

Teaser Memorandum

Dental Bone Grafts Guided Bone Regeneration Membrane in Dental Surgery

Developed by NIBEC Co., LTD.

January 2008

Executive Summary

NIBEC Co., Ltd. ("NIBEC") was established in 2003 by Seoul National University Professor, Dr. Chung. As a dentist and Professor at the College of Dentistry, Dr. Chung developed bone graft materials (OCS-B®, OCS-H®) and a bone regeneration membrane (Guidoss®) for guided bone regeneration (GBR) and guided tissue regeneration (GTR) surgery. NIBEC is an abbreviation of NanoIntelligent Biomedical Engineering Corporation. In 2008, NIBEC will get a CE mark from EMEA and a 510K market approval from US FDA. Its GMP manufacturing facility is qualified by KFDA and is under inspection by EU authorities.

NIBEC Co., Ltd.

- CEO: Chong-Pyoung Chung, D.D.S., Ph.D.
- Established: April 2003
- Headquarter: Seoul, Korea
- Products: OCS-B®, OCS-H®, and Guidoss®

Implant-based dental reconstruction is a growing market. A report on the Worldwide Dental Implant and Bone Graft Market (2nd ed., Kalorama, 2007), shows that global sales of dental implant systems are expected to reach more than \$4.5billion in the next five years. Specifically, the world sales of dental bone grafts reached \$130 million in 2006 and should double (\$266 million) by 2012. The new grafting technology developed by NIBEC will expand the candidate pool and market opportunity for implants.

GTR has become a standard procedure for periodontal regeneration therapy and GBR is getting popular because of successful implanting by using bone grafts. The products developed by NIBEC - OCS-B®, OCS-H® and Guidoss® - are critical components of GBR and GTR surgery and they have been proven comparable to currently marketed competitor products.

NIBEC plans to commercialize the products in Korea and export the products to overseas markets. NIBEC can provide its cost-effective and high quality products to corporate partners or distributors outside of Korea.

Key Products Overview

□ OCS-B® & OCS-H®

OCS-B (OsteoConductiveSubstitute-Bovine) and OCS-H (OsteoConductiveSubstitute-Horse) are bone grafts from animal source material. The deproteinized bovine or horse bone grafts have been widely used in GBR or GTR in the US, EU and around the world. In the clinical trials at Seoul National University Dental Hospital, the efficacy of osteoconduction, osteoinduction, safety and biocompatibility have been proven.



□ Guidoss®

As a bone regeneration membrane, Guidoss® is a useful tool for bone and periodontal regenerative therapy (GTR or GBR). Unlike other approved products, it is made from silk fibroin (SF). The novel SF nanofiber has proven to have excellent biocompatibility, strength, toughness, is resorbable, and support cell proliferation and differentiation. Guidoss® overcomes the disadvantages of other bone regeneration membranes and has been proven to be a superior product.

Competitive Advantages

□ Big market potential

In both developed and developing countries, the life expectancy is getting longer and society is aging. With the addition of new and improved dental grafting and implant technologies, the implant and bone graft market is expanding rapidly. Dental bone grafts sales are increasing by more than 12% yearly. Because of this continuing growth opportunity, the NIBEC bone graft products (OCS-B® or OCS-H®) and bone regeneration membrane (Guidoss®) product will capture a significant fraction of this market.

□ Proven efficacy and biocompatibility

New bone is formed when surrounded by NIBEC grafts or membranes. NIBEC conducted several preclinical and clinical trials with its products and the products showed excellent efficacy and safety. The data has been published in several Korean and international scientific journals. Efficacy was proven by both histological and radiographic evaluation. Studies showed no inflammatory reaction or graft rejection.

□ Registered by KFDA and Marketed in Korea

NIBEC products were all developed in Korea. NIBEC submitted its efficacy and safety data to the Korean Food & Drug Administration (KFDA). The NIBEC products were reviewed and approved for marketing by KFDA.

□ Publications

The Journal of the Korean Dental Association Vol.45, No.8 (2007) 491-499
Dental Success Vol.27(7), July 2007 790-794
Journal of Biotechnology 120 (2005) 327-339

Contact Point

KHIDI (Korea Health Industry Development Institute) is currently seeking potential corporate partners to fund clinical development or investors who are interested in this therapeutic area and an equity interest in BioNutrigen. Interested parties should contact below for additional information.

Researcher	Young-Kyun Jung	E-mail: jyktop@khidi.or.kr
------------	-----------------	--