

## Measurement of Concentration of Polycyclic Aromatic Hydrocarbons (PAHs) and Dioxin compounds in Canine Lungs

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Polycyclic aromatic hydrocarbons (PAHs) and dioxin compounds remaining in canine lung were measured using an alkaline decomposition method employing a KOH/ethanol. PAHs were determined by reverse-phase HPLC equipment with fluorescence detector. The concentration of dioxins (PCDDs, PCDFs and co-PCBs) were analyzed using HRGS/HRMS. We could measure the PAHs concentrations (benzo[a]anthracene; BaA, Benzo[k]fluoranthene; BkF, benzo[a]pyrene; BaP and benzo[ghi]perylene; BghiP) and dioxin concentrations (TEQ; toxicity equivalent) in canine lungs. PAHs extracted from the lungs of 31 canines were between to be 0.07 and 0.47ng/wet-g (mean; 0.19ng/wet-g) for BaA, 0.03 and 0.16ng/wet-g (mean; 0.08ng/wet-g) for BkF, 0.05 and 0.29ng/wet-g (mean; 0.13ng/wet-g) for BaP, and 0.05 and 0.35ng/wet-g (mean; 0.17ng/wet-g) for BghiP in the whole lung. Dioxin concentrations were between to be 0.047 and 0.870pg-TEQ/wet-g (mean; 0.171pg-TEQ/wet-g). There were big differences between PAHs concentrations and dioxin concentrations in canine lungs. No relationships were observed between age, body weight, lung weight and each individual PAH and dioxin congener. But, good relationships were observed among individual PAH ( $r=0.56 - 0.75$ ). In this study, PAHs and dioxins could be detected in all samples and we confirmed that canine lungs were contaminated with those pollutants. Thus, it is considered that humans are also exposed to such pollutants because canine intakes such compounds with the air by respiration.