

C. elegans genetics

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Organisation

Name of the organisation Université Libre de Bruxelles (ULB)

Department ULB Institute for Neuroscience

Country Belgium

Geographical Area Brussels Region

SCOPE OF THE METHOD

The Method relates to	Animal health, Human health
The Method is situated in	Basic Research
Type of method	In vivo
Used species	Caenorhabditis elegans
Targeted organ system or type of research	Neuromuscular system, hypoderm, longevity.

DESCRIPTION

Method keywords

invertebrate
C. elegans
genetic screen
pharmacological screen
Genetics
calcium imaging

Scientific area keywords

neuroscience
ageing
parasitology

Method description

The lab routinely use C. elegans culture as genetic model. We explore the development and the ageing of the neuromuscular system. The methods used regularly in our lab include molecular biology, generation of transgenic animals or mutants, crossings,

genetic screen, calcium imaging, fluorescence imaging, comprehensive quantification of the worm locomotion in response to specific cues, survival curves, molecular biology.

Method status

Internally validated

Published in peer reviewed journal

PROS, CONS & FUTURE POTENTIAL

Advantages

Many genes for the nervous system development and function are conserved.

Genetic of ageing is established in *C. elegans* or *Drosophila*.

C. elegans genetics is well established, genetic manipulation is quick and easy, and many mutants are available.

Culture is simple and lead to isogenic cohorts.

Challenges

The brain structure has nothing to do with mamalian systems.

C. elegans lifespan is <1 month.

C. elegans is an invertebrate, many organs are not conserved.

REFERENCES, ASSOCIATED DOCUMENTS AND OTHER INFORMATION

Links

[Lab website](#)

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