FCDMF: PROJECT "NEW HOPE" 2017 STUDY ANNOUNCEMENT 7/3/2017

As most of you who follow us are aware, "*Finding the Cure for DM Foundation, Inc*" has been contributing to DM research, with the ultimate goal to help treat or cure Canine Degenerative Myelopathy. After many years of research, these projects have not given us much hope for the rapid development of a cure or treatment for DM.

Last year, thanks to all who have supported us, FCDMF initiated our own efforts to sponsor a new research study, **Project New Hope**, by funding "*Silagene, Inc*." to evaluate an innovative gene silencing approach toward finding treatment for DM symptoms. Designed and specifically intended to help our canine companions, we had very positive preliminary results.

The work funded in our 2016 initial study gave good results for the silencing of both the SOD1 and DLA-DRB1 genes. Contrary to what happens for ALS, investigating DRB1 has led scientists to believe that GSDM may be a different "type" of DM, inherently more like PPMS (Primary Progressive MS.) We now push forward with PHASE TWO of Project New Hope with renewed determination to seek help for our beloved family of pets.

While there are millions of dollars invested in ALS research, the ALS society has also invested hundreds of thousands of dollars in the DM Research being conducted at other Universities, along with thousands of dollars contributed by the dog breed associations. However, these research efforts have not provided enough advances on Degenerative Myelopathy, and FCDMF continues to struggle for sufficient funds to be truly dedicated only to supporting our pups, with DM research.

While any research conducted is commendable, one of the main focuses of the *Finding the Cure for DM Foundation* initiative is to help fund or initiate new research projects which would be specifically tailored to our DM dogs.

Our Canine Companions are our number one priority here at FCDMF!

Now there is "New Hope, PHASE TWO!"

FCDMF has sought out and *finally* secured sponsorship for our very first study of silencing the Canine SOD1 Gene in Dog Central Nervous System for Treatment of Degenerative Myelopathy. With the availability of dogs, this is a preliminary *CANINE PILOT TRIAL* that will represent a solid foundation for more extensive clinical trials.

As most are aware**,** conducting scientific research as provided by this Phase 2 study is, for our small organization, very cost prohibitive, and extremely lengthy. It typically costs hundreds of thousands of dollars, and takes many, many years, as can be verified from other ongoing studies, yet still we have no confirmed, affordable treatment for Degenerative Myelopathy.

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We have been fortunate enough to have a found a dedicated team of experts who are cutting costs and donating much of their labor and services to help us help our beloved companions. This is an extremely good investment for the Foundation, its donors, and our DM babies, and hopefully a giant step closer toward finding treatment or a cure for this disease that has taken far too many of our babies, much too soon.

This phase 2 study also permits us to initiate this high caliber project with very modest funding, which in turn will give us results on which to base future steps of the project in a very short time.

YOUR SUPPORT HAS MADE THIS HAPPEN!!

We are very excited to tell you now that FCDMF is once more contracting with the Science Team at *Silagene*, and also with a prominent Veterinary Neurologist at *North Carolina State CVM*, to perform a pilot canine clinical trial using Silagene's patented technology!

Dr. Natasha Olby, Professor of Neurology and Neurosurgery at *NC State CVM,* is ready, excited, and committed to this *NEW DM STUDY.* Under her watchful eye, we are filled with hope to find a promising drug therapy, intended for treatment for our DM afflicted pets. We offer you now, further information about project ***"New Hope." Phase two!***

After careful review and consideration, Finding the Cure for DM Foundation feels it to be in the best interest of our DM babies, the best use of your collective donation dollars, and as the next natural step of the 2016 study, to sponsor this second phase of project New Hope.

While this next phase sounds very exciting and promising, please keep in mind that Project New Hope may continue for quite some time (as research does) and will require continual funding during this process. Follow ups to Phase 2 will be even more in depth, tested with canines, and require much more funding. However, we are hoping that once this phase 2 is complete, we will be in a better position to appeal to larger corporations to help support the costly clinical trials in a way that most of us cannot.

Below, you will find information about the Project Research Team that is so dedicated and committed to researching therapy for our special DM family members, as well as the project description.

Project Research Team:

Silagene Inc. is a Rutgers University "spin-out" company founded by Drs. Samuel Gunderson and Rafal Goraczniak, the two inventors of the new gene silencing technology called U1 Adaptor technology.

Dr. Samuel Gunderson is President and co-founder of Silagene Inc. and Associate Professor of Molecular Biology and Biochemistry at Rutgers University. He holds several gene silencing patents, and has had many years of continuous NIH funding to support his research laboratory at Rutgers.

