Development of novel technology for continuous glucose monitoring

Ching-Chun Huang[1, 2], You-Ling Ding[1]*

1Seknova Biothechnology Co., Ltd., Taiwan
2Institute of Bioinformatics and Systems Biology, National Chiao Tung University, Taiwan

Abstract

A Diabetes mellitus (DM) is a group of metabolic disorders characterized by high glucose levels and poor glucose control over a prolonged period of time. Acute complications include diabetic ketoacidosis (DKA), hyperosmolar hyperglycemic state (HHS), and hypoglycemia which can lead to seizure or even death. Chronic complications include retinopathy, nephropathy, cardiovascular disease, cerebrovascular disease, and neuropathy. Strict glycemic control, medication, insulin injections, diet, and exercise can delay or prevent these complications.

Crucial to diabetes management is patient monitoring of glucose levels several times per day, either using self-monitoring blood glucose meters (SMBG) or continuous glucose monitors (CGMs). SMBGs measure blood glucose levels in capillary blood collected from the finger. The pain and inconvenience of this method leads many patients to test less frequently than their physicians suggest. CGMs provide interstitial glucose readings every few minutes using a sensor implanted under the skin.

A novel CGM device was developed to continuously monitor glucose and ketone levels to rapidly detect the onset of acute complications. Research on a novel multi-biomarker continuous glucose monitoring (CGM) device is being conducted by the device inventor, Seknova Biotechnology. The multi-biomarker CGM device continuously monitors glucose and ketones levels in diabetic patients to rapidly detect the development of acute complications. Current testing on diet-induced diabetic mice shows high accuracy in glucose monitoring across glycemic ranges

.

Biography:

Dr Ching-Chun Huang is the founder of Seknova Biotechnology in Taiwan. The company has been established for 2 years. Dr Huang is a dual master's degree in electrical engineering and EMBA. He is currently studying doctoral program of Bioinformatics and Systems Biology at National Chiao Tung University in Taiwan now. He has 15-year Research and Development experience in world's famous ICT manufacturers MStar and MediaTek, and also has one entrepreneurial experience. Dr Huang has 16 individual patents on Bio-ICT in Taiwan, China, US and EU.

You-Ling Ding is business development manager and co-founder of Seknova Biotechnology in Taiwan. She completed her Global MBA Program from National Chiao Tung University. You-Ling has 10 years of international business experience in import and export trade, she is now engaged in the biotechnology industry.

Speaker Publications:

1. 019. 01 – present Assistant Research Fellow, Agricultural Biotechnology Research Center, Academia Sinica
2. 2013. 09 – 2018 .12 Assistant Research Fellow, Center for Bioinformatics Research, National Chiao Tung University
2. 2017. 06 – 2017. 09 Visiting Scientist, Department of Biology, Johns Hopkins University
3. 2011. 09 – 2013. 07 Postdoctoral Research Fellow, Center for Bioinformatics Research, National Chiao Tung University
4. 2007. 02 – 2011. 08 Ph.D., Institute of Molecular Medicine and Bioengineering, National Chiao Tung University

26th International Conference on Human Metabolic Health Diabetes, Obesity and Endocrinology, June 22-23, 2020, Webinar

Abstract Citation:

You-Ling Ding, Development of novel technology for continuous glucose monitoring, 26th International Conference on Human Metabolic Health Diabetes, Obesity and Endocrinology, June 22-23, 2020, Webinar