

Species	Stressor	Secretion of pro-inflammatory mediators	APR	Reference
Mouse	Diesel exhaust particles	Yes, significant increase of neutrophils in BALF.	No effect	1-3
Mouse	Carbon black	No significant increase of neutrophils in BALF.	No effect	1-3
Mouse	Carbon black nanoparticles	Yes, significant increase of neutrophil number 1, 3 and 28 days after exposure.	Yes, significant increase of SAA at 1 and day 28 after exposure.	4,5
Mouse	Multiwalled carbon nanotubes (referred as CNT <sub>small</sub> )	Yes, increased neutrophil numbers in BALF 1, 3 and 28 days after exposure to 18, 54 and 162 µg.	Yes, increased plasma SAA3 1, 3 and 28 days after exposure to 162 µg, and 3 days after exposure to 18 and 54 µg.	6,7
Mouse	Multiwalled carbon nanotubes (referred as CNT <sub>large</sub> )	Yes, increased neutrophil numbers in BALF 1, 3 and 28 days after exposure to 18, 54 and 162 µg.	Yes, increased plasma SAA3 1 and 3 days after exposure to 162 µg, and 3 days after exposure to 54 µg.	6,7
Mouse	Graphene oxide	Yes, increased neutrophil numbers in BALF 1 and 3 days after exposure to 18, 54 and 162 µg.	Yes, increased SAA3 plasma levels 3 days after exposure to 54 and 162 µg.	8
Mouse	Reduced graphene oxide	Yes, increased neutrophil numbers 1 and 3 days after exposure to 162, and 90 days after exposure to 18, 54 and 162 µg.	No, no change in SAA3 plasma concentration 3 days after exposure.	8
Mouse	Multiwalled carbon nanotubes (NRCWE-040 to NRCWE-49)	Yes, increased neutrophil numbers in BALF 1 day after exposure to 18 and 54 µg of NCRWE-40, NCRWE-43, NCRWE-44 and NCRWE-45; and 6, 18 and 54 µg of NCRWE-41, NCRWE-42, NCRWE-46, NCRWE-47, NCRWE-48, and NCRWE-49. Increased neutrophil numbers in BALF 28 days after exposure to 54 µg of NCRWE-40, NCRWE-41, NCRWE-42, and NCRWE-43; 18 and 54 µg of NCRWE-46,	Yes, increased SAA1/2 plasma levels 1 day after exposure to NRCWE-40, NRCWE-42, NRCWE-43, NRCWE-45, NRCWE-46, NRCWE-47, NRCWE-48 and NRCWE-49. No change in SAA1/2 28 and 92 days after exposure.	9,10

Species	Stressor	Secretion of pro-inflammatory mediators	APR	Reference
		NCRWE-47, NCRWE-49, and 6, 18 and 54 µg of NCRWE-48. Increased neutrophil numbers in BALF 92 days after exposure to 54 µg of NCRWE-46, NCRWE-47, NCRWE-48, and NCRWE-49.	Increased SAA3 plasma levels 1 days after exposure to NRCWE-41 to NRCWE-49. No change in SAA3 28 and 92 days after exposure.	
Mouse	Carbon black	Yes, increased neutrophil numbers in BALF after 1, 28, 92 days after exposure.	No change in SAA1/2 plasma levels. Increased SAA3 plasma levels 1 days after exposure. No change in SAA3 28 and 92 days after exposure.	<sup>9,10</sup>
Mouse	Crocidolite	Yes, increased neutrophil numbers in BALF after 1 and 28 days after exposure to 6 and 18 µg, and 92 days after exposure to 18 µg.	No change in SAA1/2 nor SAA3 plasma levels.	<sup>9,10</sup>
Mouse	Particulate matter from non-commercial airfield	Yes, increased neutrophil numbers in BALF 1 day after exposure to 18 and 54 µg.	Yes, increased plasma SAA3 levels after exposure to 54 µg.	<sup>11</sup>
Mouse	Particulate matter from commercial airport	Yes, increased neutrophil numbers in BALF 1 day after exposure to 18 and 54 µg.	No change in plasma SAA3.	<sup>11</sup>
Mouse	Diesel exhaust particles	Yes, increased neutrophil numbers in BALF 1 day after exposure to 54 and 162 µg, and 28 days after exposure to 162 µg.	Yes, increased plasma SAA3 levels after exposure to 54 µg.	<sup>11</sup>
Mouse	Carbon black	Yes, increased neutrophil in BALF after 1, 28 and 90 days of exposure.	No change in plasma SAA3.	<sup>11</sup>
Mouse	Nanofibrilated celluloses (FINE NFC, BIOCID FINE NFC and AS)	Yes, increased neutrophil numbers in BALF 1 day after exposure to 6 and 18 µg of FINE NFC, 18 µg of AS, and 18 µg of BIOCID FINE NFC. Increased neutrophil numbers in BALF 28 days	FINE NFC increased plasma SAA3 1 day after exposure to 6 and 18 µg, while AS increased SAA3 after exposure to 18 µg.	<sup>12</sup>

