Progress Report for Moran Foundation Funded Work

Principal Investigator: **Graeme Mardon, Ph.D.**

Project Title: **Genes Required for Mammalian Eye Development**

Project Year: **1998-1999**

Project Number: **98-0094**

Summary of Progress

The overall goal of this project was to look for find the important targets of *dachshund* gene in both *Drosophila* and the mouse. *dachshund* is required for normal eye and leg development in *Drosophila* and we have recently found that mouse *Dach-1* is required for normal lung development (G.M., manuscript in preparation). We proposed to use a technique called Representational Difference Analysis or RDA to find such genes. However, since the genome projects for both mouse and *Drosophila* are advancing so rapidly, we now plan to use a new, more powerful approach called microarray analysis. This technique takes advantage of the fact that more than 8000 cloned and sequenced genes are now available at Baylor for both mouse and *Drosophila* and that Baylor has a microarray facility that will soon be producing DNA chips (glass slides) that each carry up to 10,000 genes spotted as small dots in a known array. These chips will be hybridized with RNA made from *dachshund* mutant and wild type RNA from both mouse and *Drosophila*. Hybridization profiles are compared and in a single experiment we will be able to analyze the effects of *dachshund* loss- or gain-of-function on the expression of thousands of genes. We are now preparing RNA samples and chips will be ready by the end of the year.

This project is still in progress.

This work benefited greatly from Moran Foundation funding and we appreciate your support.