CLSA Approved Project

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Project Title
Air pollution and risk of COPD: investigation of harmful air pollutant(s) and threshold of exposure levels, and sex-specific genetic susceptibility

Project Summary
Chronic obstructive pulmonary disease (COPD) is a prevalent respiratory disease in middle-aged and older adults. It is currently the fourth leading cause of death globally and is expected to be the third leading cause of death by 2030. Many population studies have also shown that the prevalence of COPD is greater in females than in males. The underlying causes and sex differences of COPD are not fully understood. It is generally believed that exposure to noxious particles or gases, such as smoking and air pollution, and an individual's genetic makeup plays an important role. Many genes have been associated with COPD. However, limited information is available on individuals who are genetically susceptible to the risk of COPD associated with air pollution exposure. This study aims to investigate harmful air pollution exposures and individuals who are at higher risk of COPD associated with these exposures in males and females, respectively.

Keywords
COPD, air pollution, genetic markers