



Re: Collaboration on Multiple Sclerosis vaccine development with Extracellular Concepts

Dr. Monte Miller,

I'm writing this letter of support regarding your proposal to develop a therapeutic and vaccine for Multiple Sclerosis in combination with Extracellular Concepts. As you know, treatment of autoimmune and neurodegenerative disorder with exosomes is a very promising frontier, especially with these diseases where (dys)regulation of inflammation is crucial to inhibiting or stopping disease progression. The ability of Extracellular Concepts to modify exosomes, both the external shell and intracellular payload, will prove crucial in moving the field of precision medicine forward. Extracellular Concepts therapeutics in combination with funding from the Stowe Foundation will provide early proof of concept and will directly translate into clinical trials.

I believe that my laboratory at Oklahoma State University is uniquely suited for performing and collaborating with you on this research. Regarding specific resources that are available in my laboratory, we have extensive expertise and experience with rodent models of disease (including but not limited to: diabetes, hypertension, viral infection, inflammation, obesity). We have a state-of-the-art surgery suite available and have active protocols for administration of drugs via IP, SubQ, or intranasal delivery. Further, we have the equipment and an established protocol for assessing muscle function *in vivo* (measuring indices like muscle force, fatigue, calcium handling), a crucial point given the significant muscle impairment and weakness that MS patients typically present with. We also have access to an array of metabolic, molecular, and behavioral equipment, should those bring value to this project.

On a personal note, we've discussed that my Aunt passed away a few years ago after suffering from Multiple Sclerosis for over 20 years. It is a debilitating disease and watching an active vibrant member of my family slowly fade from a disease that is essentially "untreatable" is not something I would wish on anyone else. As such, I strongly support and otherwise advocate for research that boldly approaches novel methods and therapeutic targets for diseases where there is no cure.

Taken together, I am quite enthusiastic about the possibilities for this work! I and my laboratory would be excited to work with you, your team, and the Stowe Foundation on this exciting research. Please don't hesitate to reach out via email or my cell (859) 338-7965 if you need anything.

Respectfully,

A handwritten signature in black ink that reads "Joshua T. Butcher".

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