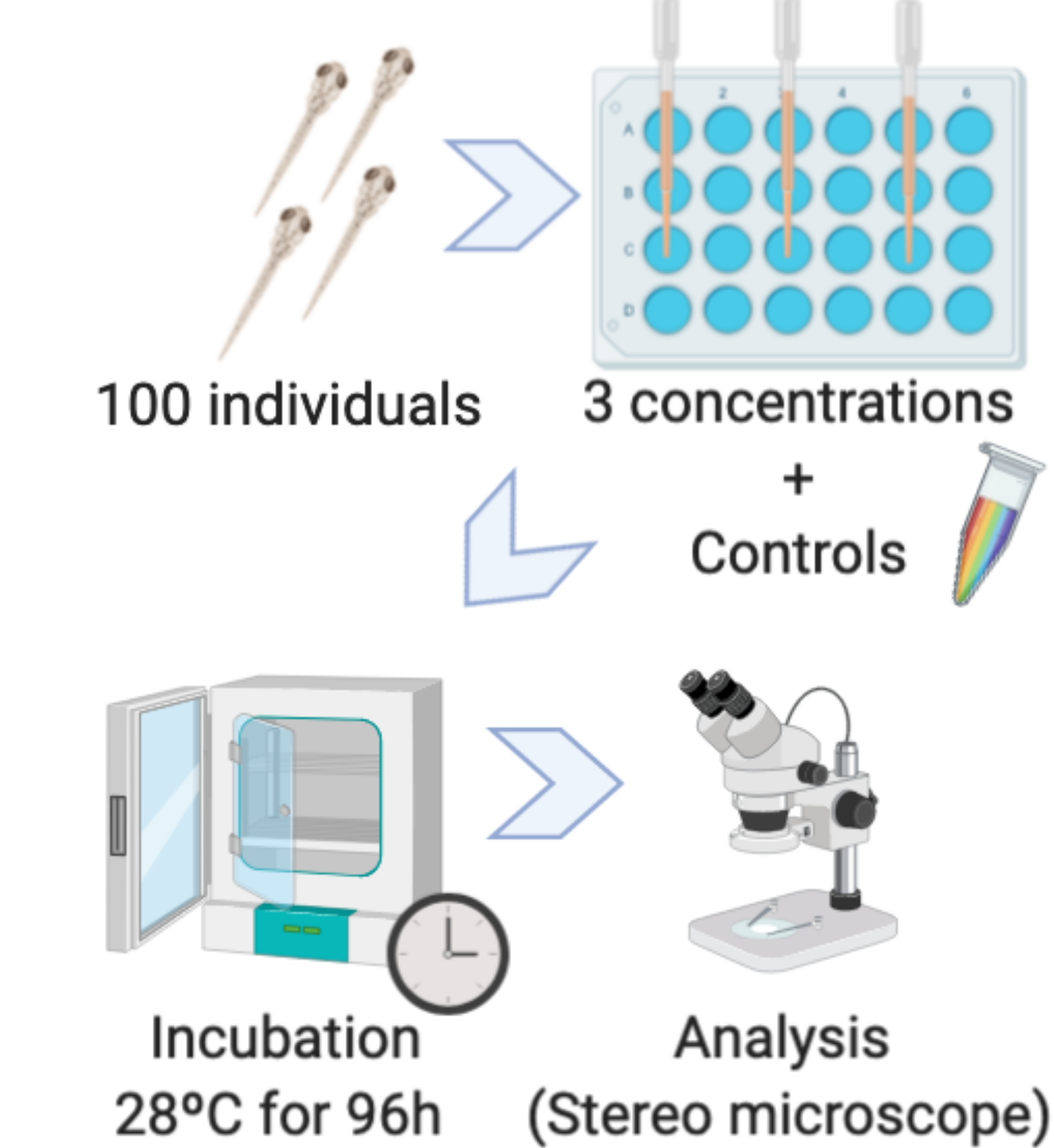


Realistic Persistent Organic Pollutant mixture has Deleterious effects in zebrafish larvae

BACKGROUND

The POP mix: health-relevant mixture of Persistent Organic Pollutant based on the highest levels of POPs occurring in Scandinavian blood and breast milk. We have studied its effects on zebrafish larvae development.

