

Idaho Incubation Fund Program

Progress Report Form

Proposal No. IF14-009
Name: Guang Yan
Name of Institution: Idaho State University
Project Title: Cationic Prodrugs to Improve Topical Treatment of MSD
Reporting Period: December 20th 2013 to June 26th 2014

Information to be reported in your progress report is as follows (attach additional information as needed):

1. Summary of project accomplishments for the period just completed and plans for the coming reporting period:
Accomplishments:
 - 1) We have filed the provisional patent to USPTO on April 17th.
 - 2) We have conducted additional in vivo study with rats and determined the amount of drug delivered into the knee joint. There are more drug delivered to the knee with the cationic prodrug approach.
 - 3) We have successfully established an arthritis rat model. We applied the drug or the cationic prodrug to the knee area. In the rats the treated with the cationic prodrug, the swollen of the knee was significantly reduced compared to the control group, and the pain from the arthritic knee was significantly less than the control group.
 - 4) We have started to contact third party for the technology.
2. Summary of budget expenditures for the period just completed (include project burn rate):
As of June 26th, the total amount of expenditure is \$50,000. We used up the entire fund. The burn rate is around \$4200 per month.
3. Numbers of faculty and student participation resulting from the funding, including internships:
There are one faculty and two graduate students participated in this project.
4. List patents, copyrights, plant variety protection certificates received or pending:
We filed a [provisional patent to the USPTO on April 17th.

5. List technology licenses signed and start-up businesses created:
We have not reached that stage yet.

6. Status of private/industry partnerships (include enough information to judge level of engagement):
We have not reached that stage yet.

7. Any other pertinent information that will indicate to the council that the project is meeting satisfactory progress.

We have obtained very promising results. The cationic prodrug did show better efficacy than their parent drug for topical treatment of arthritis pain and inflammation. This is a very promising technology. We will engage the contact with third party for possible further development of the technology.