Luna Bioscience, Inc.

Ending the Threat of Leptospirosis to Pets and Livestock with a Genomics-Based Vaccine

June 1, 2023
Problem:
Leptospirosis $$ > $30\text{ Bn}^*$$

Dogs
- Dialysis
- Death

Livestock
- Reduced Milk
- Spontaneous Abortion
- Organ Damage
- Blindness
- Death

*https://doi.org/10.1101/2023.04.10.23288387

$Leptospira$ bacteria
Current Vaccines

• Old Tech from the 1960s

• Whole Killed Bacteria

• Limited Strains per Vaccine
  Entails $$ Customization
  by Region
Luna’s Solution

Modern Genomics and Molecular Modeling Identified Vaccine Candidates from 200+ Serovars

IP: Composition of Matter: 2 PCTs Converted (Aug 2022)
1 Provisional Filed
New IP Continually Being Generated

Global, Exclusive License from Yale
Luna’s Vaccine Proof of Concept
Mice injected with 1000X LD₅₀ *Leptospira*

Control and Truncated Protein

Vaccine Mixes 1 or 2
Luna’s Analogous Precedent of Market Replacement

Recombinant Lyme Vaccine for Dogs Outcompeted Killed Bacteria Lyme Vaccine
Captured > 60% Market Share in 3 Years
Current Market

• Wholesale Dog Sales
  • US: $200MM
  • Global $570 Million

• Wholesale Livestock Sales
  • Global $1 Billion

Growing Market

• Warming Climate >> Increased Lepto
• “Core” Dog Vaccine Imminent
• High Margin Equine Market
• Multi-Billion $ Opportunity

* Estimates based on 10-Ks of Zoetis, Elanco; 8/2022 discussions with Merck and Boehringer Ingelheim
Traction

Awarded NIH Phase 1 STTR Grant: Production of Recombinant Protein for Early Vaccine Trials

In Active Discussions with Major Animal Health Company that Wants to Perform First Regulatory Trial in Partnership
Low-Risk, Clear USDA Approval Pathway for Animal Vaccines: First Product to Market in ~3 Years

1. **Meeting with USDA Licensing Reviewer**
   - Identify regulatory consultant

2. **Discuss Pivotal Study Design with USDA**
   - Prior to implementing pivotal study while conducting hamster potency study

3. **US Veterinary Biologics Product License + Establishment License**
   - Work with Diamond Animal Health for Product License approval
   - Identify and work with large distributors and manufacturers for Establishment License

4. **Work with Regulatory Consultant on International Approvals**
   - EU, CAN, BRIC countries

- Dog
- Bovine, Equine
- Swine
World-Leading Team Expertise in Animal and Human Business Development and Vaccine Science

Management Team

Carla Devillers, MBA
CEO and Co-Founder
Wharton MBA in Finance Experience in Operations

Joseph Vinetz, MD
Co-Founder
Professor of Medicine
Yale School of Medicine

CSO
To Be Hired Upon Funding

Scientific Advisory Board

Jane E. Sykes, BVSc (Hons), PhD, MBA
UC Davis School of Veterinary Health

Richard Marconi, PhD
Professor, VCU
Inventor of Canine Recombinant Lyme Vaccine

Tom Campi, DVM
Former Elanco Director of External Innovation

Richard Squires, BVSc (Hons), PhD, DVR, DipACVIM, DipECVIM, GradCertED
Chairman, World Small Animal Veterinary Assn. Vaccine Guidelines Group

Jerome Kim, MD
Director General
International Vaccine Institute
The Ask

Luna Bioscience is seeking strategic partners & funding to advance the company and its technology.

Luna is raising $4 MM with a premoney valuation of $12 MM to support our runway up to the pivotal trial in dogs.

We anticipate raising a total of ~$8 MM over three years→INAD submission to USDA (for dog vaccine).
Many activities in Cell line banking, formulation, Process, Analytical, and Biomarker development

$4 MM Raise

9 CFR Hamster Trial

Dog Pilot Trial

Major Value Inflection Points

$4 MM Raise for Pivotal Dog Trial

USDA Submission
Thank You

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