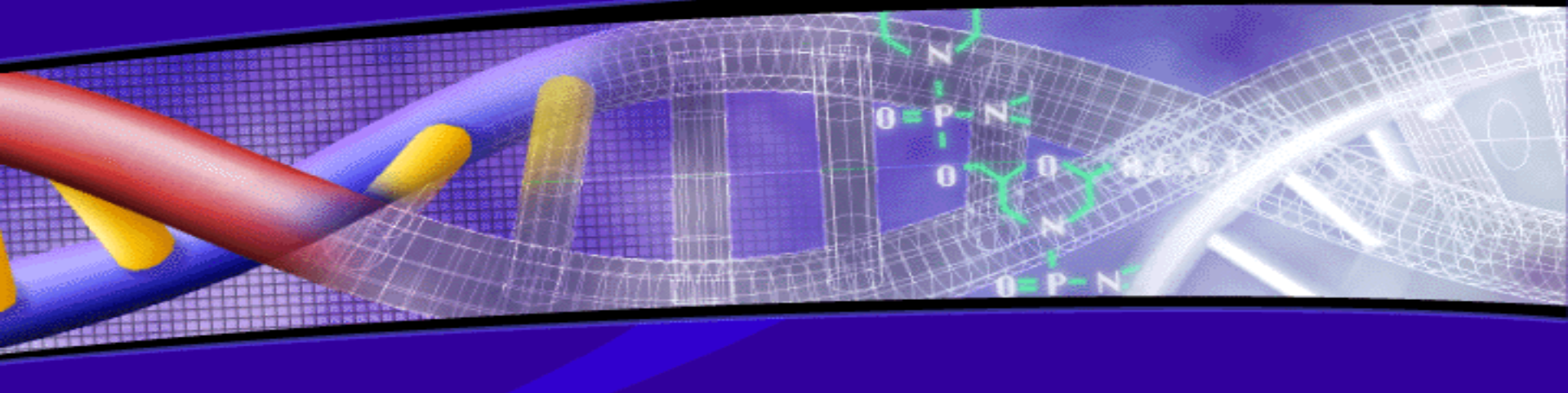


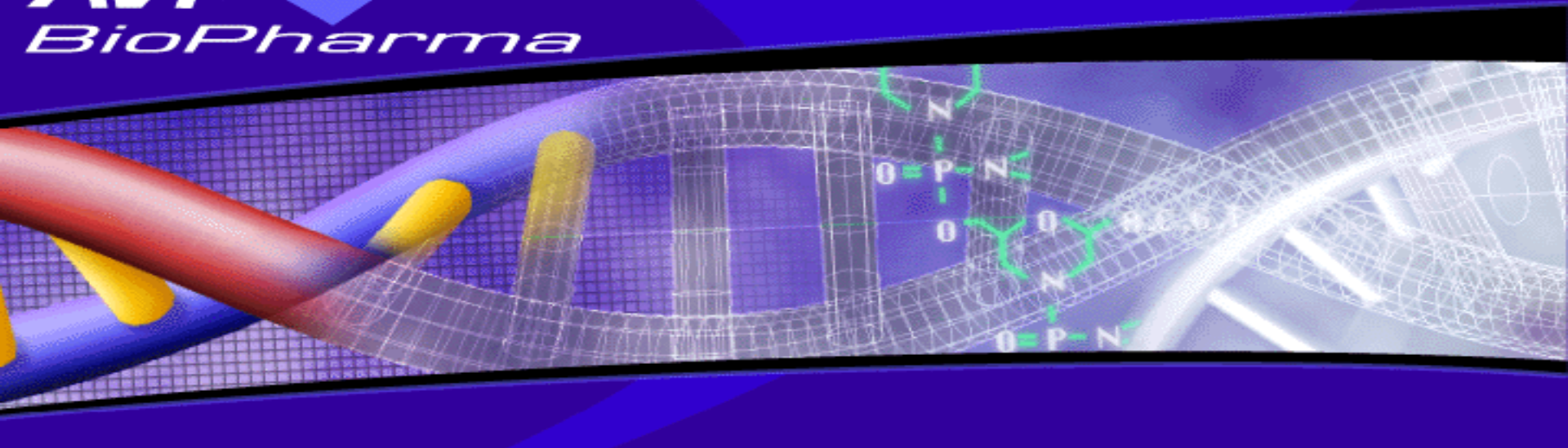
Dr. Leslie Hudson
President and CEO
AVI BioPharma

