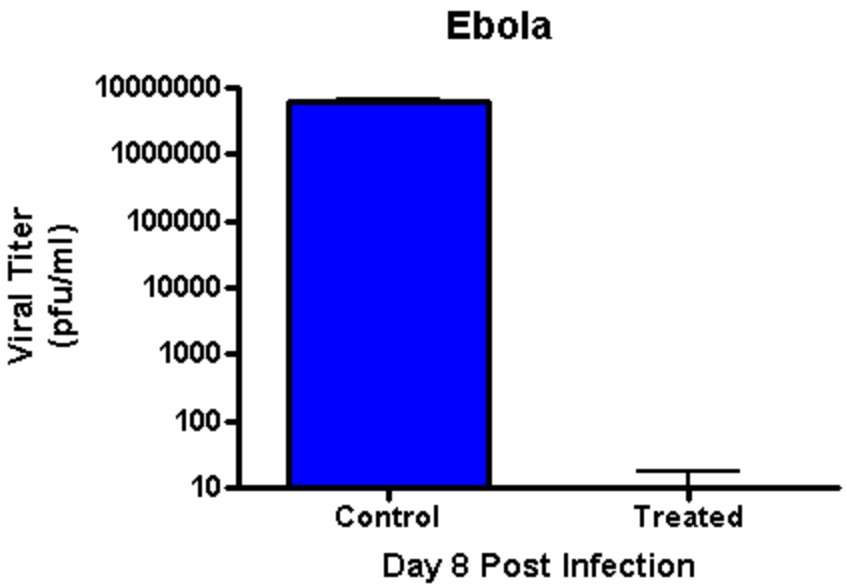
AVI-6003 Marburg Survival Observations



Note: Each survival experiment is based on a drug treatment regimen; not prophylaxis

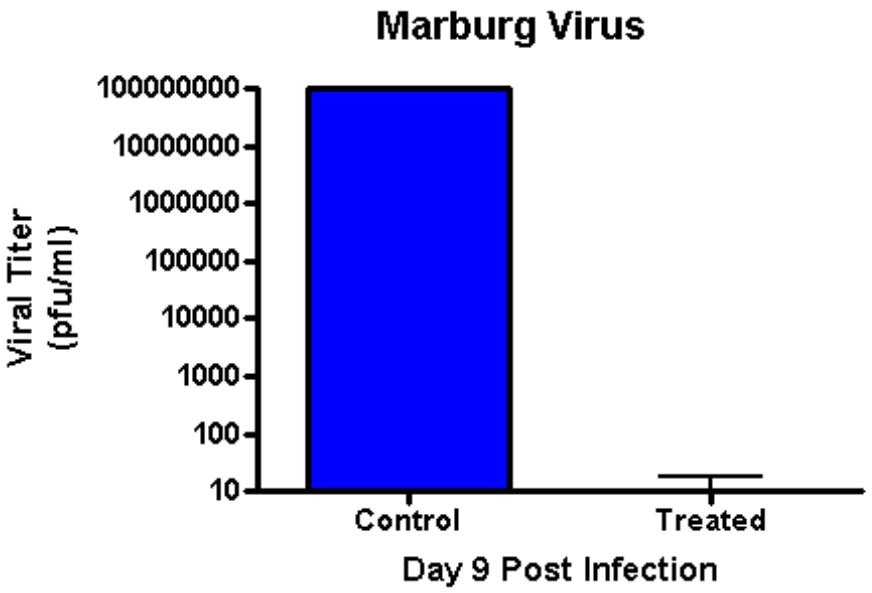
Impressive Reduction in Viremia in Monkey Models of Ebola and Marburg

Greater than 5-log reduction in Ebola viremia



Virus no longer detected beyond day 10

Greater than 7-log reduction in Marburg viremia



Virus no longer detected beyond day 14

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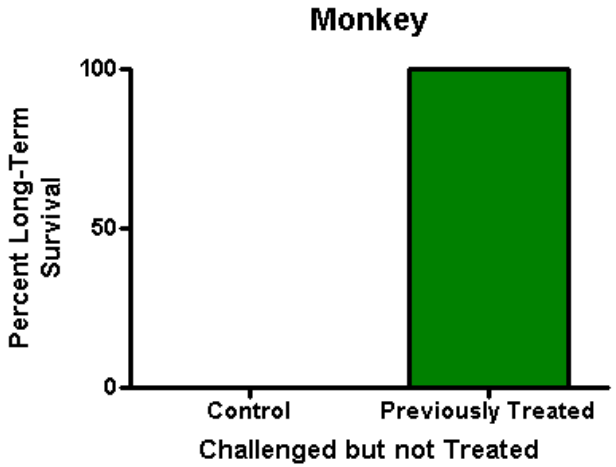
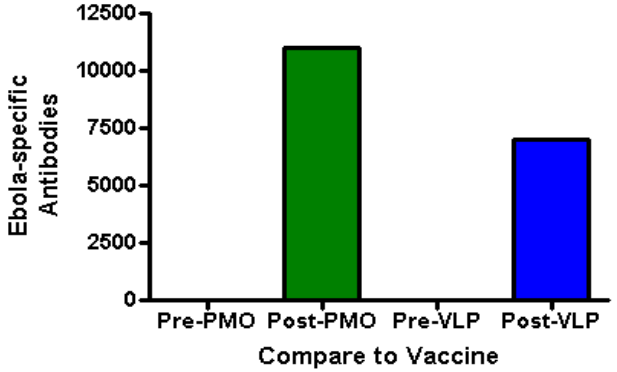
Ebola Re-Challenge Studies