METHODS



CONCLUSIONS

Significant acute responses observed:

- Underdeveloped (Non-inflated swim bladder) even at 75-fold blood level.
- Edemas found in >90% of the population in some cases.
- Deformed eyes in a remarkable dose-dependent manner.
- Heartbeat rate was also disrupted.
- Larval behavior was affected: slightly lower activity in dark phases, significantly increased activity in light phases.
- In contrast, no significant deleterious effects in the lateral line system (neuromast counts).

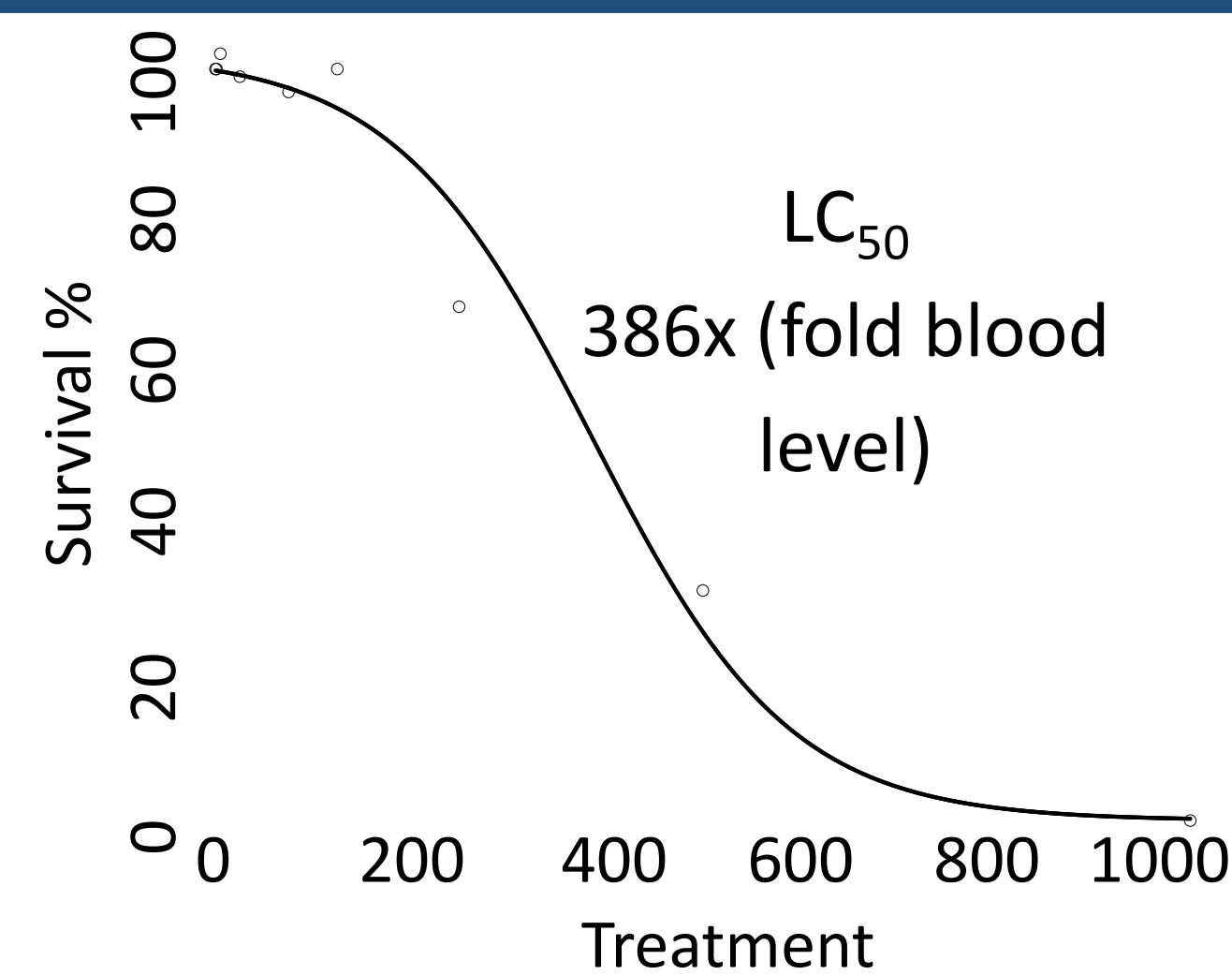
We observed several deleterious effects upon exposure of developing zebrafish larvae to the POP mix. The doses tested (75-250-fold mean blood levels) could be found in humans under specific circumstances and events. Since a cocktail of pollutants was used, further analyses are a must-do.

