

## **Isolation of the *him-4* suppressor mutation which rescues the vitality of *C. elegans***

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### **Abstract:**

The nematode *Caenorhabditis* contains hemicentin, which is a protein that aids in gonad development, as well as tissue formation. The *him-4* gene, associated with the production of hemicentin, was used to observe the effects of mutagenesis on *C. elegans* development and to isolate progeny that suppressed it. Five suppressors of *him-4* (*e1267*) were isolated, and its phenotypes were compared to N2 (wild-type) and *him-4*. Phenotypic analyses revealed there had been a significant amount of suppression of the *him-4* mutation. The results of the RNAi indicate some of the suppressors had an increased number of offspring when compared to *him-4* mutants by the five suppressors. RNAi *pat-3* and *ina-1* indicated that some of the suppressors had an increased number of offspring when compared to the *him-4* mutants. The overall results of the phenotypic assays, RNAi and hatch rates indicate some degree of suppression and seem to support the possibility of reversing the effects of *him-4*. Further research into the mechanisms of suppression and gene interaction, could result in significant information could then be applied to the human ortholog of hemicentin.