



## A new medium for *Caenorhabditis elegans* toxicology and nanotoxicology studies designed to better reflect natural soil solution conditions.

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### Abstract

A new toxicity test medium for *Caenorhabditis elegans* is presented. The test solution is designed to provide a better representation of natural soil pore water conditions than currently available test media. The medium has a composition that can readily be modified to allow for studies of the influences of a range of environmentally relevant parameters on nematode biology and toxicology. Tests conducted in the new medium confirmed that nematodes' reproduction was possible at a range of solution pH levels, offering the potential to conduct toxicity studies under a variety of conditions. A test to establish silver nanoparticle and dissolved silver nitrate toxicity, a study type not feasible in M9 or agar media due to precipitation and nanoparticle agglomeration, indicated lower silver nanoparticle (median effective concentration [EC50] of 6.5 mg Ag/L) than silver nitrate (EC50 0.28 mg Ag/L) toxicity. Characterization identified stable nanoparticle behavior in the new test medium.

### Reference

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