European Respiratory Society
Annual Congress 2013

Abstract Number: 2283

Publication Number: P655

Abstract Group: 3.3. Mechanisms of Lung Injury and Repair

Keyword 1: Animal models **Keyword 2:** Idiopathic pulmonary fibrosis **Keyword 3:** Treatments

Title: PBI-compound, a novel first-in-class anti-inflammatory/fibrotic compound, reduces bleomycin-induced idiopathic pulmonary fibrosis by regulation of extracellular matrix remodelling

Dr. Lyne 14862 Gagnon l.gagnon@prometic.com [1], Mr. François 14863 Sarra-Bournet f.sarra-bournet@prometic.com [1], Ms. Mikaël 14864 Tremblay m.tremblay@prometic.com [1], Mr. André 14865 Doucet a.doucet@prometic.com [1], Ms. Alexandra 14866 Felton a.felton@prometic.com [1], Mr. Martin 14867 Leduc m.leduc@prometic.com [1], Mr. Pierre 14868 Laurin p.laurin@prometic.com [1] and Dr. Brigitte 14869 Grouix b.grouix@prometic.com [1]. [1] Biology, ProMetic BioSciences Inc., Laval, QC, Canada, H7V5B7 .

Body: Background: We recently reported that PBI-Compound demonstrated anti-inflammatory and anti-fibrotic activities in acute and chronic kidney disease models. Aims: To determine the effect of PBI-Compound on bleomycin-induced lung fibrosis. Methods: C57BL/6 mice received bleomycin by intratracheal instillation on day 0 and then treated with oral administration of PBI-Compound from day 7 to 21. Mice were euthanized on day 21 and fibrotic markers were quantified by RT-PCR. Histological grading was determined according to Ashcroft's score. Results: RT-PCR analysis showed that intratracheal instillation of bleomycin induced a significant increase in collagen I, collagen III, fibronectin, SPARC and MMP-2 mRNA (fibrotic and remodeling markers). Expression of these markers was reduced in the mice treated with PBI-Compound. HEP and Masson's trichrome staining showed that alveolar spaces in the lung tissue were widened and filled with collagen fibers, indicating proliferative fibroblastic lesions in bleomycin-induced lung fibrosis in mice. These lesions were significantly reduced with an oral treatment of PBI-Compound. Furthermore, treatment with PBI-Compound significantly reduced the percentage of lungs affected by bleomycin (60% for control versus 25% for PBI-Compound-treated mice). Conclusions: The data suggest that treatment with PBI-Compound may be beneficial in preventing the progression of lung injury by reducing tissue fibrosis and downregulating the transcription of extracellular matrix proteins including collagen I, collagen III, fibronectin, SPARC and MMP-2.