

## James & Esther King Biomedical Research Program

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*2011 Program  
Technology Transfer Feasibility  
(1-year project)*

**Project Title:** A Method of Producing Recombinant RdCVF Protein

**Project Summary:** The long-term goal of this research is to understand Age-related Macular Degeneration (AMD) and find ways to save and restore vision for AMD patients. AMD is the leading cause of irreversible vision loss in people over 65 years old in developed countries. A well-established risk factor for AMD is cigarette smoking. AMD affects cone photoreceptors in the macula, the center of the retina critical for fine and color vision. Patients with AMD lose their central vision because of death of cones. Although there is no treatment for cone degeneration, several treatment strategies are under active investigation. Protection of cone cells from degeneration by neurotrophic factors is a strategy known as neuroprotection. One such factor, ciliary neurotrophic factor or CNTF is being tested in clinical trial for AMD. Another factor, known as Rod derived Cone Viability Factor or RdCVF holds great promise for treating AMD. However, this factor is not available. My lab is developing a low-cost technology for large-scale production of RdCVF. Our preliminary studies show that the expression of recombinant human RdCVF is robust, and the purification steps could be optimized. In this grant, we plan to optimize the purification steps of this technology for large-scale commercial production of recombinant human RdCVF. This technology will help to accelerate the development of RdCVF as a therapy for AMD.