

Impact of plastic contaminants on central pattern generator neural circuits in the spinal locomotor circuit of neonatal mice

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Background and objectives: Over 65% of the world's plastic pollution contains di-n-butyl phthalate (DBP) and tributyl phosphate (TBP), plasticizers that can pass through the blood-brain barrier and contaminate the brain and central nervous system. Previous studies have focused on the effect of BPA and DEHP (other common plasticizers) on invertebrate model organisms. Our study aims to elucidate the effects of plasticizers on a neonatal mouse model and to understand the molecular mechanisms that TBP

data at 10 μ M and 50 μ M of TBP consistently showed increased burst amplitude, burst duration (reduction in firing organization), and cycle period. Recordings from L2 and L5 ventral roots showed 100 μ M TBP is highly disruptive yet reversible. **Conclusions:** The results suggest that TBP causes an increase in network level inhibition, 2 \times inhibition of I_z-Riossue