

Evaluation of pulmonary effects of 3-D printer emissions from acrylonitrile butadiene styrene using an air-liquid interface model of primary normal human-derived bronchial epithelial cells_Dataset

DATA DICTIONARY

Field name on data page	Field definition
NHBEs	Primary normal human-derived bronchial epithelial cells
Trt	Treatment, the 4 different treatments applied in this study (Incubator, Chamber, ABS, TX)
Incubator	Cells maintained in the incubator at the normal growing conditions
Chamber	Cells on inserts kept inside the emissions chamber covered, with the lid on
ABS	Cell inserts placed in the middle of the exposure chamber and exposed for 4 h to the ABS FFF 3-D printer emissions
TX	Cells treated on the apical surface of epithelial tissue with 0.1 ml 2% TX-100
Time_h	Time post exposure, 0 and 24 h
TEER_Ohm	Transepithelial electrical resistance (expressed as Ohms × cm ²), indicator of barrier integrity condition
Viability_FU	Cell viability (expressed as fluorescence unit)
LDH_U.L	Lactate dehydrogenase (expressed as U/L), cytosolic enzyme released in the cell culture medium upon cell membrane damage
IL-17A	Interleukin-17A (expressed as pg/ml), a proinflammatory cytokine
IL-21	Interleukin-21 (expressed as pg/ml), a proinflammatory cytokine with immunoregulatory activity
IL-22	Interleukin-22 (expressed as pg/ml), a proinflammatory cytokine with role in tissue regeneration, maintenance of barrier function and induction of innate immune responses at mucosal surfaces
IL-23	Interleukin-23 (expressed as pg/ml), a proinflammatory cytokine
IL-27	Interleukin-27 (expressed as pg/ml), has both pro- and anti-inflammatory effects
IL-31	Interleukin-31 (expressed as pg/ml), a proinflammatory cytokine
MIP-3a	Macrophage inflammatory protein-3 alpha (expressed as pg/ml), a proinflammatory cytokine, strongly chemotactic for lymphocytes and weakly attracts neutrophils
IL-17A/F	Interleukin-17A/F (expressed as pg/ml), a proinflammatory cytokine
IL-17B	Interleukin-17B (expressed as pg/ml), a proinflammatory cytokine
IL-17D	Interleukin-17D (expressed as pg/ml), a proinflammatory cytokine
IL-3	Interleukin-3 (expressed as pg/ml), a cytokine that can improve the immune response to foreign agents
IL-9	Interleukin-9 (expressed as pg/ml), cytokine that stimulates cell proliferation and prevents apoptosis

GM-CSF	Granulocyte macrophage colony-stimulating factor (expressed as pg/ml), a proinflammatory cytokine that promotes innate and adaptive immunity
IL-23p40	Interleukin-23p40 (expressed as pg/ml), a powerful proinflammatory cytokine
IL-15	Interleukin-15 (expressed as pg/ml), a proinflammatory cytokine
IL-16	Interleukin-16 (expressed as pg/ml), a proinflammatory cytokine
IL-1a	Interleukin-1alpha (expressed as pg/ml), a proinflammatory cytokine
IL-5	Interleukin-5 (expressed as pg/ml), a major regulator of eosinophil accumulation in tissues
IL-7	Interleukin-7 (expressed as pg/ml), increases the production of other proinflammatory cytokines
TNF-b	Tumor necrosis factor-beta (expressed as pg/ml), regulates diverse cell functions, including immune response and inflammation
VEGF	Vascular endothelial growth factor (expressed as pg/ml), a signal protein produced by many cells that stimulates the formation of blood vessels
IFN-g	Interferon-gamma (expressed as pg/ml), a proinflammatory cytokine
IL-10	Interleukin-10 (expressed as pg/ml), a cytokine with multiple, pleiotropic, effects in immunoregulation and inflammation
IL-12p70	Interleukin-12p70 (expressed as pg/ml), a cytokine involved in inflammation and autoimmune disorders
IL-13	Interleukin-13 (expressed as pg/ml), a cytokine central mediator of allergic asthma, where it regulates eosinophilic inflammation, mucus secretion, and airway hyperresponsiveness
IL-1b	Interleukin-1beta (expressed as pg/ml), a proinflammatory cytokine
IL-2	Interleukin-2 (expressed as pg/ml), a pleiotropic cytokine
IL-4	Interleukin-4 (expressed as pg/ml), play an important role in chronic inflammation and wound repair
IL-6	Interleukin-6 (expressed as pg/ml), a proinflammatory cytokine
IL-8	Interleukin-8 (expressed as pg/ml), a proinflammatory cytokine
TNF-a	Tumor necrosis factor-alpha (expressed as pg/ml), a proinflammatory cytokine
Eotaxin	Eotaxin (expressed as pg/ml), chemotactic for both basophils and eosinophils
Eotaxin-3	Eotaxin-3 (expressed as pg/ml), chemotactic for both basophils and eosinophils
IP-10	Interferon gamma-induced protein-10 (expressed as pg/ml), a monokine that recruit immune cells to inflammatory sites
MCP-1	Monocyte chemoattractant protein-1 (expressed as pg/ml), a proinflammatory cytokine which attracts or enhances the expression of other inflammatory factors/cells
MCP-4	Monocyte chemoattractant protein-4 (expressed as pg/ml), a proinflammatory cytokine which attracts or enhances the expression of other inflammatory factors/cells

MDC	Macrophage-derived chemokine (expressed as pg/ml), a mediator of chronic inflammation
MIP-1a	Macrophage Inflammatory protein-1alpha (expressed as pg/ml), a chemotactic cytokine, activate human granulocytes (neutrophils, eosinophils and basophils) which can lead to acute neutrophilic inflammation. Also, induce synthesis and release of other proinflammatory cytokines
MIP-1b	Macrophage Inflammatory protein-1beta (expressed as pg/ml), a chemotactic cytokine, activate human granulocytes (neutrophils, eosinophils and basophils) which can lead to acute neutrophilic inflammation. Also, induce synthesis and release of other proinflammatory cytokines
TARC	Thymus and activation regulated chemokine (expressed as pg/ml), a powerful T cell chemoattractant