

The logo for Orange Biomed is centered within a white circle that has a thick orange border. The text "ORANGE BIOMED" is written in a bold, orange, sans-serif font. A small green leaf icon is positioned between the words "BIOMED" and "ED".

ORANGE BIOMED

MEDIA KIT

2023

ORANGE BIOMED

MEDIA KIT

POSITIONING STATEMENT

For patients with diabetes and healthcare professionals that want an easy-to-use portable A1c testing device, Orange Biomed produces **OBM rapid A1c**, an accessible and affordable care option for better diabetes management. Orange Biomed improves upon the accuracy, affordability, timeliness, and longevity of current portable A1c devices available in the U.S. Easily retrieved, lab-accurate results in 5 minutes.

MISSION STATEMENT

Orange Biomed's mission is to reduce the global diabetes burden through prevention to make the lives of those with diabetes happier. By seamlessly integrating lab-level technology into point-of-care devices, we make healthcare more accessible and affordable for everyone.

VISION STATEMENT

Our vision is to solve unmet diabetes-focused healthcare needs.



COMPANY BACKGROUND

Orange Biomed is a healthcare startup with cutting-edge diabetes management technology. Co-Founders and Co-Presidents Yeaseul Park and Unghyeon Ko founded Orange Biomed in 2021 with the vision of solving unmet diabetes-focused healthcare needs by bringing POC technology into patients' homes. Orange Biomed created **OBM rapid A1c**, an accessible and affordable A1c testing device for diabetes management and care.

Orange Biomed partners with Seoul Asan Medical Center for research on **OBM rapid A1c**. Asan is South Korea's largest hospital and is backed by the Hyundai group, one of Korea's largest conglomerates with a strong emphasis on healthcare.

Orange Biomed developed a prototype of a portable A1c meter in 2022. The POC medical device provides test results in 5 minutes. Unlike other at-home A1c tests, OBM rapid A1c has a long shelf life and only requires one drop of blood.

In 2023 and beyond, Orange Biomed aims for OBM rapid A1c to provide the device for U.S. patient-oriented healthcare.

PARTNERS

SEOUL ASAN MEDICAL CENTER
(BY HYUNDAI GROUP) →

INVESTORS

DIGITAL HEALTHCARE PARTNERS →

SEOUL INVESTMENT PARTNERS →

SEOUL ASAN MEDICAL CENTER
(BY HYUNDAI GROUP) →

CK GOLDBLOCKS ASSET
MANAGEMENT →

ROOTN GLOBAL INVESTORS →

INTOPS INVESTMENT →

IBK CAPITAL →

PRODUCT OVERVIEW

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DIGITAL ASSETS

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LEADERSHIP BIOS AND HEADSHOTS

YEASEUL PARK CO-PRESIDENT

Yeaseul Park is the Co-President and Co-Founder of Orange Biomed. She is responsible for overseeing the business development of Orange Biomed and the prototype development of OBM rapid A1c.

In 2019, Park started researching and developing with co-founder Ungheyon Ko, an innovative diabetes management technology for measuring A1c levels at Duke University. Before her work at Orange Biomed, Park was a Senior Associate at FuturePlay, where she developed company-wide strategies for VC investments, in-house ventures, and open innovation. She is also the CEO and Founder of Solgit co., Ltd., a startup providing enterprises with location-based CRM software that effectively visualizes client data on a map-based platform, helping sales professionals in the field.

She received her BA in Psychology at Yonsei University and her MBA at Duke University. In 2014 she studied psychology abroad through the University of California, Berkeley.



UNGHYEON KO

CO-PRESIDENT

Unghyeon Ko is the Co-President and Co-Founder of Orange Biomed. Ko is responsible for the research and development of Orange Biomed and OBM rapid A1c.

Ko started research and development with co-founder Yeaseul Park on an innovative diabetes management technology in 2019. Two years later, he launched Orange Biomed, established a corporate Research and Development center, and signed a clinical trial agreement with Seoul Asan medical center. Before his work at Orange Biomed, Ko was a Postdoctoral Researcher at Duke University, focusing on Microfluidics, Soft Robotics, Blood-Brain Barrier, Regenerative Medicine and Smart Materials.

