

# European Respiratory Society Annual Congress 2012

**Abstract Number:** 3052

**Publication Number:** P3613

**Abstract Group:** 1.5. Diffuse Parenchymal Lung Disease

**Keyword 1:** Interstitial lung disease **Keyword 2:** Immunology **Keyword 3:** Bronchoalveolar lavage

**Title:** Expression of interleukin-27 (IL27) in human lower airways. Pathophysiological implications in pulmonary sarcoidosis (PS)

Dr. Piotr 9219 Kopinski mpkopins@hotmail.com MD <sup>1</sup>, Mr. Tomasz 9220 Wandtke tomasz\_wandtke@wp.pl <sup>1</sup>, Prof. Dr Joanna 9221 Chorostowska-Wynimko j.chorostowska@igichp.edu.pl MD <sup>2</sup>, Dr. Grzegorz 9222 Przybylski gprzybylski@cm.umk.pl MD <sup>3</sup>, Ms. Ewelina 9223 Pólgesek ewli@poczta.fm <sup>1</sup> and Dr. Andrzej 9224 Dyczek a\_dyczek@interia.pl MD <sup>2</sup>. <sup>1</sup> Dept. of Gene Therapy, Collegium Medicum, Nicolaus Copernicus University, Bydgoszcz, Poland, 85-094 ; <sup>2</sup> Laboratory of Molecular Diagnostics and Immunology, Institute of Tuberculosis and Lung Diseases, Warszawa, Poland, 01-138 and <sup>3</sup> Dept. of Lung Diseases and Tuberculosis, Collegium Medicum, Nicolaus Copernicus University, Bydgoszcz, Poland, 85-326 .

**Body:** Background: Interleukin-27 was recently discovered as a cytokine secreted by antigen presenting cells, participating in T cell priming and supporting Th1 type immune polarization. IL27 expression has not been examined yet in lower airways. Aims: Identification of IL27 sources in human lower airways. Preliminary assessment of IL27 expression in bronchoalveolar lavage (BAL) in interstitial lung diseases (ILD) patients. Methods: Intracellular IL27 expression cells was determined by indirect phenotyping and flow cytometry in BAL cells obtained from patients with PS (incl. steroid treated subjects), idiopathic pulmonary fibrosis (IPF) and controls, as well as in Human Lung Fibroblasts (HLF1) and pneumocyte type II (A549) cell lines. IL27 extracellular secretion was tested by ELISA (cat. no E90385Hu, Diaclone) in supernatants of BAL and cell cultures. Results: BAL detectable IL27 levels were shown by ELISA in 6 (median 9ng/ml) of 13 PS untreated patients. IL27 was not found in BAL supernatants of steroid-treated PS, IPF and controls. HLF1, A549 and alveolar macrophages were positive for intracellular IL27. Surprisingly, IL27+ BAL lymphocytes were found in all tested groups (PS: 81±6.2%; IPF: 37±13.4%; controls: 46±15%, median±SEM, insignificant). Conclusions: In physiological conditions, IL27 is produced in lower airways by lung fibroblasts, epithelial and BAL immune cells, including lymphocytes. Its increased expression in PS suggests IL27 to play a role in ILD pathophysiology, probably as Th1 activity marker.