



Teaser Memorandum



1. Executive Summary

1.1 Transaction Summary

AngioLab, Inc. founded in 1999, is a biotechnology company developing products based on angiogenesis inhibitors.

The Company is engaged in the discovery, development, and commercialization of antiangiogenic candidates to inhibit the abnormal growth of new blood vessel.

AngioLab develops anti-angiogenic candidates to treat and/or prevent various angiogenesisdependent diseases such as abdominal obesity, ocular diseases, cancer, and more.

The Company is developing an anti-abdominal obesity botanical drug, ALS-L1023, which is in phase III clinical trial in Korea.

The company has already commercialized anti-abdominal obesity dietary supplement (Ob-X).

AngioLab is seeking for a partner and/or investor for the international marketing of its existing product and further development of its product candidates in the Company's pipeline. Technology transfer and/or licensing transactions could also be considered.

AngioLab is confident that the capital injection will significantly enhance the company's competitiveness in the market and bring fruitful returns to the potential investor(s).

1.2 Technology Highlight

AngioLab possess patent protected core technology and extensive know how and experience in angiogenesis research. The development of anti-angiogenic multi-functional drugs and nutraceuticals are targeting a variety of angiogenesis-dependent diseases including cancer, arthritis, ocular disease, psoriasis, and obesity.

The Company has focused on screening anti-angiogenic and Matrix Metalloproteinases (MMP) inhibitory substances from various sources and has valuable candidates in forms of botanical drugs, synthetic compounds, and recombinant proteins.

For the past eleven years, the Company has been awarded numerous government research grants for the developing of its products and technologies.

More than 60 international and domestic patents related to angiogenesis inhibitors have been filed with many of those already issued. Among its candidates, a plant based product showed potent anti-angiogenic activity through oral route without having any noticeable side effects, which demonstrated that it can be administered to patients for a long period of time as angiogenesis inhibitors.

The Company leverages its drug development activities through strong collaborations with academic institutions and hospitals. The company is trying to commercialize its anti-angiogenic candidates as anti-abdominal obesity drug (ALS-L1023), anti-retinopathy drug (McEye), anti-periodontitis drug (Periostatin), and anti-wrinkle cosmetics (Wrinklestat).

Anti-abdominal obesity drug (ALS-L1023) is in phase III clinical trial in Korea, and IND filing to US FDA is in preparation for phase II clinical trial in USA.

Anti-abdominal obesity dietary supplement (Ob-X), of which efficacy has been proven in three human studies, got KFDA approval of specific health functional food with health claim.



2. Company History

1999	Established			
	Venture Company Certification			
2000	Established R&D Center.			
	Project granted by the Ministry of Health and Welfare.			
2001	Project granted by the Ministry of Commerce, Industry and Energy			
2003	AA Grade in feasibility research conducted by SMBA			
2004	 Project granted by Korea Institute of Industrial Technology Evaluation and Planning Company Evaluation conducted by IGI & INI-Graphics Net Stiftung (Fraunhofer Society) Project granted for 5 years by the Ministry of Health and Welfare (KBRDG) 			
2005	"A" grade in feasibility research conducted by SMBA			
2006	Re-certified as "Venture Company" by SMBA Invested by KDB (Korea Development Bank)			
2007	INNO-BIZ(Innovative Business of Technology) Certification			
2008	Re-certified as "Venture Company" by KIBO IND approval for Phase II clinical trial of anti-abdominal obesity botanical drug ALS-L1023 from KFDA			
2009	Phase II clinical trial of ALS-L1023 completed			
2010	Approval of Ob-X from KFDA as specific health functional food with health claim Export of Ob-X to US, Brazil and Japan IND Approval from KFDA for Phase III human clinical trial of ALS-L1023 Human study of Wrinklestat as anti-wrinkle cosmetics was completed			

3. Summary of Products in development

Product	Indication	Development Stage	Description
ALS-L1023	Anti-abdominal obesity	clinical phase III	botanical drug
Ob-X	Anti-abdominal obesity	Human study completed	dietary supplement
McEye	Anti-retinopathy	preclinical	botanical drug for DR, AMD
Periostatin	Anti-periodontitis	preclinical	botanical drug, animal drug
Wrinklestat	Anti-wrinkle	Human study completed	cosmetics
Meta-X	Anti-cancer	preclinical	botanical drug
Paeonol	Anti-cancer	preclinical	radiosensitizer
Pegylated-ADI	Angiogenesis inhibitor	preclinical	recombinant protein
HSA-TIMP-2	Anti-cancer	preclinical	recombinant protein



4. Technology Background

Obesity has emerged as a major public health problem due to its high prevalence and association with increased risk for development of metabolic syndrome such as type 2 diabetes mellitus and cardiovascular diseases. Visceral fat has been recognized as a contributor to the pathogenesis of the obesity-related metabolic syndrome.

