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Increased expression of ACE2, the SARS-CoV-2 entry receptor, in alveolar and bronchial epithelium of smokers and COPD subjects

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This study demonstrates increased protein levels of ACE2 in alveolar and bronchial epithelium of smokers and subjects with COPD, which might facilitate host cell entry of SARS-CoV-2 https://bit.ly/2ZazOrd

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To the Editor:

Angiotensin-converting enzyme 2 (ACE2) has been identified as the cell entry receptor used by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) [1, 2]. Importantly, smokers and patients with COPD are at an increased risk of severe complications and a higher mortality upon SARS-CoV-2 infection [3]. We hypothesised that ACE2 expression is increased in lungs of smokers and patients with COPD, which may at least partially explain their higher risk of a more severe course of coronavirus disease 2019 (COVID-19). Therefore, we aimed to investigate the expression of ACE2 on both mRNA and protein level in a large number of lung tissue specimens of well-phenotyped subjects, including never-smokers, current smokers without airflow limitation, and patients with COPD.