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Novel research tool: developed a rapid assay for regeneration of nerve cell *in vitro* which is now in use by many research groups around the world.

Provided the essential tissue culture expertise to enable the Spinal Cord Research Centre to begin work on development of neural stem cells for transplantation (with R. Brownstone, S. Hochman, and L. Jordan).

Provided protein purification expertise to enable the Spinal Cord Research Centre to pursue studies on the characterization of amyotrophic lateral sclerosis immunoglobulin-induced pathophysiology in mouse spinal cord neurons *in situ* (with R. Brownstone).

A thin-slice explants assay for spinal cord regeneration: developed co-culture systems using brain and spinal cord explants containing specific pathways identified in other laboratories of the Spinal Cord Research Centre. Such an *in vitro* model is an essential step in the process of producing successful regeneration in important functional pathways from the brain to the spinal cord (with S. Hochman).

Partition Culture System: This multi-chambered device is a highly effective system for *in vitro* studies of growth behavior, development profile, environmental influence, and drug effect on all kinds of normal and diseased cells of different tissue origins. The invention is being patented through the University of Manitoba for ultimate commercialization.

Spinal Cord Research Centre: Next Steps

- Proceed with genetic modification of neural stem cells to optimize their survival, growth, ability to find appropriate targets and make appropriate connections, and to control their differentiation into the cells which need to be replaced in specific nervous system sites (with R. Brownstone, S. Hochman and L. Jordan).
- Continue development of co-culture systems for discovery of novel factors which can be used to optimize regeneration and reconnection in important functional pathways affected by spinal cord injury. This approach is targeted to discovery of potential therapeutic agents which can be protected by patent and developed commercially.