



Using fruit flies to cut research costs – and find a cure

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Vett Lloyd is looking to help individuals with Hermansky Pudlak Syndrome (HPS), a rare genetic disease that causes a variety of symptoms including albinism, visual impairment, excessive bleeding, pulmonary fibrosis (a lung disease), inflammatory bowel disease and kidney disease. The disease is fatal and, at present, there is no effective treatment or cure.

Dr. Lloyd has cloned a version of the HPS gene from the fruit fly *Drosophila* that appears to be functionally interchangeable with the human gene. *Drosophila* has been used as a model organism for research for almost a century, and today several thousand scientists are working on many different aspects of the fruit fly. Its importance for human health was recognised by the award of the Nobel Prize in medicine/physiology to Ed Lewis, Christiane Nusslein-Volhard and Eric Wieschaus in 1995.

“For our research, this means that well characterized *Drosophila* mutants can be used as animal models for screening potential treatments,” Dr. Lloyd says. “The low cost associated with the use of these fruit flies as opposed to larger animals such as mice, dogs, cats or primates should make this an attractive option for drug companies looking to help treat a rare disease.”

Dr. Lloyd’s research has led to some possible progress in treating HPS patients. Noting that much of the physiological problems associated with this syndrome are linked to one specific cargo protein, ABCG8/white, she and her team are supplying extra copies of this cargo gene, which produces additional protein. They are now examining the potential of manipulating the levels of this protein to ease symptoms of the disease.

An important indirect benefit of Dr. Lloyd’s research has been the training of five young Nova Scotians in molecular biology and genetic engineering. All these students have now found work in the province in the biomedical and biotechnology sector and are continuing to contribute to Nova Scotia’s growing life sciences’ industry.

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CONTACT INFORMATION

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