Discovery of two inhibitors of the type IV pilus assembly ATPase PilB as potential antivirulence compounds

Keane Dye, Nancy Vogelaar, Megan O'Hara, Webster Santos, Pablo Sobrado, Paul Carlier, and Zhaomin Yang

Corresponding Author(s): Zhaomin Yang, Virginia Tech

Review Timeline:

- Submission Date: September 26, 2022
- Editorial Decision: October 14, 2022
- Revision Received: October 25, 2022
- Editorial Decision: October 26, 2022
- Revision Received: October 26, 2022
- Accepted: November 1, 2022

Editor: Paolo Visca

Reviewer(s): Disclosure of reviewer identity is with reference to reviewer comments included in decision letter(s). The following individuals involved in review of your submission have agreed to reveal their identity: Phoebe Lostroh (Reviewer #2)

Transaction Report:

(Note: With the exception of the correction of typographical or spelling errors that could be a source of ambiguity, letters and reports are not edited. The original formatting of letters and referee reports may not be reflected in this compilation.)

DOI: https://doi.org/10.1128/specrum.03877-22
October 14, 2022

Prof. Zhaomin Yang
Virginia Tech
Biological Sciences
117 Life Sciences I
970 Washington St. SW
Blacksburg, VA 24061-0910

Re: Spectrum03877-22 (Discovery of two inhibitors of the type IV pilus assembly ATPase as antivirulence compounds)

Dear Prof. Zhaomin Yang:

Thank you for submitting your manuscript to Microbiology Spectrum. The manuscript has been evaluated by two experts in the field. Both reviewers provided constructive criticism and recommended few useful revisions and some clarification. I agree with them, and I recommend you to revise the manuscript according to the suggestions of the two reviewers.

When submitting the revised version of your paper, please provide (1) point-by-point responses to the issues raised by the reviewers as file type "Response to Reviewers," not in your cover letter, and (2) a PDF file that indicates the changes from the original submission (by highlighting or underlining the changes) as file type "Marked Up Manuscript - For Review Only". Please use this link to submit your revised manuscript - we strongly recommend that you submit your paper within the next 60 days or reach out to me. Detailed instructions on submitting your revised paper are below.

Link Not Available

Below you will find instructions from the Microbiology Spectrum editorial office and comments generated during the review.

ASM policy requires that data be available to the public upon online posting of the article, so please verify all links to sequence records, if present, and make sure that each number retrieves the full record of the data. If a new accession number is not linked or a link is broken, provide production staff with the correct URL for the record. If the accession numbers for new data are not publicly accessible before the expected online posting of the article, publication of your article may be delayed; please contact the ASM production staff immediately with the expected release date.

The ASM Journals program strives for constant improvement in our submission and publication process. Please tell us how we can improve your experience by taking this quick Author Survey.

Sincerely,

Paolo Visca
Editor, Microbiology Spectrum

Journals Department
American Society for Microbiology
1752 N St., NW
Washington, DC 20036
E-mail: spectrum@asmusa.org

Reviewer comments:

Reviewer #1 (Comments for the Author):

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Staff Comments:

Preparing Revision Guidelines
To submit your modified manuscript, log onto the eJP submission site at https://spectrum.msubmit.net/cgi-bin/main.plex. Go to Author Tasks and click the appropriate manuscript title to begin the revision process. The information that you entered when you first submitted the paper will be displayed. Please update the information as necessary. Here are a few examples of required updates that authors must address:

• Point-by-point responses to the issues raised by the reviewers in a file named "Response to Reviewers," NOT IN YOUR COVER LETTER.
• Upload a compare copy of the manuscript (without figures) as a "Marked-Up Manuscript" file.
• Each figure must be uploaded as a separate file, and any multipanel figures must be assembled into one file.
• Manuscript: A .DOC version of the revised manuscript
• Figures: Editable, high-resolution, individual figure files are required at revision, TIFF or EPS files are preferred

For complete guidelines on revision requirements, please see the journal Submission and Review Process requirements at https://journals.asm.org/journal/Spectrum/submission-review-process. Submissions of a paper that does not conform to Microbiology Spectrum guidelines will delay acceptance of your manuscript.

Please return the manuscript within 60 days; if you cannot complete the modification within this time period, please contact me. If you do not wish to modify the manuscript and prefer to submit it to another journal, please notify me of your decision immediately so that the manuscript may be formally withdrawn from consideration by Microbiology Spectrum.

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Corresponding authors may join or renew ASM membership to obtain discounts on publication fees. Need to upgrade your membership level? Please contact Customer Service at Service@asmusa.org.

Thank you for submitting your paper to Microbiology Spectrum.
Response to Reviewers

We would like to thank both reviewers for your kind and constructive review of our manuscript. We greatly appreciate your expertise, time and efforts in providing timely and valuable comments and feedbacks on our manuscript. The peer review process would not work as intended otherwise.

Reviewer #1 (Comments for the Author):

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**Response:** We agree that understanding the mechanisms of inhibition by these drugs are important. We consider that the determination of the precise mechanisms is beyond the scope of this manuscript.
October 26, 2022

Prof. Zhaomin Yang
Virginia Tech
Biological Sciences
117 Life Sciences I
970 Washington St. SW
Blacksburg, VA 24061-0910

Re: Spectrum03877-22R1 (Discovery of two inhibitors of the type IV pilus assembly ATPase PilB as antivirulence compounds)

Dear Prof. Zhaomin Yang:

Thank you for submitting your manuscript to Microbiology Spectrum. As you will see your paper is very close to acceptance. Please modify the manuscript along the lines I have recommended. As these revisions are quite minor, I expect that you should be able to turn in the revised paper soon. If your manuscript was reviewed, you will find the reviewers’ comments below.

My Editor's comment to your revised manuscript is:
I agree with comment 4 of Reviewer 1, as no experimental data are provided to confirm virulence inhibition. This issue should be addressed by adequate cellular and animal models, that exceed the scope of this manuscript. Therefore, I recommend more caution in the title, that should be slightly modified as follows: “Discovery of two inhibitors of the type IV pilus assembly ATPase PilB as potential antivirulence compounds”.
Please, notice that the acceptance of the title by Reviewer 2 does not imply that the comment of Reviewer 1 is inconsistent.

When submitting the revised version of your paper, please provide (1) point-by-point responses to the issues raised by the reviewers as file type "Response to Reviewers," not in your cover letter, and (2) a PDF file that indicates the changes from the original submission (by highlighting or underlining the changes) as file type "Marked Up Manuscript - For Review Only". Please use this link to submit your revised manuscript. Detailed instructions on submitting your revised paper are below.

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The ASM Journals program strives for constant improvement in our submission and publication process. Please tell us how we can improve your experience by taking this quick Author Survey.

Sincerely,
Paolo Visca
Editor, Microbiology Spectrum

Reviewer comments:
None

Preparing Revision Guidelines

To submit your modified manuscript, log onto the eJP submission site at https://spectrum.msubmit.net/cgi-bin/main.plex. Go to Author Tasks and click the appropriate manuscript title to begin the revision process. The information that you entered when you first submitted the paper will be displayed. Please update the information as necessary. Here are a few examples of required updates that authors must address:

• Point-by-point responses to the issues raised by the reviewers in a file named "Response to Reviewers," NOT IN YOUR COVER LETTER.
• