Update on the New Hope Phase 2 Study

With the generous funding and continued support from the Finding a Cure for DM Foundation, the Phase 2 study of the New Hope project allowed us to make further progress in demonstrating the use of the U1 Adaptor Oligonucleotide (U1AO) gene silencing technology for the therapeutic application to DM. The U1AO design is notable for its efficiency in uptake, potency, and specific and long-lasting target effect, without any induction of immune response and it represents an ideal candidate for DM.
The aim of the study was to show that a U1AO formulation able to silence canine SOD1, called U1cSOD1, administered intrathecally (into the CSF) to both normal and endstage DM-affected dogs would be well-tolerated with no adverse effects and would achieve silencing of the canine SOD1 gene. We have demonstrated that U1cSOD1 achieves therapeutically relevant SOD1 gene-silencing in dogs with and without DM. Our work has allowed to conclude the following:

- Treatment with U1cSOD1 does not cause any side effects in dogs.
- U1cSOD1 does silence the mutated SOD1 gene in dogs.

This work resulted in the identification of U1cSOD1 as a promising treatment for DM due to the following successful results:

- U1cSOD1 maintains its high efficacy and stability in dogs.
- U1cSOD1 is safe in dogs.
- U1cSOD1 effectively silences expression of the SOD1 gene in dogs with DM.

Thanks to this phase of work funded by the Finding a Cure for DM Foundation we were able to obtain a grant from the Morris Animal Foundation to treat dogs with DM. In this clinical trial we are evaluating the safety and clinical effects of monthly U1cSOD1 treatment in DM dogs. We are glad to report that the Morris study is going very well and that we now feel very confident about the safety of our therapy.

In view of this and to gather data that would be required to fund an extensive DM clinical trial, which is our long-term goal, we have initiated work to look at the route, dose and dosing frequency needed to achieve the best results by measuring levels of U1cSOD1 and SOD1 in the blood, urine and CSF of dogs undergoing treatment. The ultimate goal is to find the efficacious dose and dosing frequency with the least invasive delivery method for the dogs to minimize the number of treatments needed.