Alternative methods to assess the effects of a realistic Persistent Organic Pollutant mixture (POP Mix) following a chronic exposure in zebrafish larvae (*Danio rerio*)

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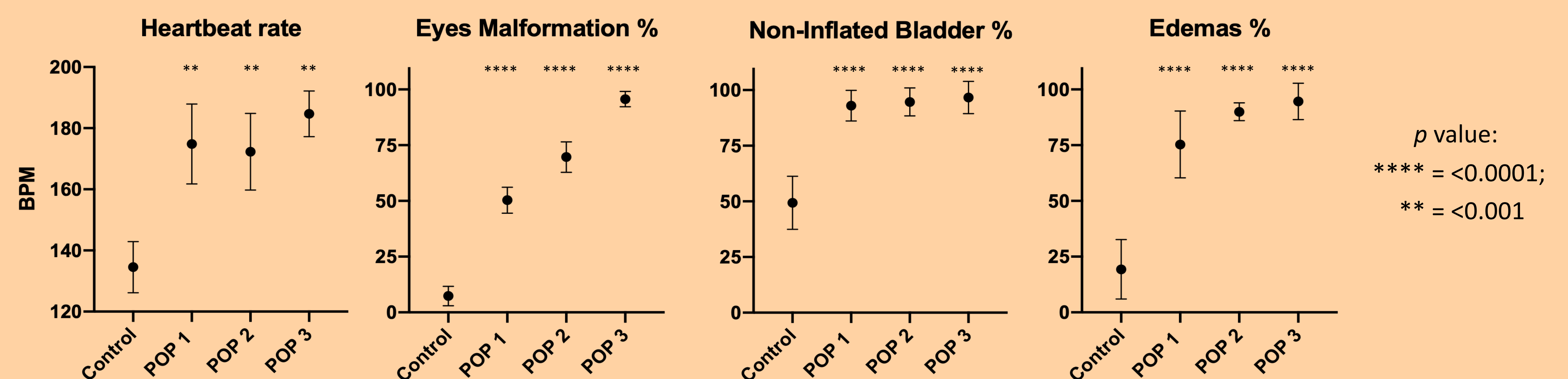
RESULTS

