OncoTherapy Science, Inc.
November 15, 2019

Publication of a paper describing the anti-cancer effect of TOPK inhibitor OTS514 on multiple myeloma

An article that described the therapeutic effects of TOPK inhibitor in multiple myeloma has been published in *Cancer Medicine*, by a research group of Prof. Jakubowiak and our collaborator Prof. Nakamura's group (currently, director of Cancer Precision Medicine Center, Japanese Foundation for Cancer Research) at the University of Chicago.

Multiple myeloma (MM) is the most common type of plasma cell cancer, and the second most common hematologic malignancy. Because of its complex genetic landscape and heterogeneity even within a single patient, it is necessary to develop treatment options which can inhibit multiple oncogenic signaling pathways in MM.

This study demonstrated anti-myeloma effects of the TOPK inhibitor (OTS514) by investigation of several human myeloma cell lines, putative cancer stem cell populations from MM patient blood, and a mouse xenograft model of MM. As the mechanism of action for TOPK inhibition, OTS514 treatment induced suppression of several oncogenic signaling pathways, including FOXM1, AKT, p38 MAPK, and NF-κB, which play important roles in the development and promotion of MM. Moreover, combination treatment of OTS514 with lenalidomide, which is increasingly used as a frontline therapy for MM, could induce synergistic therapeutic effects on MM cell lines. Collectively, these findings indicate that TOPK inhibitor suppressed several MM-supportive signaling pathways and induced potent MM-selective killing effects, which can be combined with another current treatment regimen like lenalidomide.

The paper has been published online in *Cancer Medicine*.
(https://onlinelibrary.wiley.com/doi/10.1002/cam4.2695)