

Answering reviewers of “Chitosan paste for local antibiotic delivery”:

To Reviewers,

First off, let me express my appreciation for taking the time to read and review the manuscript. The constructive comments and criticism help to improve the final version of the manuscript and also guide future work in a more positive direction. The goal of this letter is to not only thank the reviewers but also try to address the majority of specific comments or questions about the article. The abstract has been revised in order to make it a more concise review of the report as opposed to the specific studies conducted. While, it is true that the time frame and design of the *in vivo* functional model are not ideal for long term orthopedic models, the model successfully served as a proof of concept, exhibiting the antimicrobial potential of the device. As the paste development progresses and becomes more focused, *in vivo* studies will be more large scale, performed over a longer period of time, and involve representative musculoskeletal tissue. It was agreed Figure 7, detailing the adhesion studies, was unnecessary and has been removed. A short paragraph addressing the use of vancomycin and amikacin has been added to the text:

“Vancomycin and amikacin are both optimal for local delivery to musculoskeletal trauma, and were used for all studies involving antibiotics. Vancomycin is effective against *S. aureus* which can evolve into methicillin resistant *S. aureus* (MRSA), a difficult to treat strain of bacteria attracted to open and avascular musculoskeletal wounds. Amikacin has a broad spectrum of efficacy including against Gram negative bacteria, such as the biofilm forming *P. aeruginosa*. Both antibiotics are considered reliable because they’re capable of sustained activity over an extended elution time, storage time, or variable environmental conditions such as a low pH.”

Once more, I am very grateful to the reviewers of this paper that took the time to read the text and offer suggestions to make it a better publication.