



## Seoul National University Bundang Hospital Presents Study of SK Biopharmaceuticals' Seizure Detection Wearable Device at AES 2022

*Poster session features a preliminary study result of potential seizure monitoring and detection for patients using SK Biopharmaceuticals' wearable device*

*SK Biopharmaceuticals, Seoul National University Bundang Hospital plan to use Zero Wired™ to further pursue clinical research and develop it into an AI-based seizure detection medical device*

**Pangyo, Gyeonggi Province, Korea, Dec. 5, 2022** – Seoul National University Bundang Hospital (SNUBH) presented its preliminary study result of seizure monitoring for patients with epilepsy using SK Biopharmaceuticals' multimodal wearable device at the American Epilepsy Society (AES) Annual Meeting 2022 in Nashville, Tennessee, December 2-6. This is the first study of the wearable device developed by SK Biopharmaceuticals, an innovative global pharmaceutical company.

A SNUBH research team led by Prof. Hunmin Kim conducted the study from March 11, 2021, to March 10, 2022, with 14 patients aged 9-27 regularly using the device for more than a month. The wearable device monitored patients daily and recorded seizure data on a mobile app while measuring bio-signals such as brain electrical activity (electroencephalography, EEG), heart rhythm, and body movement.

Prof. Kim said at the AES that it has shown to be useful in collecting data for potential seizure detection as it continuously measured brain activity for more than 8 hours, and transmitted the data to a server in real-time. During the 3,723 hours of recording, it identified 1,686 seizures.

SK Biopharmaceuticals and SNUBH plan to further pursue clinical research with Zero Wired™, aiming to develop it into an AI-based seizure detection and forecast device. Zero Wired, a CES® 2023 Innovation Awards Honoree, is an upgraded version of the multimodal wearable device used in the SNUBH pilot study.

### **About SK Biopharmaceuticals**

SK Biopharmaceuticals and its U.S. subsidiary SK life science are global pharmaceutical companies focused on the research, development and commercialization of treatments for disorders of the central nervous system (CNS). The companies have a pipeline of eight compounds in development for the treatment of CNS disorders, including epilepsy. Additionally, SK Biopharmaceuticals is focused on early research in oncology. For more information, visit SK Biopharmaceuticals' website at [www.skbp.com/eng](http://www.skbp.com/eng) and SK life science's website at [www.SKLifeScienceInc.com](http://www.SKLifeScienceInc.com).

### **About Epilepsy**

Epilepsy is one of the most common neurological disorder. There are approximately 50 million people (worldwide) living with epilepsy worldwide, and 3.4 million people in the U.S.<sup>1 2</sup> Epilepsy is characterized by recurrent, unprovoked seizures. (The seizures in epilepsy may be related to a brain injury or a family tendency. Epilepsy has many different causes. About half of people with epilepsy have a n unknown cause).<sup>3</sup> Having seizures and epilepsy can affect one's safety, relationships, work, ability t

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<sup>1</sup> World Health Organization. Epilepsy. <https://www.who.int/news-room/fact-sheets/detail/epilepsy>. Accessed November 2022.

<sup>2</sup> Epilepsy Foundation. Staying Safe. <https://www.epilepsy.com/about>. Accessed November 2022.

<sup>3</sup> Epilepsy Foundation. Who Can Get Epilepsy? <https://www.epilepsy.com/what-is-epilepsy/understanding-seizures/who-gets-epilepsy>. Accessed November 2022.



o drive, and much more. People with epilepsy are at risk for accidents and other health complications, including falling, drowning, depression and sudden unexplained death in epilepsy (SUDEP).<sup>4 5</sup> Despite the availability of many antiepileptic therapies, more than one-third of people with epilepsy are not able to achieve seizure freedom, meaning they have epilepsy that remains uncontrolled.<sup>6</sup>

**Media Inquiries**

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<sup>4</sup> Epilepsy Foundation. Staying Safe. <https://www.epilepsy.com/learn/seizure-first-aid-and-safety/staying-safe>. Accessed November 2022.

<sup>5</sup> Epilepsy Foundation. Challenges with Epilepsy. <https://www.epilepsy.com/learn/challenges-epilepsy>. Accessed November 2022.

<sup>6</sup> Chen Z, Brodie MJ, Liew D, Kwan P. Treatment outcomes in patients with newly diagnosed epilepsy treated with established and new antiepileptic drugs: a 30-year longitudinal cohort study. <https://www.ncbi.nlm.nih.gov/pubmed/29279892>. Published online December 26, 2017.