There are many anti-obesity drugs and dietary supplements in the market, and most of them are focusing on weight loss with mechanism of suppressing appetite to reduce food intake or inhibiting lipase or increasing metabolic activity. However, none of those products in the market appears to be used on a long-term basis due to adverse side effects.

Adipose tissue is highly vascularized and each adipocyte is nourished by an extensive capillary network. Similar to tumor tissue, adipose tissue can exceptionally grow and regress throughout adulthood. Substantial scientific evidences demonstrate the growth of both tumor tissue and adipose tissue depending on angiogenesis.

A research team at Harvard University found that treatment of angiogenesis inhibitors in obese mice resulted in weight reduction and adipose tissue loss, showing that adipose tissue mass can be regulated by its vasculature. Angiogenesis inhibitors change the vascularity of adipose tissue and result in adipose tissue regression. The results from the study introduce novel approach for prevention and treatment of obesity.

Unlike other anti-obesity products, which decrease both lean and fat mass, the weight loss induced by angiogenesis inhibitors specifically came from loss of adipose tissue mass. Because angiogenesis rarely occur in normal physiological conditions and angiogenesis inhibitors target only newly formed vessels, angiogenesis inhibitors have a high specificity for reducing adipose tissue with little toxicity.

5. Products Description

1) ALS-L1023 : Anti-abdominal obesity drug

- ALS-L1023 inhibits angiogenesis targeting VEGF and MMP inhibition
- ALS-L1023 is botanical drug prepared by activity-guided fractionation from one herb
- It is standardized by two reference compounds
- Preclinical studies were completed in Australia and Korea
- Visceral fat was reduced in phase II human trial by CT analysis
- Phase III human clinical trial is in progress Title of Phase III study : A multi-center, 12-week randomized, double-blind, placebo-controlled phase III clinical trial to assess the effect of ALS-L1023 1200mg on visceral fat change in abdominally obese patients with metabolic syndrome
- Pre-IND meeting request to US FDA for phase II human trial preparation in USA
- 8 patents registered and 17 patents pending

2) McEye : Anti-retinopathy drug

- Application of ALS-L1023 to angiogenesis-dependent ocular diseases such as Age-related Macular Degeneration(AMD) and Diabetic retinopathy(DR)
- Efficacy was tested in ROP (Retinopathy of Prematurity) model
- Toxicological studies were completed



- 6 patents registered and 9 patents pending

3) Periostatin : Anti-periodontitis drug

- Botanical drug
- Inhibition of MMP-1, -8, -13 to protect periodontal ligaments and alveolar bone (tooth loss)
- The MMP inhibitory effect is similar to that of Doxycycline, a commercial MMP inhibitor FDA approved for periodontal disease
- Completed efficacy study with beagle dogs
- 1 patent registered and 5 patents pending

4) Wrinklestat : Anti- wrinkle cosmetics

- Single compound
- Prevention of UV-induced wrinkle formation by inhibiting MMPs
- Single dose acute toxicity, primary skin irritation, eye irritation, skin sensitization, photo-toxicity, photo-sensitization and anti-wrinkle tests were completed
- Efficacy and safety studies in human were completed
- Listed in ICID (Wrinklestat as a trade-name and Methoxychalcone as INCI name)
- 2 patents registered and 2 patents pending

5) Ob-X : Anti-abdominal obesity dietary supplement

- Inhibition of angiogenesis and matrix metalloproteinase targeting adipose tissue
- Three human studies completed
- Reduction of visceral fat
- KFDA approval of specific functional food with health claim
- Export Ob-X raw material to EU, US and Japan
- 6 patents registered and 9 patents pending

6. Market Analysis

Anti-Angiogenesis: There are more than 184 million disease cases that may benefit from antiangiogenic therapy in U.S.A. and E.U. According to the report by Angiogenesis Foundation, diseases that may be treatable with angiogenesis-based drugs including angiogenesis inhibitors and stimulators encompass market representing 20% of the global pharmaceutical market.

Obesity: Nearly a half billion of the world's population is now considered overweight or obese. The National Health and Nutrition Examination Survey indicated that 64% of American adults and one-third of American children are either overweight or obese. The estimated world functional food market for obesity treatment stands at \$1,000 billion in 2014

Ocular Disease: More than 500,000 people are losing their eyesight over the world by various angiogenesis-dependent eye diseases. Regarding AMD(Age-related Macular Degeneration) 500,000 new cases per year worldwide are estimated and expected to rise to approximately 8,000,000 by 2020 worldwide

Periodontal Disease: Periodontitis affects about 12-15% of the adult population in most countries. Of 67 million Americans with periodontitis, 13 million patients undergo annual treatment. Estimated US market for periodontitis pharmaceuticals is \$ 1.95 billion.

Anti-wrinkle cosmetics: The estimated world market for anti-wrinkle cosmetics is USD 21 billion by 2014