

## Hertzler, 1990

Guidelines/Criteria	
Reference:	Hertzler DR. 1990. Neurotoxic behavioral effects of Lake Ontario salmon diets in rats. <i>Neurotoxicol Teratol</i> 12:139-143.
<b><i>In vivo</i> Study Type</b> Route of Administration Species & age of animals	Six experiments - 20 day behavioural studies Diet Holtzman rats of various ages
<b>Study Duration</b>	20 days
<b>Type of Mixture</b> Binary >2 components  Similar acting or dissimilar What Mode of Action was investigated?	No Lake Ontario or ocean salmon (used as the control) were included in the diet. Both Nothing specific
<b>Parameters/End points Measured</b> Target organs/Critical effects  Pharmacological changes or adverse effects	Open field behaviour, nosepoke, rearing and grooming after 20 days on treated diet Depends on magnitude of effects
<b>Individual Components</b> Characterisation of individual compounds Name, exact chemical name, CAS no. Were dose responses established for individual components? Were no effect levels established? Were doses below the NO(A)ELs investigated?	None N/A No No N/A
<b>Mixtures Investigated</b> Number of dose levels How does the mixture make-up compare to individual components? (e.g. low dose) equivalents used?  No. of technical replicates per exposure condition ( <i>in vitro</i> ) No. of animals per dose group ( <i>in vivo</i> )	One The diet included 30% salmon (8% in one experiment). Different groups were fed salmon from the Pacific (control) or Lake Ontario.  4 to 8, usually at least 7
<b>Observations/Findings</b>	The various experiments examined males and females, adults and young animals and postweaning dams, and examined handled and nonhandled rats and food deprivation. A fairly consistent pattern of reduced open field activity, rearing and nosepoke behaviour was seen in Lake Ontario salmon fed rats compared to ocean salmon fed rats.
<b>Overall opinion</b> (e.g. sufficient numbers of groups investigated, group sizes adequate, observations reproducible, low dose levels used investigated)	When so few variables are measured it makes it hard to put the results into context of the overall state of health of the rats. However, the effect on behaviour seems consistent. The explanation is not clear.