Identifying the nucleosome ubiquitination role of BRCA1 in transcriptional regulation using *C. elegans*

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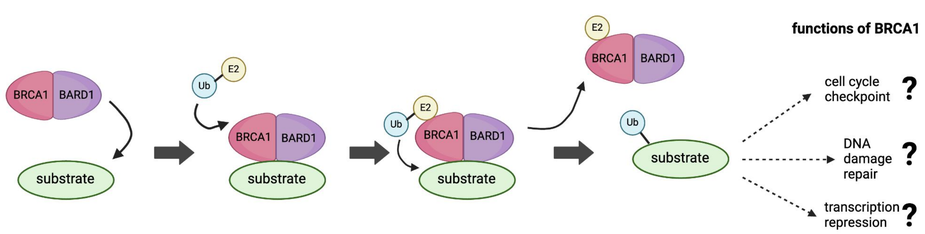
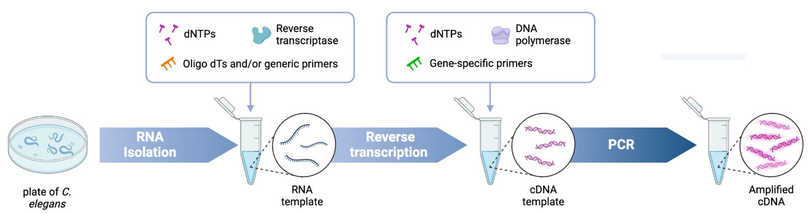
Introduction

Which functions of BRCA1 rely on ubiquitination of substrate?



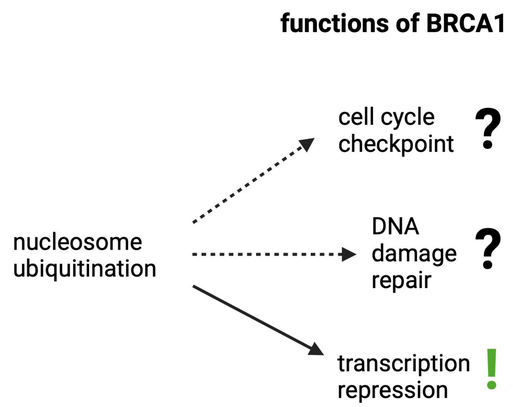
Above: (insert caption here)

Quantification of gene expression from *C. elegans*



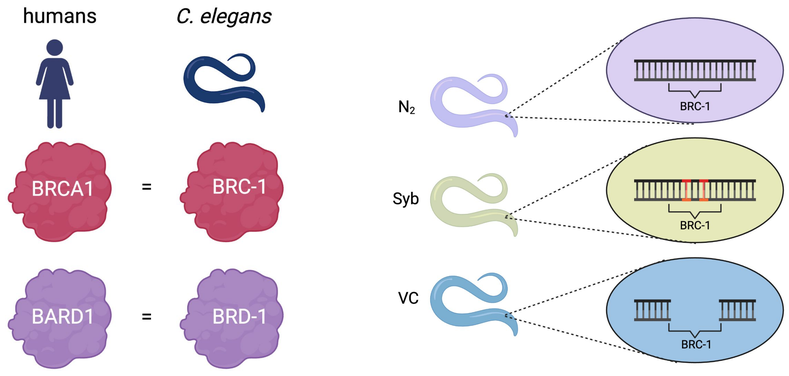
Above: (insert caption here)

Conclusions



- **The expression of cyp genes in humans is conserved in *C. elegans*.**
- **Essential tumor suppressor functions in humans are conserved in C. elegans, furthering its use as a model organism.**

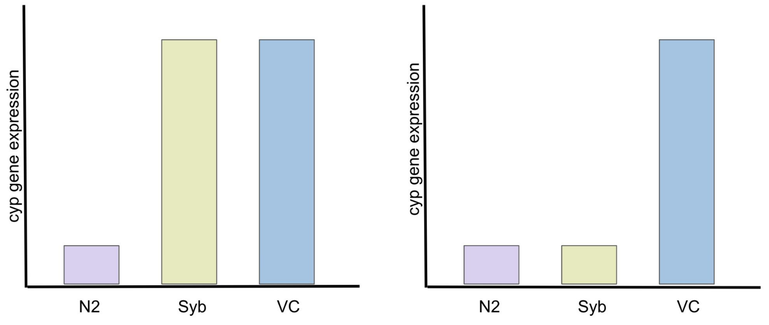
Manipulating nucleosome ubiquitination in *C. elegans*



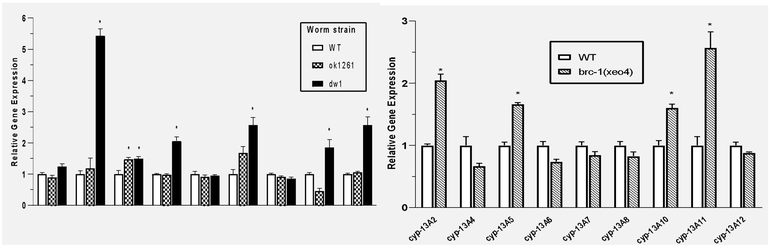
Above (left):

Above (right):

Observing the effects of nucleosome ubiquitination on transcriptional repression



Above: (insert caption here)



Above left - brd-1 represses cyp-13A expression in worms: (insert more info here)

Above right - brc-1 represses cyp-13A expression in worms: (insert more info here)

Objectives

- Express and purify shortened constructs of BRCA1 and PALB2 variants
- Visualize the structure of WT BRCA1 and WT PALB2 individually and together using circular dichroism (CD)
- Repeat the above step with each variant construct and its WT binding partner

Future Directions

- **Future study:** How do cyp genes function in C. elegans?
- **Future study:** Exploring what other BRCA1 functions rely on nucleosome ubiquitination - cell cycle checkpoints, DNA damage repair, etc.

References and Funding

A bunch of really small text about references and funding.

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