- Monkey re-challenge
  - Monkeys challenged **and** treated then re-challenged **but not** re-treated
  - 100% long term survival
- Mouse re-challenge
  - 100 percent survival
  - Enhanced antibody response
  - Cell mediated immune response increased 20 fold

Survival



Antibody Response



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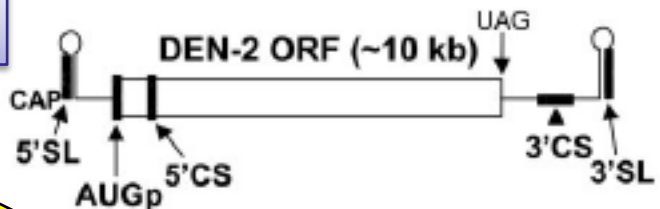
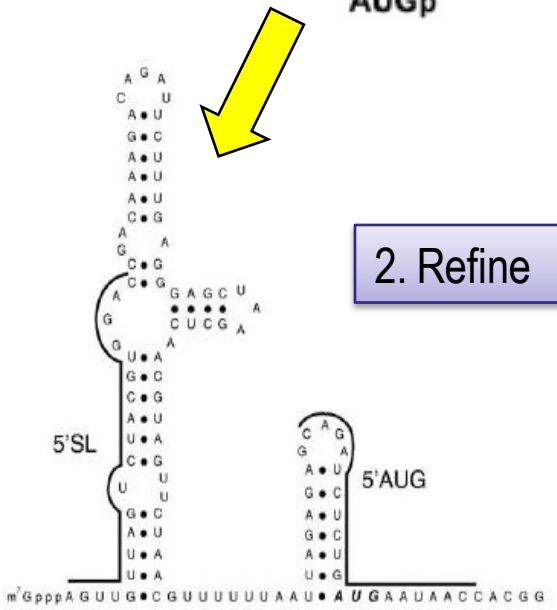
Dengue Virus

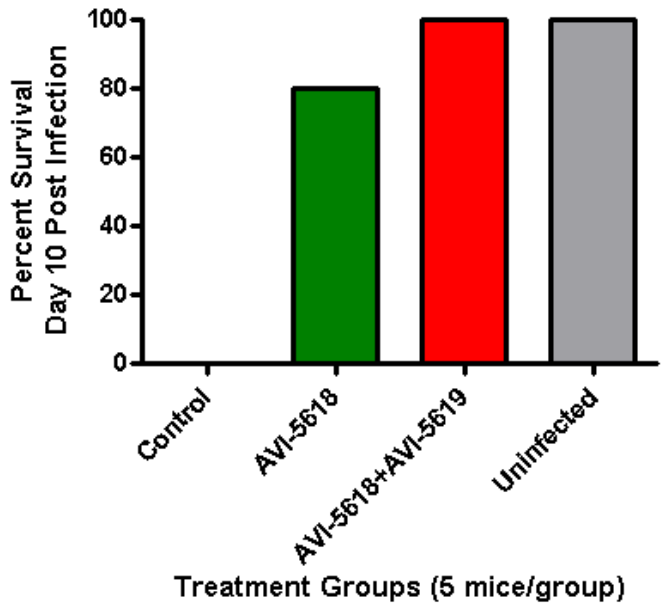
1. Screen



2. Refine



3. Explore Combinations



AVI BioPharma

Development Milestones in 2008

		Event
2008	Q1	• AVI-6003 (Marburg Musoke) – pre-IND filed • AVI-4658 IV (DMD) – CTA filed for a systemic study • AVI-6002 (Ebola Zaire) – pre-IND filed
	Q2	• AVI-4658 (DMD) European Orphan Drug request filed • PMO-based exon 50 product (DMD) – pre-IND filed
	Q3	• Response to FDA pre-IND comments for: – PMO-based exon 51 product in USA – Ebola and Marburg
	Q4	• Exon 51 IM AVI-4658 Study completed • Exon 51 IV AVI-4658 First patient dosed • Exon 23 AVI-4225 Mechanistic toxicology study in *mdx* mouse • Start of restenosis clinical trial in EU by Cook Global Therapeutics • AVI-6003 (Marburg Musoke) – IND to be filed • AVI-6002 (Ebola Zaire) – IND to be filed

Value Spectrum