

**AN EFFICACIOUS AND SUSTAINABLE  
BUT LOW SIDE-EFFECT THERAPY FOR CANCER,  
OBESITY, AND BLINDING RETINOPATHY**

An Executive Summary of the AhR Pharmaceuticals, Inc.

September, 2008

**Jiasheng (Jason) Song, Ph.D.**

*Chief Scientific Officer*

Email: [jasons@ahrpharma.com](mailto:jasons@ahrpharma.com)

Phone: (608) 692-4791



---

***AhR Pharmaceuticals, Inc.***

Web: [www.ahrpharma.com](http://www.ahrpharma.com)

7880 Wood Reed Drive

Madison, WI 53719

## **EXECUTIVE SUMMARY**

### **ES-1. A POTENT, SUSTAINABLE, AND LOW SIDE-EFFECT THERAPY**

#### **ES-1-1. SERIOUS PROBLEMS WITH CURRENT CANCER THERAPIES**

There are two main problems in current cancer therapies. The first is that the majority of therapeutic agents are chemicals foreign to a human body. The body tries extremely hard to get rid of them. Since the body does not have a natural and safe way of metabolizing foreign chemicals, the elimination process generates a lot of chemically active intermediates, which will assault normal cells and tissues, leading to serious side effects including even the induction of new types of cancer. The second is the effectiveness. The effectiveness of cytotoxic agents is limited by their indiscriminate toxicity to normal cells and tissues. The efficacy of noncytotoxic agents, which target specific functions important for the survival of tumor cells, is limited by their single assaulting strategies. The hallmark of cancers is the constant genetic change. Once a cancer is no longer dependent on a specific function a therapeutic agent targets for survival, the efficacy of the agent will be lost immediately. The situation thus calls for the emergence of a novel therapeutic agent that can assault cancer with multiple combating strategies for sustained efficacy and can be safely metabolized for low side effect(s).

#### **ES-1-2. A NOVEL CANCER THERAPY**

We discovered a new natural hormone named ITE and demonstrated its potency in blocking the generation of new blood vessels from existing ones. Cancer cannot grow without new blood vessels to supply nutrients and remove wastes. In addition, ITE may be able to further enhance the cancer combating capability by inhibiting cell division, promoting programmed cell death, and inducing differentiation of cancer cells. ITE may also be able to block estrogen and androgen actions to further enhance the therapy for estrogen dependent breast cancer and androgen dependent prostate cancer. The multiplicity of the assaulting strategy makes the therapeutic potency of ITE sustainable. The sustainability of the potency makes the eradication of cancer a possibility. Importantly, since it is a natural hormone with a natural and safe way of metabolism and low chance of off-target interaction, ITE is expected to be low in side effect(s).

#### **ES-1-3. NOVEL THERAPIES FOR OBESITY AND BLINDING RETINOPATHY**

ITE can also be used to inhibit division of primitive fat cells (the precursor cells for fat cells) and promote fat cell apoptosis (cell death) to treat obesity. Similar to cancer advancement, fat tissue expansion also requires the generation of new blood vessels to supply nutrients and remove wastes. ITE is a strong inhibitor of this process. In addition, ITE may be able to inhibit the transformation of a normal cell into a fat cell and regulate actions of a region named hypothalamus in brains to control appetite and energy balance. In blinding retinopathy, new blood vessels in eyes grow excessively, leading to blindness eventually. ITE can stop this by blocking the generation of new blood vessels.

### **ES-2. THE AhR PHARMACEUTICALS, INC.**

AhR Pharmaceuticals, Inc., a Wisconsin C corporation, was founded by Dr. Jiasheng (Jason) Song, the main inventor of the ITE technology. Dr. Song is a member of the

company's board of directors. Dr. Hector DeLuca has agreed to serve on the board. Dr. DeLuca is a world authority on the vitamin D system and its therapeutic applications. He is the President & CEO of the Deltanoid Pharmaceuticals. The remaining members of the board will be named later. The mission of the company is to develop the new natural hormone ITE we discovered into an efficacious and sustainable but low side-effect therapeutic agent in combating cancer, obesity, and blinding retinopathy.

### ES-3. THE INTELLECTUAL PROPERTY

The ITE technology, developed by Dr. Jiasheng (Jason) Song and his colleagues, is owned by Wisconsin Alumni Research Foundation (WARF). WARF owns and manages all of the inventions from the University of Wisconsin-Madison and Dr. Song and his colleagues were at the university when the invention was made. AhR Pharmaceuticals is in a process of licensing the technology from WARF. The technology includes three issued US patents: US 6,916,834 B2, US 7,002,019 B2, and US 7,419,992 B2 covering, respectively, its therapeutic preparation, chemical synthesis, and treatment of angiogenesis-dependent disorders.