Dr. Rafal Goraczniak is currently the Chief Science Officer at Silagene Inc. He co-invented the U1 Adaptor technology while working in Dr. Gunderson's laboratory. Previously, he worked at the Cleveland Clinic Foundation and at UMDNJ.

Dr. Natasha Olby is a Professor of Veterinary Neurology and Neurosurgery at NC State College of Veterinary Medicine. She is board certified in the American College of Veterinary Internal Medicine Neurology Specialty and is a past president of the organization (2008-2011). She is the author or co-author of more than 100 scientific publications, is the co-editor of both the British Small Animal Veterinary Association (BSAVA) Manual of Canine and Feline Neurology, and Advances in Veterinary Neurology, 2014. Vet Clinics of North America.
Additionally, Dr. Olby authors book chapters in a variety of veterinary textbooks and manuals.

Project Description:

Treatments that can alter the progressive course of DM disease have been difficult to identify and implement. The pathogenesis of DM is incompletely understood, but widely believed to be driven by mutations in the SOD1 gene.
Moreover, delivery of therapeutics to the nervous system presents special challenges. This study proposes initial testing of a novel therapeutic modality that draws upon a recent innovation in therapeutic gene silencing, using U1 Adaptor oligonucleotides.

Gene silencing has attracted much attention, as the ability to silence a disease-causing gene would offer clinicians and veterinarians new personalized therapy that targets the root cause of the disease that is the gene. As a therapeutic approach, gene silencing does not modify or in any way alter the genetic makeup of the patient and is not inheritable. In spite of initial hype and excitement, older gene silencing technologies have struggled to produce effective therapies, largely because the drug molecules are unstable and hard to deliver into the diseased cells, thus requiring high doses to achieve efficacy, but with consequent toxicity.

This study utilizes the novel and patented U1 Adaptor technology that offers a solution because it is *very stable and easily delivered to diseased cells in the body, without compromising biological activity*.

In this second phase of the study, Silagene is dedicated to an intensive laboratory effort to design and manufacture U1 Adaptor formulations able to silence SOD1 in dog nervous system and to data analysis. The pilot trial will take place at North Carolina State CVM, with Dr. Olby serving as Principal Investigator. Note: We have not ruled out the possibility to support research specifically for a different type of DM in *German Shepherd Dogs*. We hope to move forward with this possibility as well, at a later date.

Project Summary:

We anticipate this study to be done in three stages and will involved a small number of treated dogs that will be compared to baseline control dogs. A couple of dogs will be treated at one time in order to analyze results and adjust doses and duration for the following treatment. In this first stage of work, a safe and effective dose will be determined.
Results of this study will be the necessary foundation for a more extensive clinical trial that would be conducted with DM dogs.
It is important to note that the Foundation was able to support this study at a minimum cost, and having the principal investigators donating their time to set the basis for future study. A lot will be learned from this second phase of the New Hope project that will help us take major steps forward in designing a therapy for DM.
Silagene will manufacture the test material and the treatment of dogs will be conducted at NCSU. Analysis of results will be done both at NCSU and Silagene.

The total sum required to fund this study is $38,000, which covers all the material and lab procedures, and the labor that we have been successful in obtaining at no cost. Due to the fact that the study is organized in three distinct steps, with the results of each step feeding into the following step, the Foundation has the great advantage of being able to fund each step of the study separately, according to the timeline of the work progress. The envisaged duration of the study is one year and the Foundation will be able to stop the study at the end of each step should that become necessary.

Due to FCDMF being very frugal with your generous donations, we are pleased to say we are in a position to begin this research project. However, we have available only $22,000, leaving us needing $16,000 to fully complete this pilot trial. As we would want to see this study completed, so that an extensive clinical trial could then be performed with the potential of a successful therapy for DM, we are in need of more funding.

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We will continue our Fundraising events, and welcoming either monetary donations, or contributions through the "Donation Station" on our website. We also hope those of you that initiate other and creative fundraising activities will continue supporting FCDMF in this manner. Every dollar will help in some way, so no amount is too small!

FCDMF is extremely excited, and very optimistic about this new and innovative study, and are so thankful to finally see additional interest in research specifically dedicated to finding a potential therapeutic for our DM companions!
We hope that you are as well!
Silagene and NC State will work with FCDMF to provide periodic updates, as this study progresses.

We appreciate you and your continued support tremendously, and look forward to "***New Hope***" in treating Canine Degenerative Myelopathy!

With ***New Hope*** in our hearts,

Cindy, Mindy, Renee, Debbie, & Stephanie

The Finding the Cure for DM Foundation Team

www.cure4dm.com