Ko received his BA in Mechanical Engineering and Ph.D. at the Korea Advanced Institute of Science & Technology (KAIST). He also received a BME Postdoc at Duke University.



EUNYOUNG PARK

HEAD OF ENGINEERING

Eunyoung Park is a biomedical engineer part of the Engineering Team at Orange Biomed. Park is responsible for developing the Orange Biomed POC device that measures the level of HbA1c using microfluidic technology.

She received her Bachelor of Science, Masters of Science and PhD in Mechanical Engineering from Korea Advanced Institute of Science and Technology (KAIST). During her PhD, Park researched physical stimulants and therapeutic strategies to control the inflammation and developed a cell culture method, a fundamental step for cell research.

SEUNGJIN KANG

ENGINEERING DIRECTOR

Seungjin Kang is on the Engineering Team at Orange Biomed. He is responsible for firmware, CFD analysis, product test, electrical circuit design, BOM process, composite material manufacturing processes, mechanical ENG, and pcb artwork.

Kang has over half a decade of experience in the mechanical engineering field. Prior to joining the Orange Biomed team, Kang was a Researcher at Hyundai Motor Group. There, he was responsible for vehicle testing and vehicle CFD analysis.

Kang received his Master's degree in Mechanical Engineering from Seoul National University and his Bachelor's degree in Mechanical Engineering from Korea University.

YOUNG CHAN (LUKE) JO

HEAD OF U.S. BUSINESS

Young Chan (Luke) Jo is part of the business development team at Orange Biomed. At Orange Biomed, Jo is responsible for directing the business of Orange Biomed in the U.S.

Jo has roughly half a decade of managerial experience at well-established medical facilities in the U.S., such as Massachusetts General Hospital.

Jo received his Associate of Arts degree in Accounting from Bay State College, his Bachelor of Science degree in Biology from Boston University, and Master of Science Quantitative Management (MSQM), Health/Health Care Administration/Management from Duke University - The Fuqua School of Business.

SANGWOO KIM

MANUFACTURING DIRECTOR

As part of the Production Team, Sangwoo Kim is the Manufacturing Director at Orange Biomed. Kim is responsible for manufacturing operations management, process engineering, and supplier quality management.

He received his Bachelor of Engineering in Electronic Material Engineering from Kwangwoon University.



CONTACT INFORMATION

FOR BUSINESS INQUIRIES,
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FOR CAREER OPPORTUNITIES,
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PEER REVIEWED ARTICLES

DR. UNGHYEON KO'S PEER-REVIEWED ARTICLES :

- 01** Ung Hyun Ko*, Vardhman Kumar*, Benjamin Rosen, and Shyni Varghese, "Characterization of bending balloon actuators", *Front Robot AI*, 9, 2022, 991748
- 02** Jiwon Kim, Kun-Young Park, Sungwoo Choi, Ung Hyun Ko, Dae-Sik Lim, Jae Myoung Suh, Jennifer H. Shin, "Ceiling culture chip reveals dynamic lipid droplet transport during adipocyte dedifferentiation via actin remodeling", *Lap on a Chip*, 22, 2022, 3920
- 03** Hunter Newman, Jiaul Hoque, Yu-Ru V Shin, Gabrielle Marushack, Ung Hyun Ko, Gavin Gonzales, Shyni Varghese, "pH-Sensitive Nanocarrier Assisted Delivery of Adenosine to Treat Osteoporotic Bone Loss", *Biomaterials Science*, 10(18), 2022, 5340-5355
- 04** Ting Yang, Ravi Velagapudi, Cuicui Kong, Ung Hyun Ko, Vardhman Kumar, Paris Brown, Nathan Franklin, Anabel De Caceres Bustos, Hyunjung Min, Anthony Filiano, Ramona Rodriguiz, William Wetsel, Shyni Varghese, Niccolo Terrando, "Protective effects of omega-3 fatty acids in a blood-brain barrier-on-chip model and postoperative delirium in mice", *British Journal of Anaesthesia*, In press, 2022
- 05** Kijung Kim, Jinseung Choung, Ung Hyun Ko, Ara Jung, Wonho Choe, Jennifer H. Shin, and Bomi Gweon, "Suppression of Breast Cancer Cell Migration and Epithelial-Mesenchymal Transition by Atmospheric Pressure Plasma", *Frontiers in Physics*, 25(2), 2021, 159-61
- 06** Ung Hyun Ko*, Vardhman Kumar*, Yilong Zhou, Jiaul Hoque, Gaurav Arya, and Shyni Varghese, "Microengineered Materials with Self-Healing Features for Soft Robotics", *Advanced Intelligent System*, 3(7), 2021, 2100005

