

Appendix

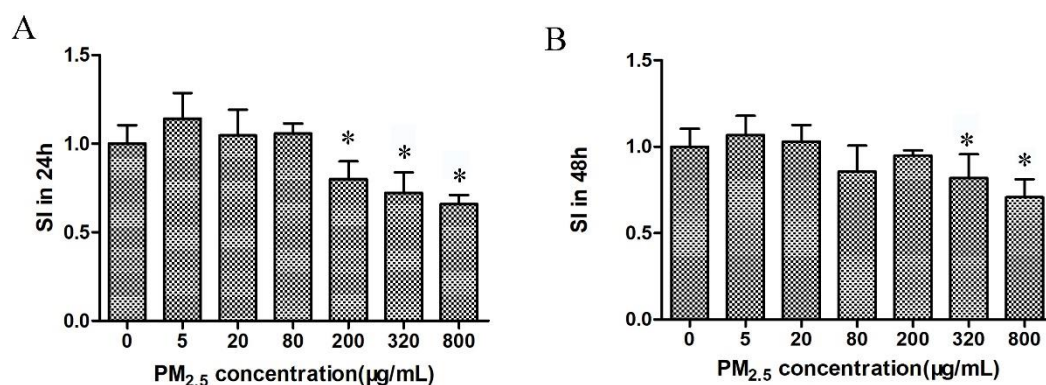


Figure 1. Jurkat T cell proliferation function. (A) and (B) means Jurkat T cells were exposed to different concentration of PM_{2.5} for 24h and 48h, and its proliferative ability were measured by MTT assay. Data are presented as mean \pm SD. Star (*) indicates statistically significant differences from saline control group ($P < 0.05$). The number shown in this figure were the averages of quintuplicate determinants.

Table 1. The mass proportion of each component in PM_{2.5}.

Components	Mass ratio(%)
Inorganic elements	28.58
Water soluble ions	9.29
PAHs	0.55

The inorganic elements of PM_{2.5} were extracted by Soxhlet extraction using equal amount of nitric acid and H₂O₂ (30%) as extraction solvent to extract the elements on the glass fiber filter. The water soluble ions were extracted 3 times by ultrasonic shaking for 30min, and the intensity of ultrasonic was 30Ma. PAHs were extracted twice by ultrasound bath, with the first time for 30min and the second time for 15min, using dichloroacetonitrile as extraction solvent.

Table 2. Different components concentration in air for PM_{2.5} samples collected in Taiyuan City in November 2011 (n=5).

Component	Unit	Mean±SD
Inorganic elements		
Na	μg/m ³	21.29±12.41
Ca	μg/m ³	14.11±3.60
Mg	μg/m ³	3.76±0.53
Zn	μg/m ³	2.77±2.75
K	μg/m ³	2.51±0.39
Ni	μg/m ³	0.40±0.04
Cu	ng/m ³	0.21±0.03
Hg	ng/m ³	5.73±0.75
Cd	ng/m ³	10.75±1.49
Se	ng/m ³	33.83±26.16
Pb	ng/m ³	0.36±0.07
Water soluble ions		
NO ₃ ⁻	μg/m ³	0.83±0.19
SO ₄ ²⁻	μg/m ³	12.86±0.35
Cl ⁻	μg/m ³	0.58±0.11
F ⁻	μg/m ³	0.59±0.09
PAHs		
Benzo(a)pyrene	ng/m ³	60.57±21.23
Benzo(b)fluoranthene	ng/m ³	96.12±20.36
Phenanthrene	ng/m ³	170.71±113.01
Fluoranthene	ng/m ³	87.89±20.34
Fluorene	ng/m ³	111.39±37.54
Pyrene	ng/m ³	50.12±10.56
Benzo(a)anthracene	ng/m ³	45.11±11.25
Chrysene	ng/m ³	39.99±11.57
Acenaphthylene	ng/m ³	33.06±8.59
Benzo(g,hi)perylene	ng/m ³	32.43±6.91
Benzo(k)fluoranthene	ng/m ³	38.78±10.20
Dibenzo(a,h)anthracene	ng/m ³	27.77±16.37
Anthracene	ng/m ³	4.94±1.11

The metal elements AS, Hg, and Se were analyzed by atomic fluorescence spectrometry, Cd, Ni were determined by graphite atomic absorption spectrometry, Na, K, Ca, Mg, Cu were evaluated by flame atom Absorption measurement. The water soluble ions were analyzed by Ion chromatograph with electrochemical detector. Ion chromatography conditions: Use 38Ma current, 17 mmol/L KOH as eluent and pump pressure was 2031Psi. PAHs were tested by HPLC, and the column temperature was 35°C, 20 μl injection volume, mobile phase were acetonitrile/water.