



SHAREABLE PDF

# Blood mitochondrial DNA as a biomarker of clinical outcomes in idiopathic pulmonary fibrosis

Hee-young Yoon<sup>1</sup>, Kwanghun Choi <sup>1</sup>, Miae Kim<sup>1</sup>, Hak-Su Kim<sup>2</sup> and Jin Woo Song <sup>1</sup>

**Affiliations:** <sup>1</sup>Dept of Pulmonary and Critical Care Medicine, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Republic of Korea. <sup>2</sup>Veterans Medical Research Institute, Veterans Health Service Medical Center, Seoul, Republic of Korea.

**Correspondence:** Jin Woo Song, Dept of Pulmonary and Critical Care Medicine, Asan Medical Center, University of Ulsan College of Medicine, 88, Olympic-Ro 43-Gil, Songpa-Gu, Seoul 05505, Republic of Korea. E-mail: jwsongasan@gmail.com



@ERSpublications

**Plasma mtDNA level could serve as a potential marker for disease progression and acute exacerbation in idiopathic pulmonary fibrosis** <https://bit.ly/2XoXsAv>

**Cite this article as:** Yoon H-young, Choi K, Kim M, *et al.* Blood mitochondrial DNA as a biomarker of clinical outcomes in idiopathic pulmonary fibrosis. *Eur Respir J* 2020; 56: 2001769 [<https://doi.org/10.1183/13993003.01769-2020>].

This single-page version can be shared freely online.

## To the Editor:

Idiopathic pulmonary fibrosis (IPF) is a chronic, progressive fibrosing interstitial pneumonia of unknown aetiology [1] with ageing being one of the major risk factors [2]. Several ageing-related changes, such as the overproduction of mitochondrial reactive oxygen species, low adenosine triphosphate production, reduced mitochondrial biogenesis and inadequate mitochondrial (mt)DNA repair [3] have also been reported in the IPF lungs [4, 5] and in a bleomycin-induced mouse model [6]. Plasma cell-free DNA, including mtDNA, is released from dying cells into the circulatory system in response to injury [7]. Since circulating mtDNA contains CpG-rich sequences similar to bacterial DNA, disengaged mtDNA can activate the innate immune system by functioning as a damage-associated molecular pattern [8] and contribute to the stimulation of the profibrotic pathway [9].