



Excitant Therapeutics University of Oklahoma

“We saw the opportunity to develop far less invasive treatments for specific eye diseases.”

A growing body of evidence indicates that pharmacological activation of Peroxisome Proliferator-Activated Receptor- α (PPAR- α) can ameliorate symptoms of diabetic retinopathy (DR), a common cause of vision impairment in diabetic patients, in both pre-clinical and clinical studies.

Dr. Henry Shin, a Ph.D. at the University of Oklahoma Health Sciences Center (OUHSC) had been deeply involved in ophthalmic research and received his doctorate while studying under Dr. Jian-Xing (Jay) Ma, a widely renowned researcher in visual science and diabetic retinopathy.

Dr. Shin was introduced to studies showing how oral delivery of drugs that activate PPAR-a in type II diabetic patients have reduced prevalence of diabetic retinopathy. Based on the compelling evidence from these studies, Dr. Shin embarked on a new drug development endeavor that has the potential to improve treatment protocols for diabetic retinopathy by offering a less invasive, yet effective solution. As yet, there are no FDA-approved drugs for DR that target PPAR-a.

The current gold standard for therapy for diabetic retinopathy fails to treat approximately 40% of patients and involves monthly injections directly into the eye. Such injectable therapeutics mainly target a molecule known as VEGF (Vascular Endothelial Growth Factor) that is found at abnormally high levels in DR. However, diabetic retinopathy is a complex disorder that involves many other factors, which is why a newer therapeutic strategy is needed to improve patient outcome.

Now Dr. Shin, Dr. Ma and Dr. Adam Duerfeldt, a Ph.D. medicinal chemist, have formed Excitant Therapeutics to pursue the idea and bring eye-related therapeutics to market. They are currently developing structurally unique, non-fibrate small-molecule oral drugs to target PPAR-a for diabetic retinopathy. By optimizing drug designs for non-invasive systemic delivery, their approach may offer diabetic patients, along with those suffering from age-related macular degeneration, a revolutionary therapeutic option.

In 2019, Excitant successfully secured a Phase I Small Business Innovation Research (SBIR) award from the National Eye Institute to further advance the technology they had licensed from OUHSC.

However, to move forward into Phase II, they recognized that finding a resource that could provide expert guidance to help them be successful was exactly what they needed. That's when they were introduced to SHARPhub and decided to partner with them to help prepare for the Phase II application.

"No matter how great your technology may be, you still need to put together the most impressive proposal possible," said Dr. Shin. "Having a supportive resource like SHARPhub provided valuable insights to help prepare our proposal."

The SHARPhub team of experienced consultants was able to assist the Excitant group by identifying weak spots in the proposal and recognizing potential "red flags." They verified numbers, anticipated problem areas and discovered issues that Excitant may have overlooked.

In other words, they delivered a wealth of resources and the guidance necessary to produce a strategically powerful and accurate proposal that gives them an excellent chance to win their Phase II award.

"I completely understand the science behind what we're doing, but I didn't understand the business end of things as well as I need to," acknowledged Dr. Shin. "Successfully applying for a Phase II grant is even more demanding than our first applications, and SHARPhub gave us the expert guidance we needed."