

# Placental transport of brevetoxin-3 in CD-1 mice

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## Abstract

The purpose of this study was to examine the distribution of brevetoxin-3 administered to pregnant dams and to determine the extent of placental transport to fetuses. Twenty-nine pregnant CD-1 mice were administered <sup>3</sup>H-brevetoxin-3 ( $\approx 1.3 \mu\text{Ci}/\text{animal}$ ;  $\approx 2.8 \mu\text{g}$  compound/kg) by intratracheal instillation on one of gestational days 15–18. Groups of four or five dams were killed at selected times through 48 h post-dosing. Four pregnant dams were administered <sup>3</sup>H-brevetoxin-3 on gestational day 15 or 16 via osmotic minipump to provide continuous delivery of compound ( $\approx 0.13 \mu\text{Ci}$ , 7.5 ng compound/day) over a 72-h period. Then the dams and fetuses were killed. Brevetoxin-associated radioactivity was detected in placentas and fetuses within 0.5 h of intratracheal administration. Concentrations of brevetoxin equivalents in fetuses were approximately 0.3 ng/g throughout the 48-h post-dosing, resulting in a calculated dose to fetuses of 19 ng/g h. Following brevetoxin infusion, concentration of brevetoxin equivalents in fetuses was 0.1 ng/g, lower than that present in most maternal tissues. Results demonstrated placental transport of brevetoxin or its metabolites following maternal acute exposure and repeated low-dose exposure. The consequences of these findings for pregnant women exposed to brevetoxins by inhalation or ingestion remain to be determined. [Toxicol](#), Volume 48, Issue 8, 15 December 2006, Pages 1018-1026