

Organochlorine concentrations. All statistically significant correlations between OC concentrations and lymphocyte proliferation had positive slopes, indicating that turtles with higher contaminant levels exhibited elevated lymphocyte proliferation responses (Figures 2 and 3). Lymphocyte proliferation stimulated by 4 days of exposure to 10 ug/mL LPS was significantly correlated with blood concentrations of Σ PCBs, 4,4'-DDE, and Σ chlordanes. In vitro exposure to 5 ng/mL Aroclor 1254 significantly increased PDB-induced proliferation, whereas 498 ng/mL Aroclor 1254 significantly decreased this response (Figure 4B). The mean lymphocyte proliferation responses, reported elsewhere (Keller et al. 2005), are tabulated along with the correlative results between lymphocyte proliferation and OC concentrations in Table 1. OC concentrations in samples from turtles captured in 2000 and 2001 have been reported elsewhere on both a wet-mass and a lipid-normalized basis (Keller et al. 2004a). The Spearman correlation coefficients, r_s (p-values) for lysozyme versus Σ PCBs, 4,4'-DDE, and Σ chlordanes were -0.269 (0.074), -0.310 (0.038), and -0.368 (0.013), respectively. All of the tested concentrations of Aroclor 1254 generally increased PHA-induced proliferation, albeit not significantly, compared with the response in the DMSO control (Figure 4A). Increasing concentrations of 4,4'-DDE administered to the culture wells produced an increasing trend in PHA-induced proliferation (Figure 5A). For the purpose of comparing immune function and OC concentrations, only samples from turtles assessed for lymphocyte proliferation in July 2001 are described here (n = 27). Proliferation stimulated by 0.8 ug/mL PDB was also positively correlated with Σ PCB and 4,4'-DDE concentrations. Correlations were also examined between lymphocyte proliferation and OC concentrations calculated on a lipid-normalized basis (data not shown). In vitro exposure to 4,4'-DDE significantly enhanced PHA- and PDB-induced proliferation (Figure 5). Only one concentration of 4,4'-DDE (0.5 ng/mL) caused a statistically significant effect on PDB-induced proliferation (Figure 5B). Statistically significant effects on PDB-induced proliferation were observed at lower concentrations of both contaminants compared with PHA-induced proliferation (Figures 4 and 5). Statistically significant increases from the DMSO control were observed at 48 ng/mL and 992 ng/mL 4,4'-DDE. Lymphocyte proliferation: in vitro exposure experiments