- 07** Ung Hyun Ko*, Je-Hyun Han*, Hyo Jun Kim, Seunggyu Kim, Jessie S. Jeon, and Jennifer H. Shin, "Electrospun Microvasculature for Rapid Vascular Network Restoration", *Tissue Engineering and Regenerative Medicine*, 18, 2020, 89-97
- 08** Youngbin Cho, Seung Jung Yu, Jiwon Kim, Ung Hyun Ko, Eun Young Park, Jin Seung Choung, Goro Choi, Daehyun Kim, Eun Jung Lee, Sung Gap Im, and Jennifer H. Shin, "Remodeling of Adhesion Network within Cancer Spheroids via Cell-Polymer Interaction", *ACS Biomaterials Science & Engineering*, 6(10), 2020, 5632–5644
- 09** Jung Bok Lee, Jeong Su Park, Young Min Shin, Da Hyun Lee, Ung Hyun Ko, Jeong-Kee Yoon, Dae-Hyun Kim, YongTae Kim, Soo Han Bae, and Hak-Joon Sung, "Implantable vascularized liver chip for cross-validation of disease treatment with animal model", *Advanced Functional Materials*, 29, 2019, 1900075
- 10** Joon Seok Lee, Hyeon Jun Jeon, Jeong Woo Lee, Kang Young Choi, Jung Dug Yang, Byung Chae, Cho, Eun Jung Oh, Tae Jung Kim, Ung Hyun Ko, Jennifer H. Shin, Sewha Jeon, Young Jig Lee, and Ho Yun Chung, "Effect of keratinocytes on myofibroblasts in hypertrophic scars", *Aesthetic Plastic Surgery*, 43(5), 2019, 1371-1380
- 11** Ung Hyun Ko, Jongjin Choi, Jinseung Choung, Sunghwan Moon, and Jennifer H. Shin, "Physicochemically Tuned Myofibroblasts for Healing Strategy in Severe Wound", *Scientific Reports*, 9, 2019, 16070
- 12** Daniel A. Balikov, Spencer W. Crowder, Jung Bok Lee, Yunki Lee, Ung Hyun Ko, Mi-Lan Kang, Won Shik Kim, Jennifer H. Shin, and Hakjoon Sung, "Aging donor-derived human mesenchymal stem cells exhibit reduced senescence-associated activities following serial expansion on a PEG-PCL copolymer substrate", *International Journal of Molecular Sciences*, 19(2), 2018, 359
- 13** Ung Hyun Ko, Sukhee Park, Hyunseung Bang, Mina Kim, Hyunjun Shin, and Jennifer H. Shin, Promotion of Myogenic Maturation by Timely Application of Electric Field along the Topographical Alignment, *Tissue Engineering Part A*, 24(9-10), 2018, 752-760
- 14** Daniel A. Balikov, Sonia K. Brady, Ung Hyun Ko, Jennifer H. Shin, Jose M. de Pereda, Arnoud Sonnenberg, Hak-Joon Sung, and Matthew J. Lang, Nesprin-cytoskeleton interface probed directly on single nuclei is a mechanically rich system and subject to nuclear history, *Nucleus*, 8(5), 2017, 534-547

