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## **ABBREVIATIONS**

ALI air liquid interface

A549 Human alveolar epithelial cells

cAMP Cyclic Adenosine Monophosphate

CO Carbon monoxide

CO<sub>2</sub> Carbon Dioxide

COHb Carboxy hemoglobin

DMEM Dulbecco's Modified Eagle Medium

DNA Deoxyribonucleic acid

EDTA ethylene diamine tetra-acetic acid

ELISA Enzyme linked immunosorbent assay

ESR electron spin resonance

h Hour

Hb Hemoglobin

HBSS Hanks' Balanced Salt Solution

HO-1 hemeoxygenase-1

HRP Horseradish peroxidase

IFN-γ interferon gamma

IL-1β Interleukin 1 beta

IL-6 Interleukin 6

IL-8 Interleukin 8

IU/ml International Unit / milliliter

mg:m<sup>3</sup> microgram: cubic meters

NADPH nicotinamide adenine dinucleotide phosphate

oxidase

### xix

NHBE normal human bronchial epithelial

nM nano molar

NO nitric oxide

NO<sub>2</sub> nitrogen dioxide

N<sub>2</sub>O Nitrous oxide

O<sub>3</sub> Ozone

PAHs Polycyclic Aromatic Hydrocarbons

pg/mL picogram / milliliter

PM Particulate Metter

ppb part per billion

RH Relative Humidity

RNA Ribonucleic acid

RT Room Temperature

RV16 human rhinovirus type 16

SOx entire group of sulfur oxides

SO<sub>2</sub> Sulfur dioxide

SO<sub>3</sub> Sulfur trioxide

TNF-α Tumor Necrosis Factor Alpha

UV Ultraviolet

VOCs volatile organic compounds

v/v volume/ volume

W watt

ım micrometer

μg/m<sup>3</sup> microgram / Cubic meters

μg/ml microgram / milliliter

°C Degree Celsius