Professor Robert Bals and Kelan Tantisira

Editor-in-Chief

***Respiratory Research***

Dear Professor Robert Bals and Kelan Tantisira,

On behalf of all authors, I would like to ask you to consider our manuscript entitled

“TLR4 knock out alleviate both lung and liver inflammation caused by short-time exposure to PM2.5” for publication in ***Respiratory Research*** as an original research article. This study focuses on the regulatory mechanism of TLR4 and its effect on lung and liver inflammation induced by PM2.5.

Ambient particulate matter (PM), a principal component of air pollutant, has been considered as the main contributor to haze weather. PM2.5 can be inhaled and deposited in human bronchi and alveoli, causing or aggravating respiratory diseases. The innate immune system serves as the first line of the host to defend against anonymous pathogenic invasion, relying on molecular determinant sensing of pathogen associated molecular patterns (PAMPs). PM2.5 is recognized to exacerbate respiratory inflammation and cardiovascular diseases; nevertheless its mechanism has not been well explained. In the present study, the role of Toll-like receptor (TLR) 4 in exacerbation of lung and liver inflammation caused by urban PM2.5 was investigated. Our data together suggested that, TLR4 plays an important role in regulating lung and liver inﬂammatory response caused by PM2.5.

All study participants provided informed consent, and the study design was approved by an ethics review board. Besides, the content of the manuscript has not been published, or submitted for publication elsewhere.

I believe that findings from this study will be of special interest to the readers of ***Respiratory Research***. Your kind considerations will be greatly appreciated.

Sincerely Yours,

Bijie Jiang, Ph.D