Therapeutic interventions in brain cancers

Jong-Whi Park

*Department of Health Sciences and Technology, GAIHST, Gachon University, South Korea*

Glioblastoma (GBM) is the first cancer that was sequenced by the cancer genome atlas (TCGA). Major genetic alterations in GBM are available from TCGA database, and these abnormalities are closely associated with deregulation of signal transduction pathways. Despite the improved understanding of pathobiological features of GBM, the clinical outcomes are unfavorable over the last decade. I will discuss the antitumoral effect of Sprouty2 (SPRY2) inhibition that is based on excessive activation of ERK signaling and DNA damage response, resulting in reduced tumorigenic capacity, proposing SPRY2 as a promising pharmacological target in GBM patients.

I will also introduce the efficacy and potential determinants of response to the DNA hypomethylating agent decitabine (DAC) in malignant gliomas. Our transcriptome analysis revealed that DAC induces CDKN1A/p21 expression, along with down-regulation of TERT.