JMP Securities Healthcare Conference



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

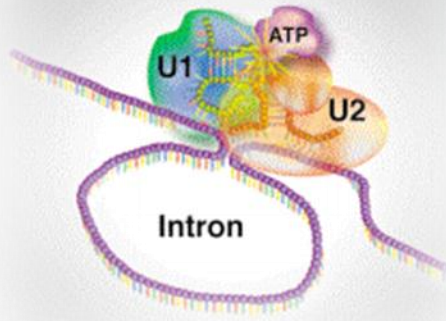
JMP Securities Healthcare Conference

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

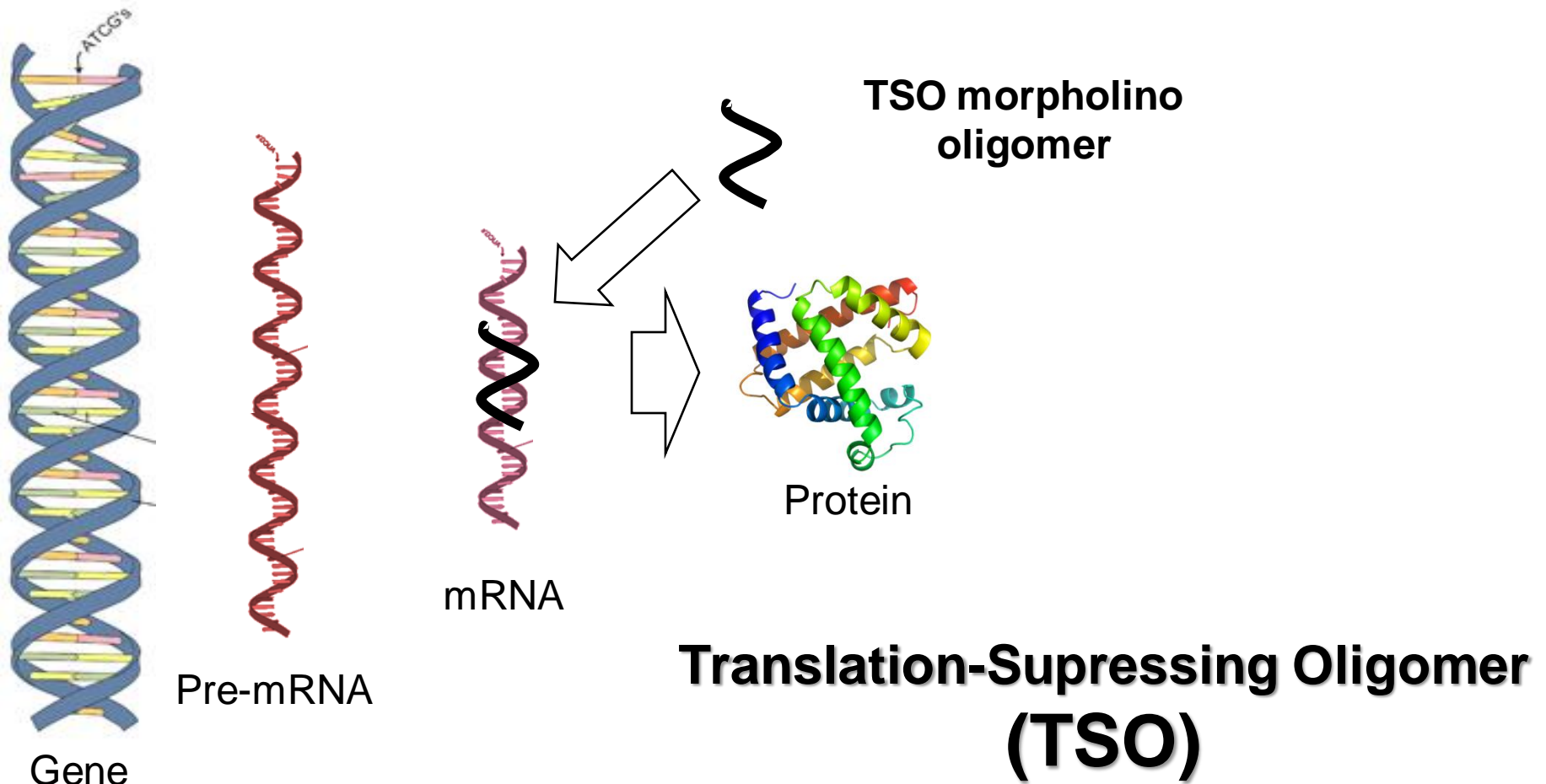
**Protein
Expression**

RNA-based Therapeutics

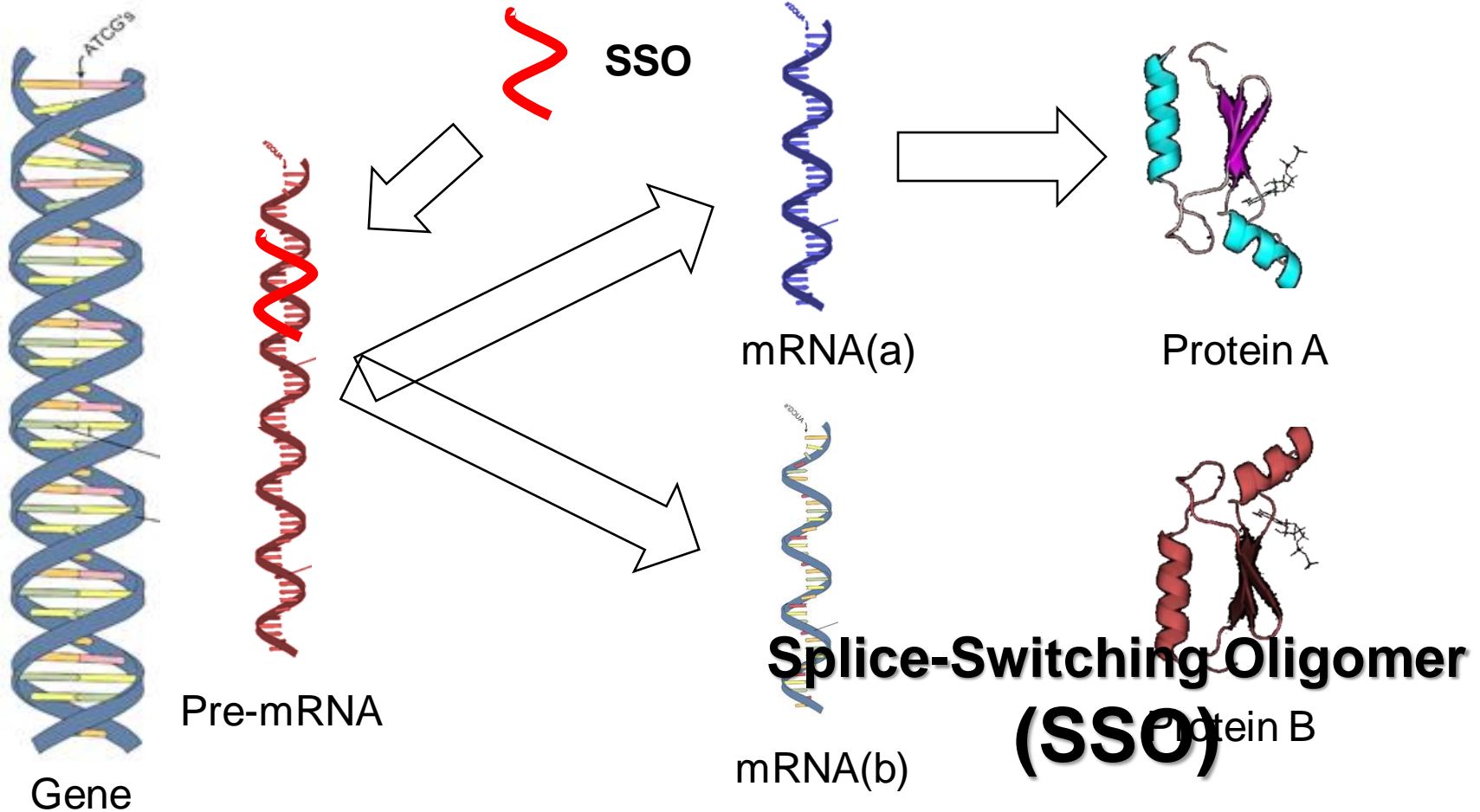
Pre-mRNA
Splice-Switching Oligomer
(SSO)

mRNA
Translation-Suppressing Oligomer
(TSO)