- 15** Youngjin Kim, Hyeonseok Kim, Ung Hyun Ko, Youjin Oh, Ajin Lim, Jong-Woo Sohn, Jennifer H. Shin, Hail Kim, and Yong-Mahn Han, Islet-like organoids derived from human pluripotent stem cells efficiently function in the glucose responsiveness in vitro and in vivo, *Scientific Reports*, 6, 2016, 35145
- 16** Jin-Sung Park, Kijung Kim, Je-Hyun Han, Bomi Gweon, Ung Hyun Ko, Suk Jae Yoo, Wonho Choe, and Jennifer H. Shin, Effects of minimal exposures to atmospheric pressure plasma on the activity of *Salmonella Typhimurium*: Deactivation of bacterial motility and suppression of host-cell invasion, *Archives of Biochemistry and Biophysics*, 605, 2016, 57-75.
- 17** Bomi Gweon, Mina Kim, Kijung Kim, Jinseung Choung, Minam Lee, Ung Hyun Ko, Wonho Choe, and Jennifer H. Shin, “Role of atmospheric pressure plasma (APP) in wound healing: APP induced anti-fibrotic process in human dermal fibroblasts (HDFs)”, *Experimental Dermatology*, 25(2), 2016, 159-161
- 18** Suk-Hee Park, Ung Hyun Ko, Mina Kim, Dong-Yol Yang, Kahp-Yang Suh and Jennifer H. Shin, “Hierarchical multilayer assembly of an ordered nanofibrous scaffold via thermal fusion bonding”, *Biofabrication*, 6(2), 2014, 024107
- 19** Sukhyun Song, Hana Han, Ung Hyun Ko, Jaemin Kim, and Jennifer H. Shin, “Collaborative effects of electric field and fluid shear stress on fibroblast migration”, *Lap on a Chip*, 13(8), 2013, 1602-1611
- 20** Bicheng Han, Daeyeon Kim, Ung Hyun Ko and Jennifer H. Shin, “A sorting strategy for *C. elegans* based on size-dependent motility and electrotaxis in a micro-structured channel”, *Lap on a Chip*, 12, 2012, 4128-41

DR. EUNYOUNG PARK'S

PEER-REVIEWED ARTICLES :

- 01** E. Park, M. Lee, P. M. L. Steve, E. Lee, S. Im, and J. H. Shin, "Wettability-based cell sorting: exploring isolation strategy for mixed primary glial cell population", In press (Advanced Materials Interfaces)
- 02** E. Ko, M. L. Poon, E. Park, Y. Cho, J. H. Shin, "Engineering 3D cortical spheroids for an in vitro ischemic stroke model", ACS Biomaterials Science & Engineering, 2021
- 03** E. Park, J. G. Lyon, M. Alvarado-Velez, M. I. Betancur, N. Mokarram, J. H. Shin, and R. V. Bellamkonda, "Enriching neural stem cell and anti-inflammatory glial phenotypes with electrical stimulation after traumatic brain injury in male rats", Journal of Neuroscience Research, 2021
- 04** Y. Cho, S. J. Yu, J. Kim, U. H. Ko, E. Park, J. S. Choung, G. Choi, D. Kim, E. Lee, S. G. Im, and J. H. Shin, "Remodeling of Adhesion Network within Cancer Spheroids via Cell-Polymer Interaction", ACS Biomaterials Science and Engineering, 6, 10, 5632-5644, 2020
- 05** J.-S. Park, G. Oh, J. Kim, E. Park, and J. H. Shin, "Reversible Thermal Gradient Device to Control Biased Thermotactic Response of *C. elegans*", Analytical Sciences, 35, 12, 1367-1373, 2019
- 06** Y. Cho, E. Park, E. Ko, J.-S. Park and J. H. Shin, "Recent advances in biological uses of traction force microscopy", Review in International Journal of Precision Engineering and Manufacturing, October 2016