Species	Stressor	Secretion of pro-inflammatory mediators	APR	Reference
		after exposure to 6 and 18 µg of FINE NFC, and 18 µg of AS.	After 28 days, only 6 µg of FINE NFC increased plasma SAA3.	
Mouse	Uncoated zinc oxide nanoparticles	No increase of neutrophil numbers in BALF after exposure.	No effect on plasma SAA3.	<sup>13</sup>
Mouse	Coated zinc oxide nanoparticles	Yes, increased neutrophil numbers in BALF 1 and 3 days after exposure to 2 µg, and 28 days after exposure to 0.2 and 0.7 µg.	No effect on plasma SAA3.	<sup>13</sup>
Mouse	Zinc oxide	Yes, increased neutrophil numbers in BALF 1 day after exposure to 0.7 µg.	No change in plasma SAA3 or SAA1/2 levels.	<sup>14</sup>
Mouse	Copper oxide	Yes, increased neutrophil numbers in BALF 1 day after exposure to 2, 6 and 12 µg.	Yes, increased plasma SAA1/2 level after exposure to 6 µg.	<sup>14</sup>
Mouse	Aluminum oxide	Yes, increased neutrophil numbers in BALF 1 and 28 days after exposure to 54 µg.	No change in plasma SAA3 or SAA1/2 levels.	<sup>14</sup>
Mouse	Tin dioxide	Yes, increased neutrophil numbers in BALF 1 and 28 days after exposure to 162 µg.	Yes, increased plasma SAA3 after exposure to 162 µg.	<sup>14</sup>
Mouse	Titanium dioxide	Yes, increased neutrophil numbers in BALF 1 and 28 days after exposure.	Yes, increased plasma SAA3 and SAA1/2 after exposure to 162 µg.	<sup>14</sup>
Mouse	Carbon black	Yes, increased neutrophil numbers in BALF 1 and 28 days after exposure.	Yes, increased plasma SAA3 and SAA1/2 after exposure to 162 µg.	<sup>14</sup>
Human	Welding fumes	Yes, significant increase in blood neutrophil numbers 6 hours after exposure, but no change 16 hours after welding.	No changes in serum CRP 6 hours after exposure, but significantly increased serum CRP levels 16 hours after welding.	<sup>15</sup>
Human	Wood smoke	Yes, significant lower increase in serum IL-6 3 h after exposure than exposure	Yes, significant increase in blood SAA immediately	<sup>16</sup>

Species	Stressor	Secretion of pro-inflammatory mediators	APR	Reference
		to clean air. No change immediately after exposure and 20 h after exposure. No change in serum TNF- $\alpha$ .	after exposure, and 3 and 20 h after exposure, no change in CRP.	
Human	Brazing fumes	No significant change in blood neutrophils.	Yes, increased CRP after exposure to 2 and 2.5 mg/m <sup>3</sup> .	<sup>17</sup>
Human	Fumes from welding aluminium	No significant change in blood neutrophils 24 h nor 7 days after exposure.	Yes, significantly increased CRP 24 after exposure. No change after exposure nor a week after exposure.	<sup>18</sup>
Human	Fumes from welding zinc coated materials	No significant change in blood neutrophils 24 h nor 7 days after exposure.	Yes, significantly increased CRP 24 after exposure. No change after exposure nor a week after exposure.	<sup>18</sup>
Human	Traffic related particulate matter	No, IL-6 had no significant association with exposure, and TNF- $\alpha$ had a negative significant association with the exposure.	Yes, CRP and SAA were significantly and positively associated with increases in exposure.	<sup>19</sup>
Human	Fumes from brazing galvanized steel, using aluminum bronze wire	Yes, significant increase in serum IL-6 levels 10 h after exposure.	Yes, significant increase in serum CRP and SAA 29 h after exposure. No change 6 nor 10 h after exposure.	<sup>20</sup>
Human	Fumes from welding galvanized steel and aluminum, using zinc wire	Yes, significant increase in serum IL-6 levels 10 h after exposure.	Yes, significant increase in serum CRP and SAA 29 h after exposure. No change 6 nor 10 h after exposure.	<sup>20</sup>
Human	Fumes from brazing galvanized steel using zinc wire	Yes, significant increase in serum IL-6 levels 10 h after exposure.	Yes, significant increase in serum CRP 29 h after exposure. No change 6 nor 10 h after exposure.	<sup>20</sup>
Human	Zinc oxide	Yes, dose-response relationship in blood	Yes, dose-response	<sup>21</sup>

Species	Stressor	Secretion of pro-inflammatory mediators	APR	Reference
		neutrophils 24 h after exposure.	relationship in CRP and SAA blood levels 24 h after exposure.	
Human	Emissions from iron foundries	No significant increase in blood levels of IL-6 and IL-8.	Yes, SAA levels increased with increasing particulate matter exposure. No significant effects were observed for CRP.	<sup>22</sup>
Human	Fumes from small arms firing	Yes, increased blood neutrophils 24h after exposure.	Yes, increased CRP levels 24h after exposure	<sup>23</sup>
Human	Ambient particulate matter	Yes, significant decrease of blood neutrophils.	Yes, increased levels of SAA and CRP 1h and 20h after exposure.	<sup>24</sup>
Mouse	Serum amyloid A	Yes, increased neutrophil numbers in BALF.	Yes, increased levels of endogenous SAA3.	<sup>25</sup>
Human	Micro-sized zinc oxide	Yes, increased neutrophil number in blood 22 h after exposure.	Yes, increased blood CRP 22h and 2 days after exposure. No changes in CRP or SAA 3 days after exposure.	<sup>26</sup>
Human	Nano-sized zinc oxide	Yes, increased neutrophil number in blood 22 h after exposure.	Yes, increased blood CRP and SAA 22h and 2 days after exposure. No changes in CRP or SAA 3 days after exposure.	<sup>26</sup>
Human	Emissions from pine wood stove (three stone fire stove)	No significant change in blood levels of IL-6, IL-8 and TNF- $\alpha$ .	Yes, increased CRP and SAA blood levels 24 h after exposure. No change 3h after exposure.	<sup>27</sup>

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