How AFD Thermosensory Neurons Regulate Oxidative Stress Resistance in C. elegans

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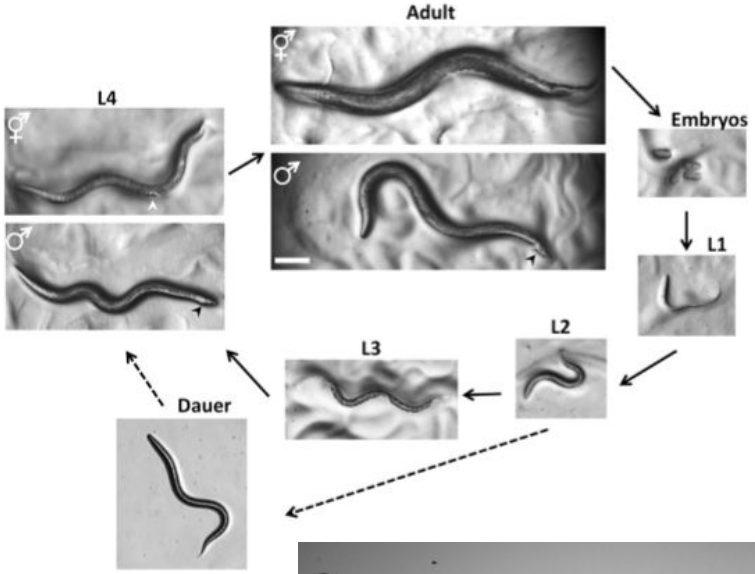
About C. elegans

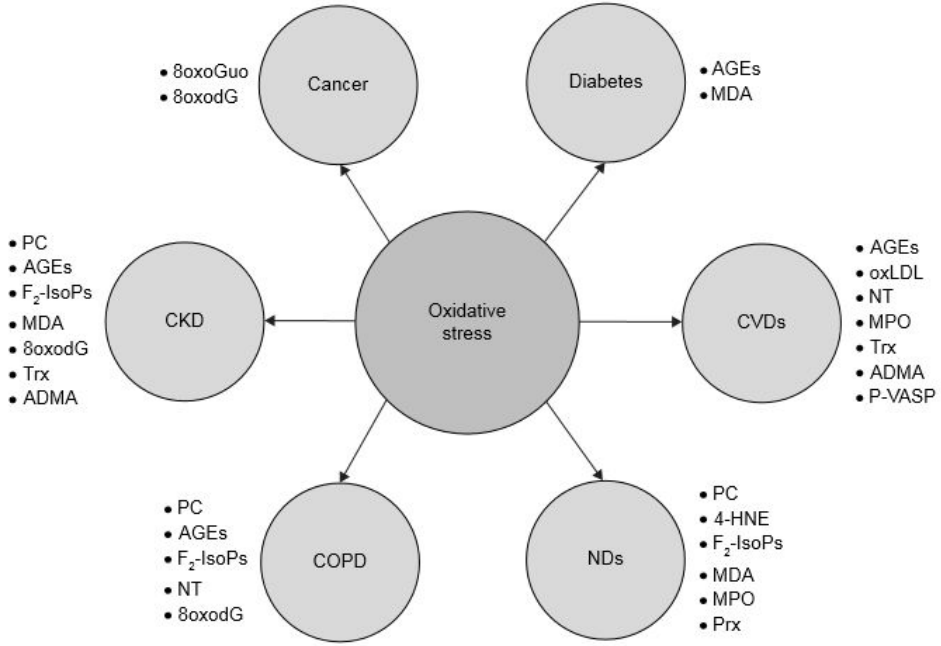
- Nematodes
- Transparent
- Short lifespan
- Well-annotated genome
- Many genetic orthologs to humans

(Corsi et al., 2015)



Oxidative Stress

- RONS (Reactive Oxygen & Nitrogen Species)
- Endogenous: oxidases, peroxides, nitrites
- Exogenous: drugs, air & water pollution
- Oxidative Stress Theory: Involved in aging and disease
- Study C. elegans to understand human aging

