**Responses to the editor and reviewers’ comments:**

* ***JoVE reference format requires that DOIs are included, when available, for all references listed in the article. This is helpful for readers to locate the included references and obtain more information. Please note that often DOIs are not listed with PubMed abstracts and as such, may not be properly included when citing directly from PubMed. In these cases, please manually include DOIs in reference information****.*

This comment has been implemented.

* + ***If you are re-using figures from a previous publication, please obtain explicit permission to re-use the figure from the previous publisher (this can be in the form of a letter from an editor or a link to the editorial policies that allows you to re-publish the figure). Please upload the text of the re-print permission (may be copied and pasted from an email/website) as a Word document to the Editorial Manager site in the "Supplemental files (as requested by JoVE)" section. Please also cite the figure appropriately in the figure legend, i.e. "This figure has been modified from [citation]."***

All figures used in this manuscript are new ones that have not been published.

* ***Formatting: Introduction, 3rd paragraph – Please include citations for these claims.***

Done.

* ***Please copyedit the manuscript for numerous grammatical errors and awkward phrasing, some of which are described below. Such editing is required prior to acceptance and should be performed by a native English speaker.***

-***Line 59 – “sequel of”***

The ″sequel of″ has been replaced with ″consequence of″.

-***Line 69 – United government?***

The “United government” has been replaced with ″Government of the United States″.

-***Line 76 – “relatively burgeoning weapon” – please clarify***

The sentence has been rewritten.

-***Line 83 – “We have been able to gain access to the power given by bioluminescent pathogenic bacteria” – please rephrase; it is unclear how these bacteria have a power to which one would gain access***

This sentence has been rephrased.

-***Line 90 – “In virtue”***

The “In virtue of” has been replaced with ″Through″.

-***Line 92 – “using minimized number of mice”***

The phrase has been changed to ″significantly reduced number of mice″.

***-3.2 – “Optical Support Rod” should be lower case; otherwise this gives the impression of a brand name; “the LED move up”***

The comment has been implemented and the typo has been corrected. Thanks.

***-2.2, 3.7, 4.2 – “a fair anesthetic depth” – use “******appropriate” instead.***

Done.

***-3.10 – “altitude” – use “height” instead; “positon” typo***

Thanks. The comment has been implemented and the typo has been corrected.

***-3.11 – use “dose” instead of “aliquots”***

We still think “aliquots” is a more appropriate word here.

***-Line 253 – “Silver ions…is”***

This sentence has been deleted with the whole paragraph.

***-Line 264 – “******we can access to”***

Corrected as ″*we can have the access to*″. Thanks for catching this typo.

***-Line 294 – “******inoculum frequently fail”***

The typo has been corrected. Thanks for catching it.

***-Line 298 – “found that under the same conditions” – thought is incomplete***

Corrected.

***-Line 306 – “are suggested being protected”***

Corrected as ″*it is suggested the eyes of mice be protected* ″.

***-Line 312 – “******the following issue is worth attention: (1) the” – no need to number a single point, so delete the 1.***

Done.

***-Line 318 – “******expended” – wrong word***

The sentence has been rephrased.

***-The discussion section must be extensively edited for clarity and proper construction of lists.***

The section has been significantly revised in accordance with the editor’s comment.

***• Additional detail is required:***

***-2.5 – How long does*** ***thermal equilibration take?***

The thermal equilibration takes several minutes and could be determined by the re-boiling of the water. This statement has been added to the manuscript.

***-3.11 – Are doses given on the same day or different days? How long does each treatment last?***

Doses are given on the same day. Light is continuously delivered only with intervals for bioluminescence imaging. The treatment duration depends on the total light exposure required to eradicate infection and light irradiance. For *eg.*, in our study, a maximum of 360 J/cm2 was delivered, which was a total 60-min irradiation at a fluence rate of 100 mW/cm2.

***-From the discussion, suggestions like*** ***protecting the eyes of mice with foil or moistening the skin with PBS prior to imaging should appear in the protocol section.***

We thank the editor for the constructive suggestion, which has been implemented.

**Reviewer #2:**

**Major Concerns:**

* ***Experimental procedure and methods are logical and correct sufficiently. However, this paper have little novelty in idea, method and conclusion because similar studies have been published already especially in burn wound model and pathogen (Acinetobacter baumannii). There are many original and review papers about bioluminescence of bacterial infection. There is no evidence or experiment to biofilm in Fig B although it is fully supposed.***

We thank the reviewer’s comments and totally understand the reviewer’s concern. We have published a paper regarding the use of the antimicrobial blue light against acute *Acinetobacter baumannii* infections using burn mouse model. Meanwhile, we are aware that there have been many published papers on the bioluminescence of bacterial infection. However, what we are discussing in this paper are **the details of an experimental protocol** to assess the effectiveness of antimicrobial blue light therapy for infection in a mouse model of burn injury. The use of bioluminescent bacterial strain herein works as a convenient and suitable tool for the assessment, however it is not the main goal of our work.

Fig 1B representatively shows the presence of biofilms in the mouse burns 24 h post-inoculation, while Fig 1A demonstrates that 24-h infection in mouse burns was eradicated after an exposure of 360 J/cm2 aBL had been delivered. As a result, Fig 1A and Fig 1B together indirectly indicate that aBL therapy was effective against biofilms. Since aBL is not only used to treat biofilm-associated infections, the experiment of biofilm is not fully discussed.

* ***After aPDT, figure of burn wound is necessary to compare with the first infected wound (Fig B).***

Thanks for the constructive suggestion. After blue light treatment, the bioluminescence of bacteria was eradicated, indicating an inactivation of the bacteria. However, gram staining only demonstrates the presence of bacteria but not the viability of bacteria, thus we would not expect much difference between the gram-stained samples before and after blue light treatment. However, we would consider to obtain the gram-stained samples several days after the blue light treatment, which would show the re-distribution of the bacteria and compare them with the first infected wound.

**Minor Concerns:**

* ***Reference should be corrected according to submission guideline***

Done.

**Reviewer #4:**

**Minor Concerns*:***

***Two minor points:***

* ***Page 4, line 115: Authors write "Use adult female*** ***BALB/c mice..." Is it not possible to use male mice? And about other mouse strains? Please discuss.***

Yes, it is possible to use male mice. The reason why we chose female mice is that they are less aggressive, and, therefore, are less prone to scratch and thus disruption of wounds.

Since the pigments of skin would absorb the photons emitted from the bioluminescent bacteria, it is better to use albinic mice for the burn infection model to minimize the error of bioluminescence monitoring. As a result, BALB/c strain was chosen for our study.

* ***Page 9, line 297 - 299: Authors report "******We have also studied other bacterial species...bacterial inoculum). The infections ..." Please check this phrase. I think that the dot should be removed.***

Thanks for catching this typo. The dot has been removed.