

# Subway dust may trigger lung damage

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Dust produced by subway trains could potentially damage the lungs when inhaled. Credit: WMATA photo by Larry Levine

Subway trains produce airborne dust particles that could damage the lungs of commuters, scientists in France are reporting in a study of the Paris subway system scheduled for the October issue of *ACS' Chemical Research in Toxicology*.

Sophie Lanone and colleagues point out that previous studies of the London and Stockholm subway systems also have identified such particulate matter. In their new study, the researchers collected dust samples from platform surfaces in two heavily traveled subway stations in the Paris Metro, which carried one million passengers daily. They exposed live mice and cultured mice cells to the dust over a 24-hour period.

Exposure to the subway dust triggered transient lung inflammation in the mice and increased levels of several substances produced by the immune system that might cause tissue damage. Some but not all effects occur with exposure to diesel exhaust, and other common urban air pollutants, the study said. Subway dust contained large amounts of iron particles and very low levels of endotoxin, a potentially toxic compound produced by bacteria.

“To the best of our knowledge, this is the first evaluation of the biological effects of particulate matter from the Paris subway system as well as the first comprehensive study to evaluate the in vivo effect of subway particulate matter,” the report states.

Source: American Chemical Society

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