세미나 초록

성명	박준석
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발표 주제	**Development of Bersiporocin, A First-in-Class Prolyl-tRNA Synthetase (PRS) Inhibitor for the treatment of fibrotic diseases**
발표 내용	PRS, a member of aminoacyl tRNA synthetases (ARS), is an enzyme that conjugates amino acid proline to its tRNA for utilizing in newly synthesized peptides. Thus PRS plays an essential role in *de novo* protein synthesis. Excessive deposition of collagen is the pathological hallmark of fibrosis, and proline is one of the major constituents of collagen. Therefore, we hypothesized that inhibition of proline synthesis might suppress collagen synthesis and thereby fibrosis, and using a structure-based drug discovery platform of PRS protein, we developed a novel small molecule PRS inhibitor, Bersiporosin (DWN12088), that inhibits the catalytic activity of PRS, ultimately downregulating collagen synthesis and providing anti-fibrotic activity. After confirming the anti-fibrotic efficacy of DWN12088 in various mouse models such as lung, heart, kidney, and skin, it is currently undergoing phase 2 clinical study for IPF patients in US and Korea. In this talk, I would like to introduce the entire process from target validation to clinical development of our PRS inhibitors.