RNA-based Therapeutics – RNA Blockade



RNA-based Therapeutics – Splice Switching



RNA-based Therapeutics Need to

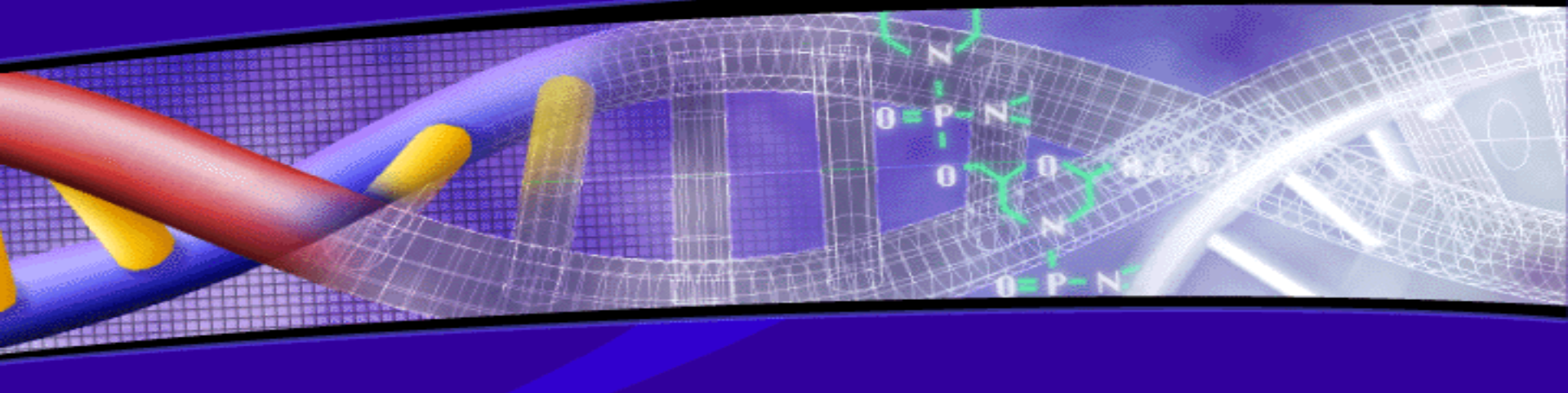
SSO and TSO Up- and down-regulate both pre-mRNA and mRNA

SSO and TSO

Pre-mRNA	mRNA
Pre-mRNA	mRNA

siRNA down regulates mRNA only

mRNA



CURRENT PORTFOLIO OF DRUG CANDIDATES

DMD – Grow to High Value Specialty Pharma Marketplace

- ◆ Annual health 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

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

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

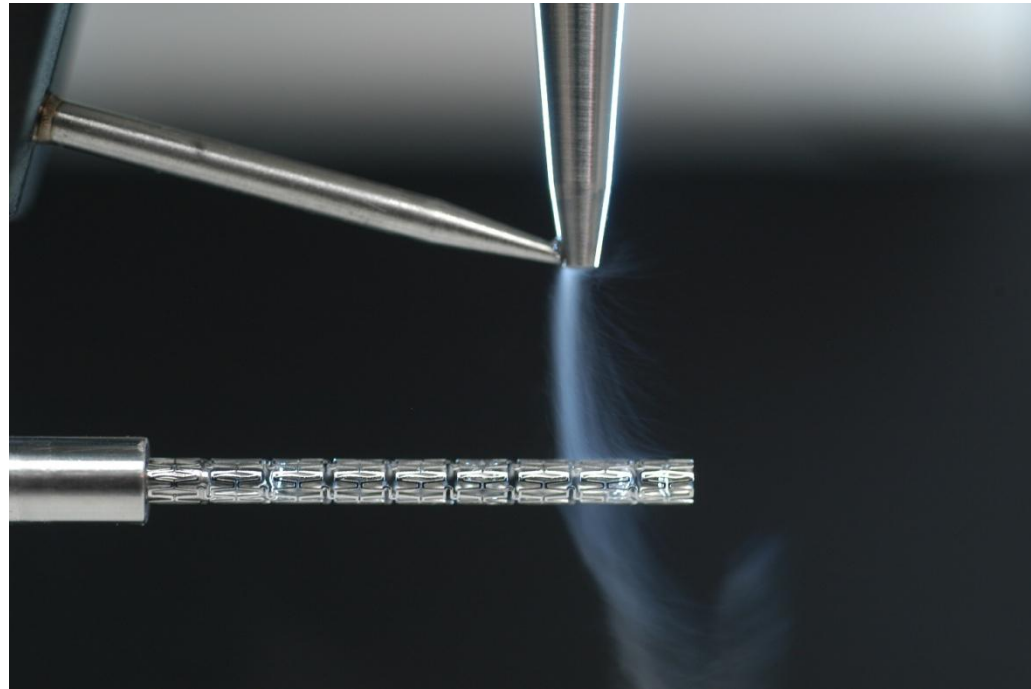


Courtesy of Toshifumi Yokota, Shin'ichi Takeda, National Institute of Neuroscience, Tokyo, Japan and Eric Hoffman, Children's National Medical Center, Washington DC

