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*The Effect of Silencing the IL27 Gene with the Use of RNAi on Caenorhabditis elegans*

The purpose of this project was to first “knock down” the gene IL27 in *Caenorhabditis elegans* by feeding *E. coli* RNAi IL27 HT115 to the specimens. Upon completion of knocking down the gene, the researcher investigated the effect on the specimens by measuring length and number of progeny to show the inhibition of the inflammatory response. Recently, the IL27 gene has been linked to inflammation in autoimmune responses. By “knocking down” or eliminating this gene, subjects may be able to inhibit the autoimmune response in such diseases such as allergies and multiple sclerosis. For the procedure, agar plates containing cholesterol, IPTG and ampicillin were created for both the control group and the RNAi group. Each bacteria type was added to the appropriate plate for the control group and the RNAi group to knock down the IL27 gene. *C. elegans* were transferred to the appropriate plates and allowed to go through their three day life cycle. Upon completion of the life cycle, the progeny number and length of each type were recorded. The data for the tests show that after silencing the IL-27 gene the number of progeny was increased and the length of the worms were larger than the control this was the case in all but the second trial. This data may imply that by silencing IL27, inflammation is actually increased and this treatment could be used in those patients with compromised immune systems.