

NUTRACEUTICAL APPROACH TO INCREASE HEALTHY AGING USING *Caenorhabditis elegans* AS A MODEL ORGANISM

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Humans are gradually moving towards an aging society. Aging is a process of gradual physiological decline and a risk factor for several pathologies¹. Understanding the mechanisms underlying aging is fundamental to promote healthy aging, even if it is complicated by its multifactorial nature, in which environmental factors (e.g. nutrients) play an important role^{2,3}.

In this project, the main aging phenotypes (healthspan parameters) will be correlated with the major known nutrient-sensitive signalling pathways in *Caenorhabditis elegans*, a validated model for aging research. The first results showed a progressive decline of movement during *C. elegans* lifespan since the early adulthood. Otherwise, the heat stress resistance decreases only in old age; suggesting that the two parameters do not seem to be related. In future, the other physiological phenotypes, i.e. reactive oxygen species accumulation, pumping rate and lipofuscin accumulation, will be assessed. Given the important impact of diet on healthy aging, the effect of the cinnamon bud extract on *C. elegans* lifespan and healthspan will be evaluated. The effective dose to assess cinnamon bud anti-aging properties was defined by heat stress test, pre-treating adult worms with a single dose for 48 hours. The next step will be the study of all the aging parameters in the presence of the extract.

References

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