Equivalent clinical assessment scales

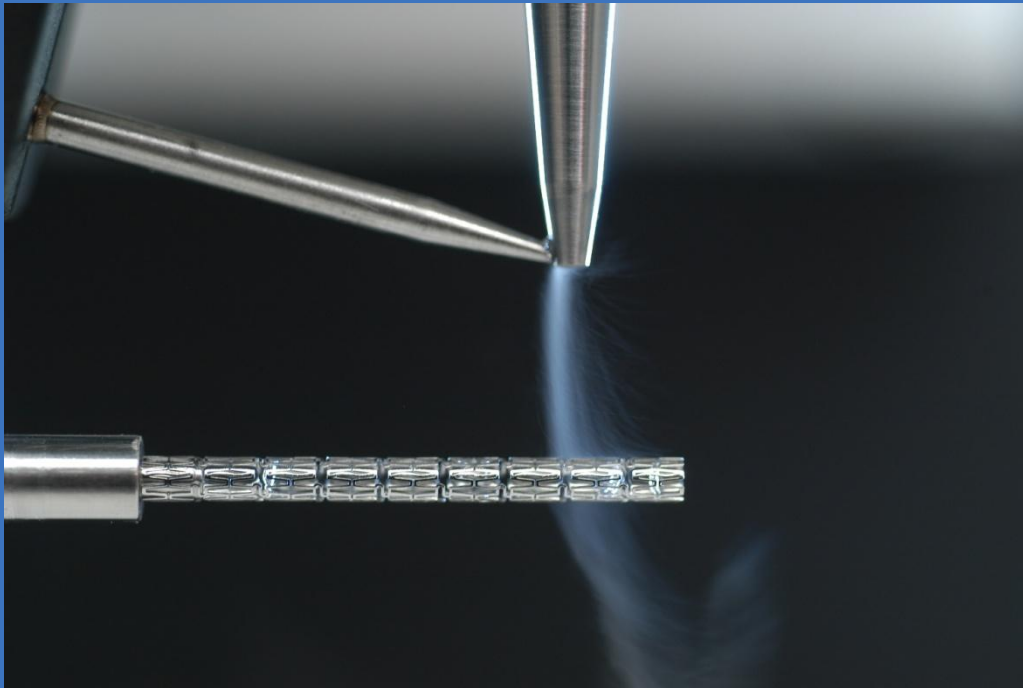


Cardiovascular Restenosis Program



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

Global Therapeutics Silencer™ System



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

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

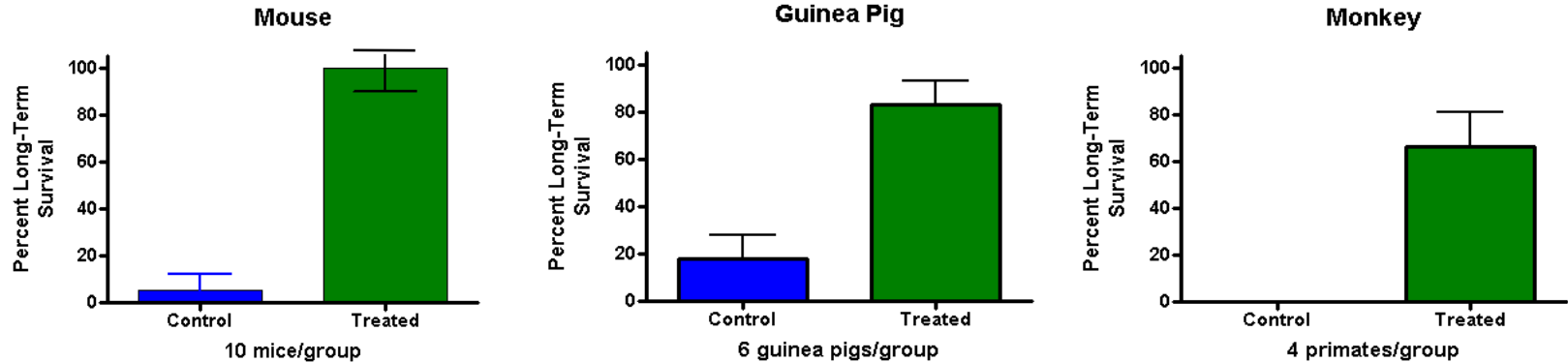
Human infections:

