

SUPPLEMENTAL DOCUMENT

Inclusion criteria:

The inclusion criteria for eligibility required that the article meet the following criteria:

- Study performed in rats or mice.
- Study used at least one mechanism of exposure to air pollution contaminants.
- Evaluation of at least one inflammatory marker.
- Use of N-acetylcysteine as intervention.

Exclusion criteria:

Abstracts, systematic reviews, narrative reviews, duplicate studies, and human studies were excluded.

Search number	Query	Sort By	Filters	Search Details	Results	Time
5	#1 AND #2 AND #3 AND #4			("NAC"[Text Word] OR "N-acetylcysteine"[Text Word] OR "mercapturic acid"[Text Word] OR "N-Acetyl-L-cysteine"[Text Word] OR "Acetylcysteine"[MeSH Terms]) AND ("air pollutant*"[Text Word] OR "pm 2.5"[Text Word] OR "pm 5"[Text Word] OR "pm 10"[Text Word] OR "sulfur oxide*"[Text Word] OR "carbon monoxide"[Text Word] OR "air quality"[Text Word] OR "Vehicle Emissions"[MeSH Terms]) AND ("rat"[Text Word] OR "mice"[Text Word]) AND ("inflammation marker*"[Text Word] OR ("biomarker*[All Fields] AND "of inflammation"[Text Word]) OR "interleukin*"[Text Word] OR "C-reactive	21	17:16:15

			protein"[Text Word] OR "erythrocyte sedimentation rate"[Text Word] OR "tnf protein human"[Supplementary Concept] OR "Tumor Necrosis Factor-alpha"[MeSH Terms] OR "Interferons"[MeSH Terms])		
4	Inflammation marker*[tw] OR biomarker* of inflammation [tw] OR interleukin* [tw] OR "C-reactive protein"[tw] OR "erythrocyte sedimentation rate"[tw] OR "TNF protein, human" [Supplementary Concept] OR "Tumor Necrosis Factor-alpha" [Mesh] OR "Interferons" [Mesh]		"inflammation marker*"[Text Word] OR ("biomarker*[All Fields] AND "of inflammation"[Text Word]) OR "interleukin*"[Text Word] OR "C-reactive protein"[Text Word] OR "erythrocyte sedimentation rate"[Text Word] OR "tnf protein human"[Supplementary Concept] OR "Tumor Necrosis Factor-alpha"[MeSH Terms] OR "Interferons"[MeSH Terms]	652,363	17:15:14
3	Rat* [tw] OR mice [tw]		"rat"[Text Word] OR "mice"[Text Word]	2,752,029	17:14:42
2	Air pollutant* [tw] OR PM 2.5 [tw] OR PM 5 [tw] OR PM 10 [tw] OR sulfur oxide* [tw] OR carbon monoxide [tw] OR air quality [tw] OR "Vehicle Emissions" [Mesh]		"air pollutant*"[Text Word] OR "pm 2 5"[Text Word] OR "pm 5"[Text Word] OR "pm 10"[Text Word] OR "sulfur oxide*"[Text Word] OR "carbon monoxide"[Text Word] OR "air quality"[Text Word] OR "Vehicle Emissions"[MeSH Terms]	130,612	17:14:15

1	NAC [tw] OR N-acetylcysteine [tw] OR mercapturic acid [tw] OR N-Acetyl-L-cysteine [tw] OR "Acetylcysteine"[Mesh]		"NAC"[Text Word] OR "N-acetylcysteine"[Text Word] OR "mercapturic acid"[Text Word] OR "N-Acetyl-L-cysteine"[Text Word] OR "Acetylcysteine"[MeSH Terms]	38,620	17:13:05
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Table S1. Search strategy on PubMed.

No. Query	Results
#5 #1 AND #2 AND #3 AND #4	78
#4 'inflammation marker' OR (('inflammation'/exp OR inflammation) AND ('marker'/exp OR marker)) OR 'biomarker of inflammation' OR (('biomarker'/exp OR biomarker) AND of AND ('inflammation'/exp OR inflammation)) OR 'interleukin'/exp OR interleukin OR 'c-reactive protein'/exp OR 'c-reactive protein' OR ('c reactive' AND ('protein'/exp OR protein)) OR 'erythrocyte sedimentation rate' OR (erythrocyte AND ('sedimentation'/exp OR sedimentation) AND rate) OR 'tnf protein, human' OR (('tnf'/exp OR tnf) AND ('protein,'/exp OR protein,) AND ('human'/exp OR human)) OR 'tumor necrosis factor-alpha'/exp OR 'tumor necrosis factor-alpha' OR (('tumor'/exp OR tumor) AND ('necrosis'/exp OR necrosis) AND 'factor alpha') OR 'interferons'/exp OR interferons	2,401,924
#3 'rat'/exp OR rat OR 'mice'/exp OR mice	4,256,011
#2 'air pollutant'/exp OR 'air pollutant' OR (('air'/exp OR air) AND ('pollutant'/exp OR pollutant)) OR 'pm 2.5' OR (pm AND 2.5) OR 'pm 5' OR (pm AND 5) OR 'pm 10' OR (pm AND 10) OR 'sulfur oxide'/exp	345,570

OR 'sulfur oxide' OR (('sulfur'/exp OR sulfur) AND ('oxide'/exp OR oxide)) OR 'carbon monoxide'/exp OR 'carbon monoxide' OR (('carbon'/exp OR carbon) AND monoxide) OR 'air quality'/exp OR 'air quality' OR (('air'/exp OR air) AND ('quality'/exp OR quality)) OR 'vehicle emissions'/exp OR 'vehicle emissions' OR (('vehicle'/exp OR vehicle) AND emissions)

89,124

#1

'nac'/exp OR nac OR 'n acetylcysteine'/exp OR 'n acetylcysteine' OR 'mercapturic acid'/exp OR 'mercapturic acid' OR (mercapturic AND ('acid'/exp OR acid)) OR 'n acetyl 1 cysteine'/exp OR 'n acetyl 1 cysteine' OR 'acetylcysteine'/exp OR acetylcysteine

Table S2. Search strategy on Embase.

78 Embase records and 21 MEDLINE records were identified. No papers were excluded before duplicate screening, for a total of ninety-nine records. Following title and abstract review, seventy-nine articles were excluded. Twenty records were assessed as full-text articles, of which 1 was excluded. Finally, nineteen papers were included in the final analysis.