KU LEUVEN

Model Organisms

C. Elegans: egl-3 gene

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Contents

Question 1: Protein Family

`Q`: Which protein family does the egl-3 encoded protein belong to?

Question 2: Tissues and Gene Expression

`Q`: In which tissues is egl-3 expressed in C. Elegans?

Question 3: Development stages

`Q`: In which developmental stage is the egl-3 expressed?

Question 4: Mutant strains

`Q`: Are there mutant strains for this gene available? What has been mutated in the gene? What is the resulting phenotype?

Question 5: RNA interference phenotype

`Q`: What is the RNA-interference phenotype?

Question 6: RNAi vs Deletion mutant phenotypes

`Q`: Are there differences between RNAi and deletion mutant phenotypes? If yes, explain why this is possible.

Question 7: Orthologous proteins

`Q`: Are there orthologous proteins in:

- Other nematodes?
- Insects?
- Vertebrate species (non human)?
- Human?
- Unicellular organisms?

Indicate for each of these species the biological process in which the protein is involved in and how this function was assessed

Question 8: Function in orthologous genes

`Q`: Is the function of this orthologous gene in yeast similar to its function in C. Elegans?

Question 9: Null mutant in yeast

`Q`: Is a null mutant for this gene available in yeast? What is the phenotype?

Question 10: Scientific information availability

`Q`: What is the latest scientific information regarding the orthologue of this gene in yeast in relation to cell fusion and the process of mating in yeast?

Question 11: Model organism to further study

`Q`: Which model organism would you choose to further study this gene and why?