- ◆ ~85% cases are lethal
- ◆ To date no therapeutic agents or vaccines
- ◆ Major priority for Bioshield

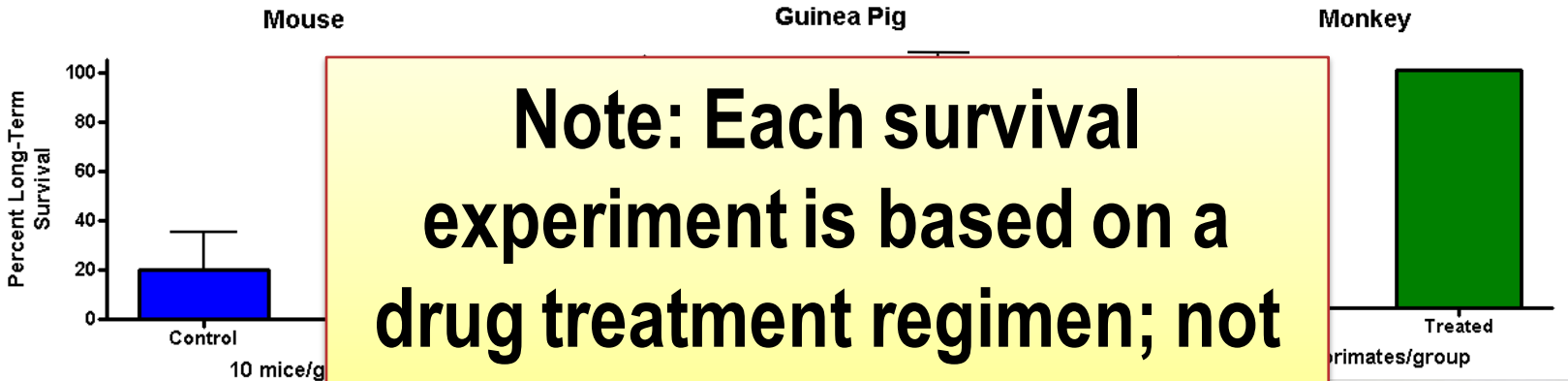


Unparalleled Survival Data for Two Viruses in Three Preclinical Models

AVI-6002 Ebola Survival Observations



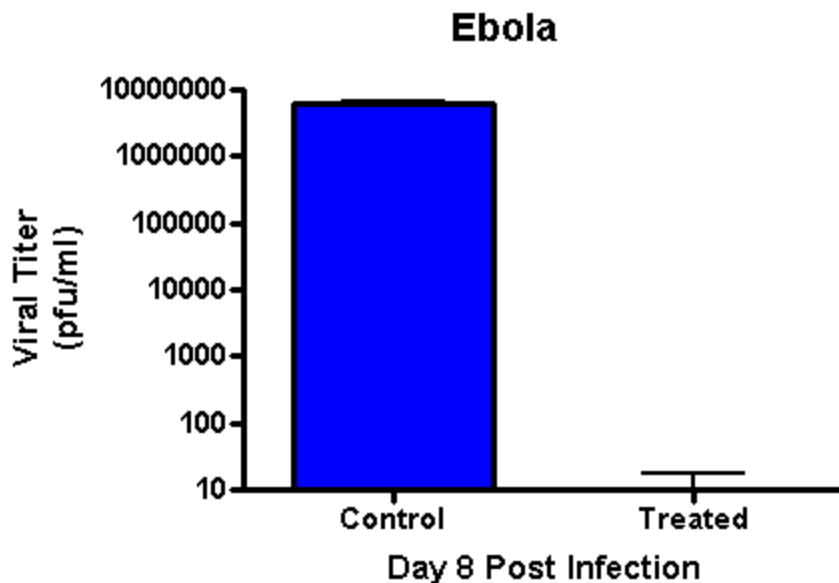
AVI-6003 Marburg Survival Observations



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

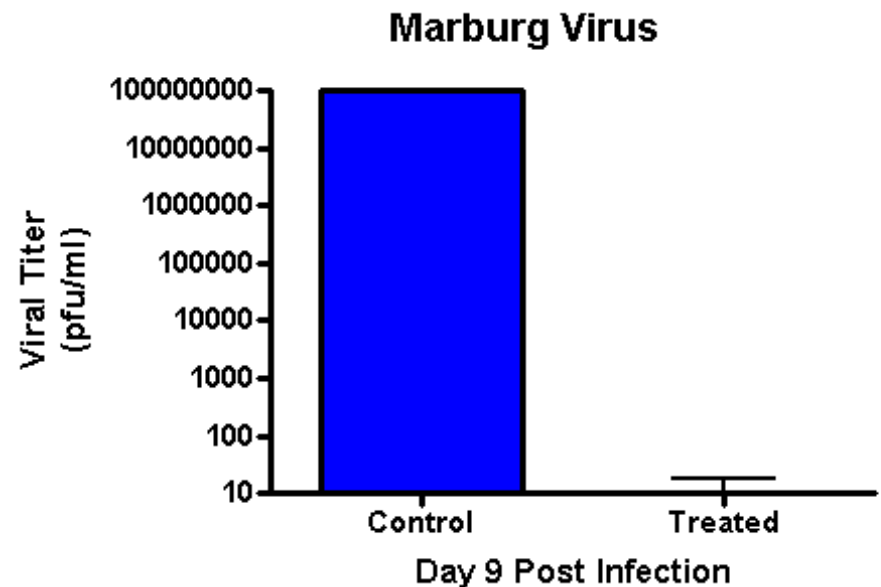
Impressive Reduction in Viremia in Monkey Models of Ebola and Marburg

Greater than 5-log reduction in Ebola viremia



Virus no longer detected beyond day 10

Greater than 7-log reduction in Marburg viremia

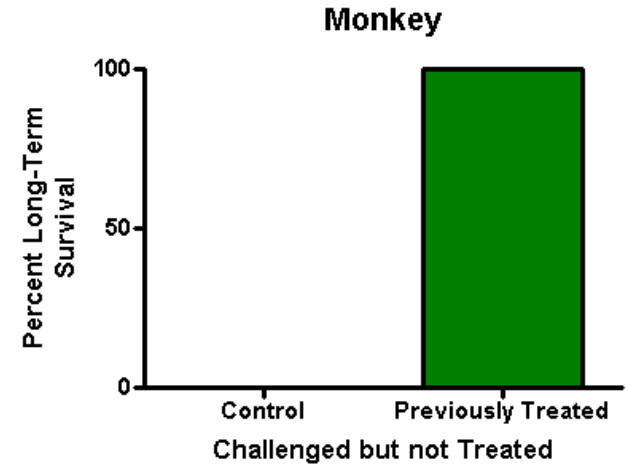


Virus no longer detected beyond day 14

