

From: Brower, Jeremy
To: Doyle-Eisele, Melanie; Irshad, Hammad; McDonald, Jacob
Subject: RE: EUGT abstract
Date: Wednesday, October 7, 2015 11:36:43 PM
Attachments: SOT 2016 diesel NHP abstract submission.pdf

Thanks for your feedback guys. Abstract has been submitted. We can probably change the authorship list later if necessary.

From: Doyle-Eisele, Melanie
Sent: Wednesday, October 07, 2015 4:40 PM
To: Irshad, Hammad; Brower, Jeremy; McDonald, Jacob
Subject: RE: EUGT abstract

You may want to refine the final statement and remove the word "great" in front of inflammation. You can soften the overall statement since the data is still coming in stating that inflammation was observed after both exposures.

From: Irshad, Hammad
Sent: Wednesday, October 07, 2015 4:34 PM
To: Brower, Jeremy; McDonald, Jacob; Doyle-Eisele, Melanie
Subject: RE: EUGT abstract

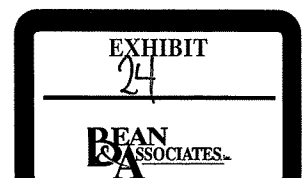
Looks good to me. You may want to mention that target particulate mass concentration for OTD exposures was 300 microgram/m³. Also added particle size distribution to exposure characterization (below).

From: Brower, Jeremy
Sent: Wednesday, October 07, 2015 4:28 PM
To: McDonald, Jacob; Doyle-Eisele, Melanie; Irshad, Hammad
Subject: EUGT abstract

Thoughts on this? I tried to leave the results very vague in case Stephanie's results don't match the rest.

Exposures to Old or New Technology Diesel Emissions to Evaluate Biological Response in Non-Human Primates

The adverse health effects of environmental exposure to standard diesel vehicle emissions are a major concern among urban populations. While it's been advertised that new technology diesel emissions include a much smaller particulate fraction, confirmation that this results in fewer adverse health effects has not been established. This study evaluated the biological responses of female cynomolgus macaques following acute exposure to filtered air (FA), new technology diesel (NTD), or old technology diesel (OTD) emissions. Exposures were conducted in whole body exposure chambers and lasted 4 hours in duration. The exposure atmospheres were characterized for aerosol mass concentration, particle size distribution, carbon monoxide, carbon dioxide, nitrous oxides, and hydrocarbons. NTD contained particulate matter similar to FA control exposures, while OTD had approximately 40 times the particulate content. Hydrocarbon content was similar among exposures while all other gases measured were substantially higher for OTD exposure than for NTD exposures.



At baseline and at 4 hours post the end of each exposure, blood was collected for hematology and serum collection, lung lavage was performed, and bronchial brushings and biopsy were conducted at two sites within the bronchial tree for various endpoint analyses. At 1 hour post exposure an additional blood sample was collected for measurement of hematology parameters. Lavage and serum samples were analyzed for measurement of various cytokines. Sample analysis continues but, contrary to the hypothesis, NTD appears to have induced great inflammation by measurement of several key parameters.

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Activity: Abstract

Current Date/Time: 10/7/2015 10:34:33 PM

Exposures to Old or New Technology Diesel Emissions to Evaluate Biological Response in Non-Human Primates

Author Block: Jeremy Brower, Hammad Irshad, Melanie Doyle-Eisele, Jacob McDonald, Yohannes Tesfaigzi

Lovelace Respiratory Research Institute, Albuquerque, NM

Abstract:

The adverse health effects of environmental exposure to standard diesel vehicle emissions are a major concern among urban populations. While it's been advertised that new technology diesel emissions include a much smaller particulate fraction, confirmation that this results in fewer adverse health effects has not been established. This study evaluated the biological responses of female cynomolgus macaques following acute exposure to filtered air (FA), new technology diesel (NTD), or old technology diesel (OTD) emissions. Exposures were conducted in whole body exposure chambers and lasted 4 hours in duration. Flows and dilutions in the exposure system were targeted for 300 $\mu\text{g}/\text{m}^3$ particulate in the OTD atmosphere. The same flow and dilution settings were then applied to the other atmospheres. The exposure atmospheres were characterized for aerosol mass concentration, particle size distribution, carbon monoxide, carbon dioxide, nitrous oxides, and hydrocarbons. NTD contained particulate matter similar to FA control exposures, while OTD had approximately 40 times the particulate content. Hydrocarbon content was similar among exposures while all other gases measured were substantially higher for OTD exposure than for NTD exposures. At baseline and at 4 hours post the end of each exposure, blood was collected for hematology and serum collection, lung lavage was performed, and bronchial brushings and biopsy were conducted at two sites within the bronchial tree for various endpoint analyses. At 1 hour post exposure an additional blood sample was collected for measurement of hematology parameters. Lavage and serum samples were analyzed for measurement of various cytokines. Sample analysis continues but in the endpoints observed so far, inflammation has occurred following both the NTD and OTD exposures.

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Presentation Preference (Complete): Poster Only

Category (Complete): Respiratory Toxicology ; Clinical and Translational Toxicology

Perceived or Real Conflict of Interest Disclosure (Complete):

The research described in this presentation was supported by an entity that manufactures and/or distributes a material that is the subject of this presentation. : True

The authors declare there exist no real or perceived conflict of interest : True

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Keyword (Complete):

***Keyword 1:** exposure, environmental

Keyword 2: inflammation

Keyword 3: inhalation toxicology

Attached Files:

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Status: Complete

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