

# Induction of rat hepatic p4501a1 by organic extracts from airborne particulate matter in Santiago, Chile

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1. Organic extracts from particulate matter collected in downtown Santiago, Chile, in 1990 were administered to female Wistar rats. 2. Extracts shifted the maximal absorption wavelength P450 spectra of the reduced-CO complex of hepatic microsomal P450 from 450 to 448 nm, and enhanced the total content of P450. In addition, substantial increases in aryl hydrocarbon hydroxylase, ethoxyresorufin O-deethylase and ethoxycoumarin O-deethylase activities were observed, whereas aminopyrine N-demethylase activity was not affected by treatment. 3. Western blotting using polyclonal antibodies against P4501A isozymes showed the appearance of a distinct and intense P4501A1 band in microsomes from rat pretreated with air particle extracts, and was not observed in microsomes from control rat. On the other hand, the intensity of the P4501A2 isoenzyme was apparently not affected. 4. These findings suggest that the organic extracts from airborne particulate matter modify the composition of rat liver P450