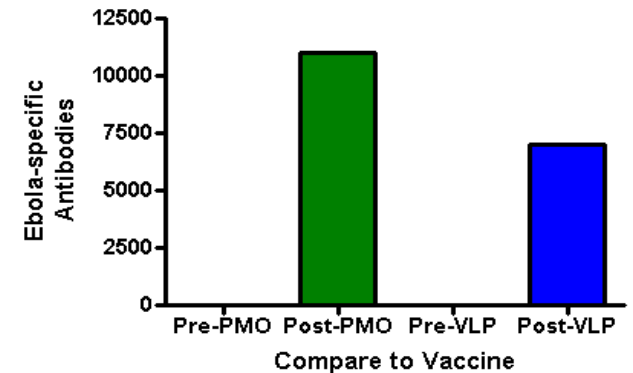
Ebola Re-Challenge Studies

- ◆ 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



Development Milestones in 2008

		Event
2008	Q1	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • AVI-4658 (DMD) European Orphan Drug request filed • PMO-based exon 50 product (DMD) – pre-IND filed
	Q3	<ul style="list-style-type: none"> • Response to FDA pre-IND comments for: <ul style="list-style-type: none"> – PMO-based exon 51 product in USA – Ebola and Marburg
	Q4	<ul style="list-style-type: none"> • Exon 51 IM AVI-4658 Study completed • Exon 51 IV AVI-4658 First patient dosed • Exon 23 AVI-4225 Mechanistic toxicology study in <i>mdx</i> 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

