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My research concerns experimental cell transplantation. Cell transplantation can be used for therapeutic purposes (cell therapy) and for pure basic science studies. Under appropriate conditions, transplanted cells can re-form an organ or a tissue structure. If they are genetically modified before they are transplanted they can be used to deliver a gene product, or can be used to detect the levels of a substance in the body (i.e., they can act as a biosensor). If they are genetically modified with oncogenes they can be transformed into a benign or malignant tumor. Over the past few years we have principally used two types of cells in these studies. In the cellular senescence and tumorigenesis work we have focused recently on human fibroblasts. In most of the other work we have used bovine or human adrenocortical cells. The following are the projects that are ongoing in the lab.

Current cancer biology projects in the lab:

Cellular senescence, telomeres, telomerase, and tumorigenesis

- hTERT role in tumorigenesis - safety of hTERT in cell therapy
- effects of hTERT other than telomere maintenance
- role of senescent cells in tumorigenesis