



Role of respiratory system microbiota in development of lung cancer and clinical application

Bowen Li^{1#}, Daoyun Wang^{1#}, Chengye Zhang², Yadong Wang¹, Zhicheng Huang¹,
Libing Yang¹, Huaxia Yang³, Naixin Liang^{1*}, Shanqing Li^{1*}, Zhihua Liu^{2,4*}

¹Department of Thoracic Surgery, Peking Union Medical College Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing 100730, China.

²Institute for Immunology, School of Basic Medical Sciences, Tsinghua University, Beijing 100084, China.

³Department of Rheumatology and Clinical Immunology, Peking Union Medical College Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing 100730, China.

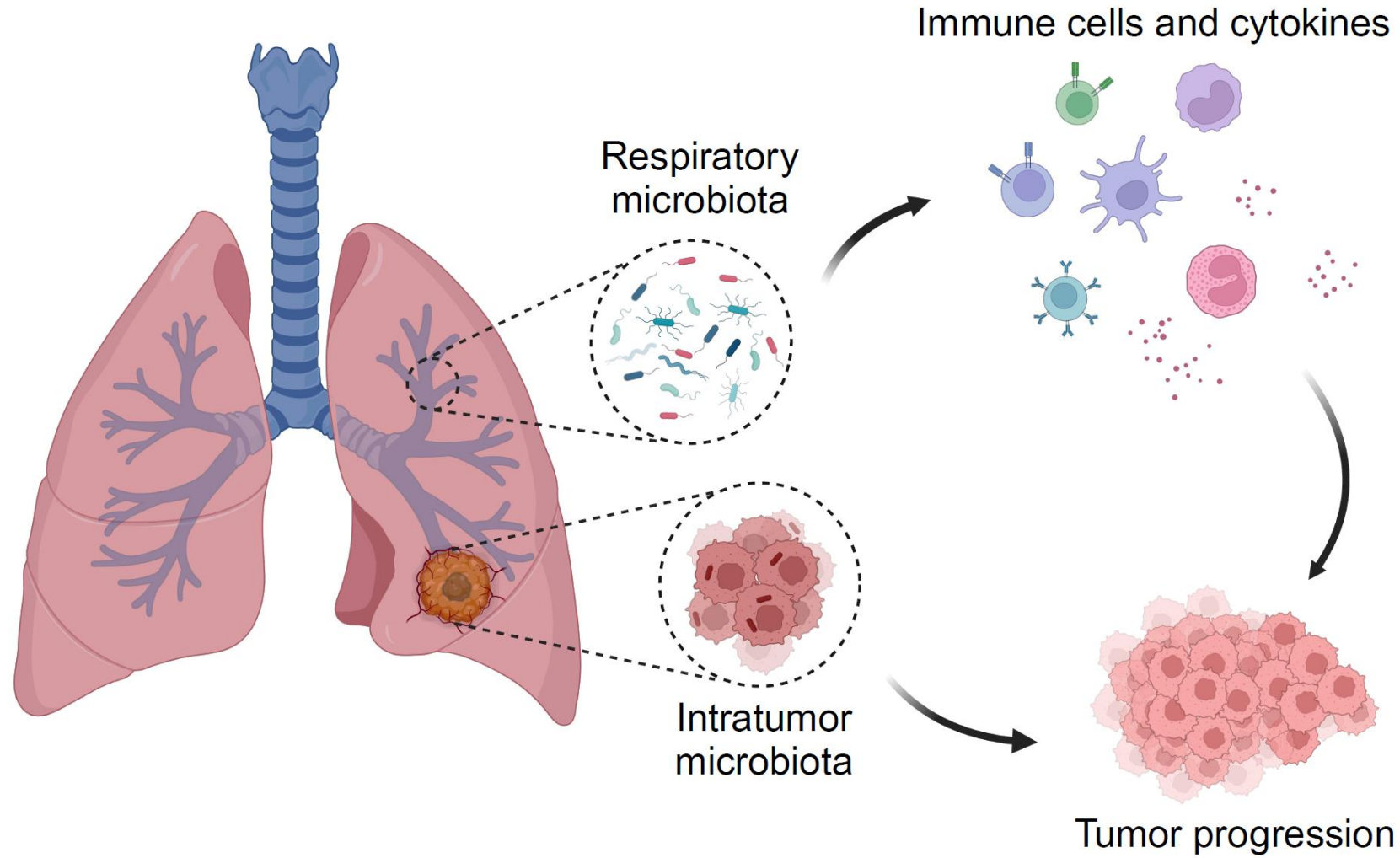
⁴Tsinghua-Peking Center for Life Sciences, Beijing 100084, China.