Dose-range finding

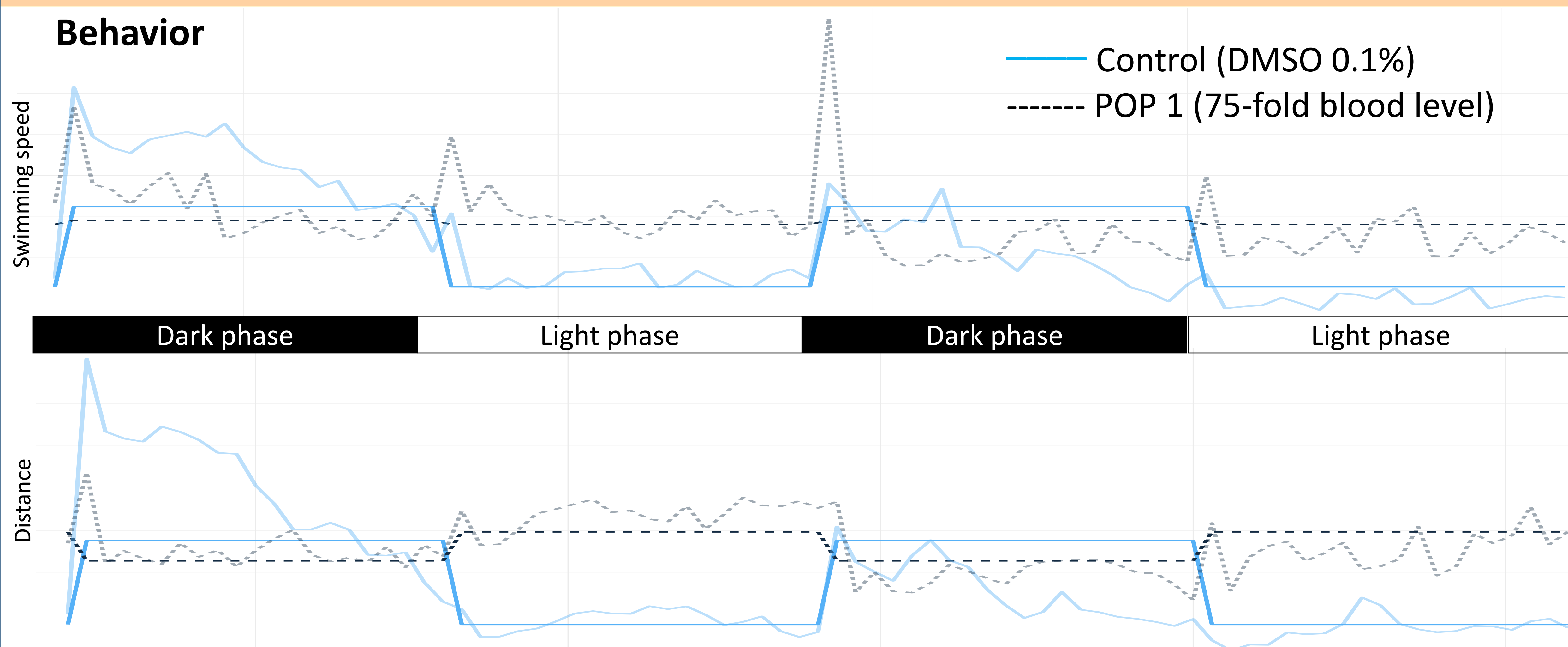


Control (DMSO 0.1%)
POP 1 (75-fold blood level)
POP 2 (125-fold blood level)
POP 3 (250-fold blood level)

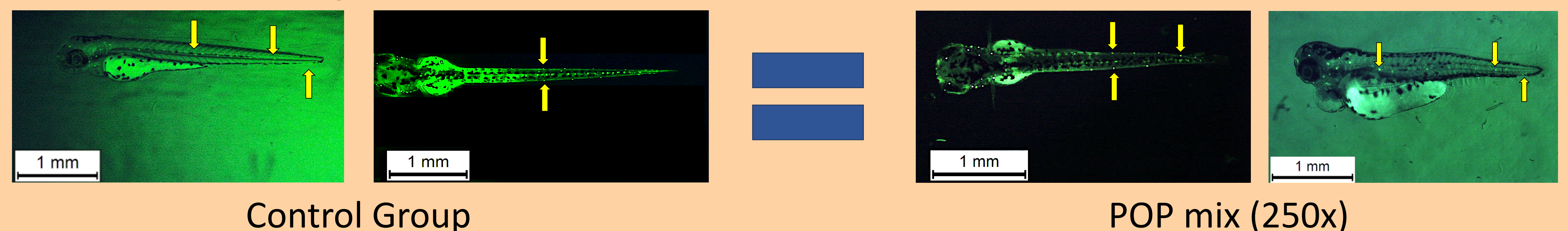
Malformations and heartbeat rate



Behavior



Neuromast counting



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