### ES-4. PRODUCTS AND SERVICES

AhR Pharmaceuticals will conduct pre-clinical (animal studies) and clinical studies to prove what ITE can do as we analyzed. Upon successful completion of the research, the company will be ready to market ITE. We will not produce or sell any pharmaceutical products to end-users in the current business model. Instead, the company will market its intellectual property and expertise related to specific ITE therapies to major pharmaceutical companies for further downstream development.

### ES-5. MARKET ANALYSIS AND MARKETING STRATEGY

The American Cancer Society estimates that ~182,460 US women will be diagnosed with invasive breast cancer and 40,480 US women will die of it in 2008. The direct medical cost for breast cancer treatment is around \$4.2 billion a year in USA. A 1999-2000 National Health and Nutrition Examination Survey indicated that about 30.5% of US adults were obese. It has been estimated that about \$92.6 billion was spent in US on treating obesity and overweight conditions in 2002. There are about 4 to 5 million in US who have been diagnosed with diabetic retinopathy. Each year, between 12,000 and 24,000 people become legally blind in the US due to this disorder. Furthermore, each year about 14,000 premature babies will be diagnosed with retinopathy of prematurity. The key strategy in marketing is to demonstrate to the targeted companies the unique therapeutic potential of ITE. The best way is to publish in quality academic journals and file patents etc. In addition, we will directly approach those companies.

### ES-6. THE CHALLENGE AND STRATEGY OF BREAKING THROUGH

The huge therapeutic potential of ITE is not very well known to the world. While our capability of visualizing the invisible does to be a great asset, the feature does create a challenging situation for us. When we seek investment, investors, understandably, need direct proof that ITE works as we analyzed. To prove the case, we actually need funding

first to conduct animal studies. That creates a vicious circle between data and funding. To break the circle, we need to conduct high quality animal studies at a dramatically reduced cost. Once the cost is lower enough so that the founder's personal asset will be able to fund the initial studies, we can then successfully break the circle to start up. The best way is to contract our initial animal studies to a CRO (Contract Research Organization). To further reduce the cost but still maintain the research quality, we will contract the initial studies to a carefully selected quality CRO in China.

## ES-7. MANAGEMENT AND OPERATIONS

The company is currently managed by its founder. It is in a process of recruiting a qualified business professional as its CEO to establish a permanent management team. In assisting the management, Mr. Charles Neider of Neider & Boucher has been serving as a Legal Adviser and Mr. Kevin Kelbel of Smith & Gesteland an Accountant/Business Consultant. The company will first focus on therapeutic efficacy of ITE in breast cancer therapy as a near-term goal. Once the efficacy is established with xenograft mouse models for the human cancer, the company then needs to thoroughly investigate ITE toxicity and pharmacokinetics (PK) etc. to prepare for clinical studies.

## ES-8. FINANCIAL AND FINANCING

The costs of the first one full year of operation is around \$273,797. Additional expense for purchasing capital equipment is around \$174,500. The table below summarizes some key numbers from the projected income statements for the first 5.5 fiscal years (2009-2014, half year for 2009). After operating at loss for more than 2 years, the company will be profitable first time toward the end of 2011 (year 3). We will expect another year of loss thereafter since there will be two phase II clinical trials overlapping in 2012 (year 4). Net income is projected to grow steadily in year 5, 6, and beyond.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Net Revenues</b>	\$0	\$250,000	\$5,250,000	\$6,738,095	\$55,309,524	\$80,809,524
<b>Operating Expenses</b>	\$31,500	\$1,507,212	\$1,904,173	\$8,193,798	\$11,120,955	\$9,373,583
<b>Net Income before Tax</b>	(\$31,500)	(\$1,257,212)	\$3,345,827	(\$1,455,702)	\$44,188,569	\$71,435,940

The company expects to be acquired by a large pharmaceutical company in cancer and/or obesity therapy, providing an exit for investors. Initial public offering (IPO) will be another way of exit. The company will be open and flexible for other exit strategies preferred by different investors. During the 5-year operation, the total investment needed is around \$4 million. The result will be a company valued at around \$566 million. The overall ratio of investment to final company valuation is around 1 to 140.

The company has been discussing with angel and institutional investors for possible investment. We also seek to establish strategic alliances or partnerships with other companies. The company is initiating the collaboration with the National Cancer Institute (NCI) to facilitate the development of ITE into an anticancer drug and defray part of the developmental costs. AhR Pharmaceuticals is a state certified technology company so that Wisconsin investors will get state tax credits for the investment into the company. Other sources of financing include the founder's personal assets and credit lines.