

## **Caenorhabditis elegans: a small worm for a small world**

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The small nematode *Caenorhabditis elegans* has emerged as a powerful model organism in various fields of research, aligning with the principles of the 3Rs. Its unique characteristics allow for the replacement of higher animals, the reduction in the number of animals needed, and the refinement of experimental procedures, ultimately promoting ethical and effective research. In the field of nanotoxicology, nematodes serve as a helpful tool due to their transparent body, allowing for non-invasive observation of nanoparticle interactions. The worm's simple anatomy and the short life and larval development allow for the monitoring of lifespan modifications and reproductive effects in few weeks. *C.elegans* as a platform for nanotoxicology and nanomedicine studies will be presented.