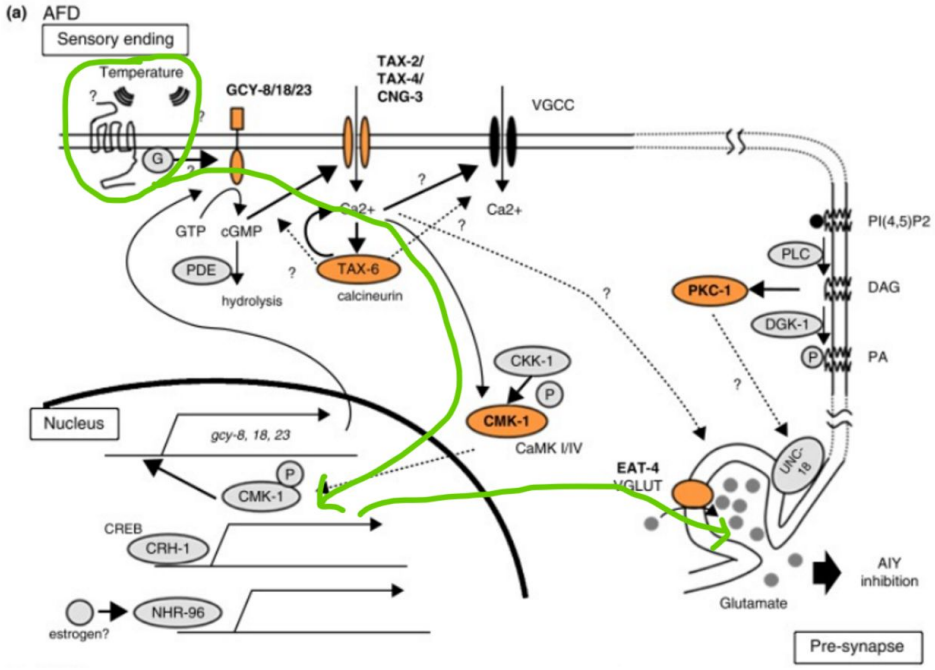


(Liguori et al., 2018)

AFD Pathway

- AFD (thermosensory neuron)
- DAF-16 (transcription factor)
- sodh-1 (gene)

Pathway: AFD > ??? > DAF-16

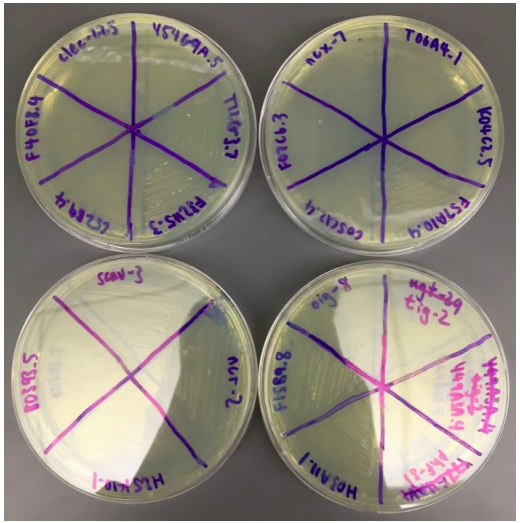


(Mori et Aoki, 2015)

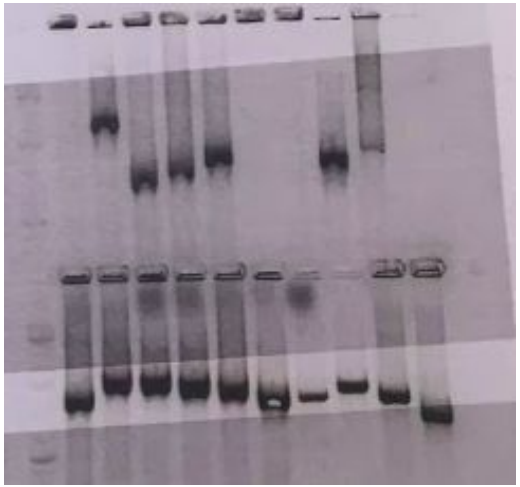
Elucidating the gene using RNAi screening

- Ribonucleic acid interference
- RNAi validation
  - Streaking
  - PCR
  - Gel electrophoresis
- Screening (Future Steps)
  - Knockout the gene using RNAi
  - Observe RFP concentration

Bacterial Streaking



Agarose Gel Electrophoresis



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2. Liguori, I., Russo, G., Curcio, F., Bulli, G., Aran, L., Della-Morte, D., … Abete, P. (2018, April 26). Oxidative stress, aging, and diseases. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5927356/

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Acknowledgements

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