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Introduction





Respiratory microbiota

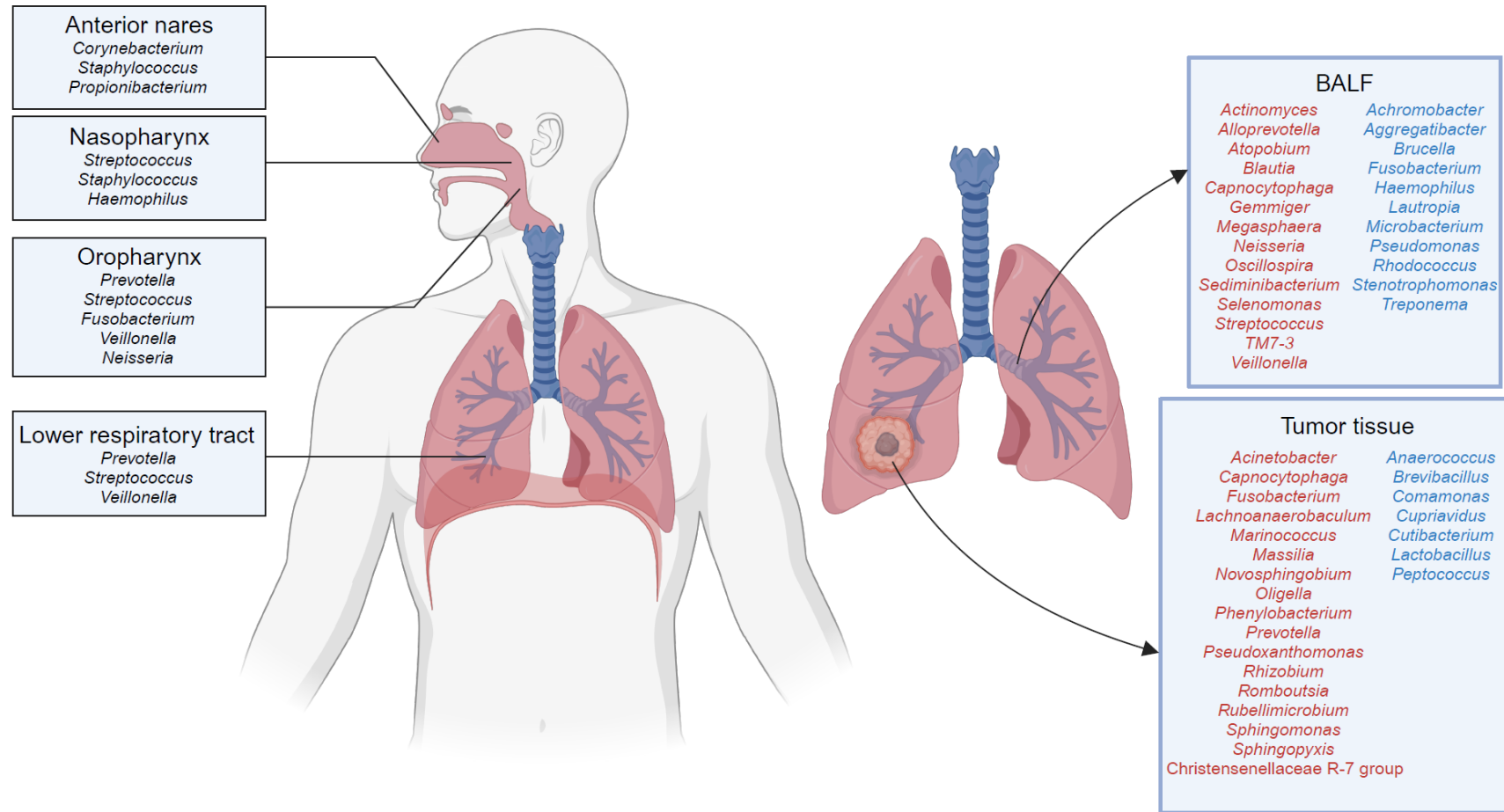


Figure 1. Resident microbiota of the normal human respiratory tract (left) and the impact of lung cancer on the lung microbiota (right).

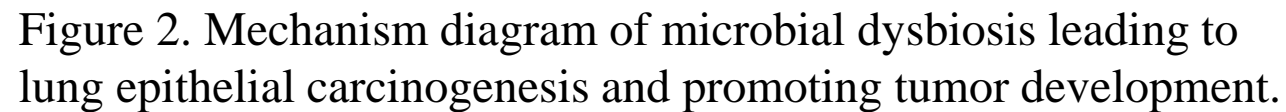


Figure 2. Mechanism diagram of microbial dysbiosis leading to lung epithelial carcinogenesis and promoting tumor development.



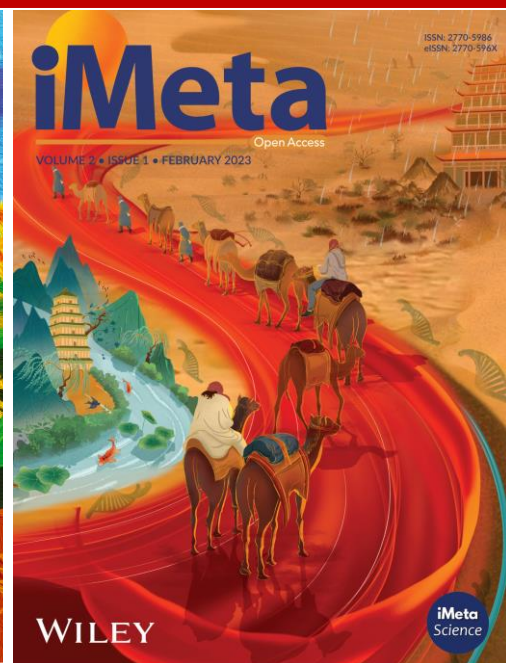
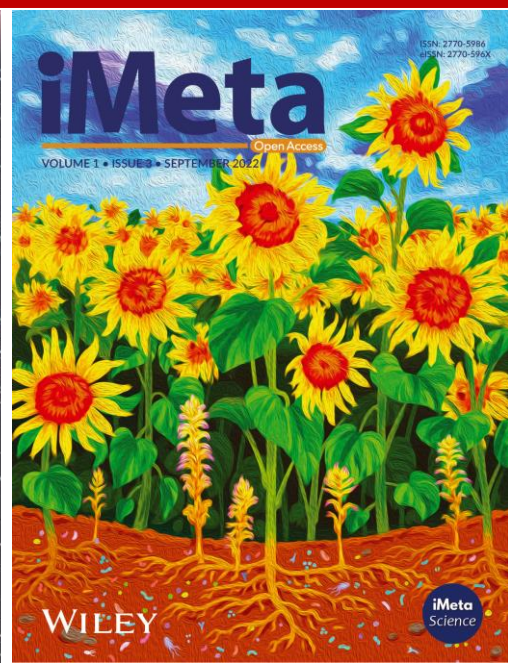
Summary

- ❑ Advances in culture-independent techniques have revealed previously unrecognized microbiota in the lower respiratory tract and lung cancer recently.
- ❑ Lung or intratumor microbiota can contribute to lung cancer progression through direct biological functions, sustained immune activation, and immunosuppressive mechanisms.
- ❑ Dysbiosis of the lower respiratory tract microbiota can serve as a potential therapeutic target. However, its clinical value warrants further investigation. Moreover, the safety of aerosolized bacteria must be carefully evaluated.

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 office@imeta.science
imetaomics@imeta.science

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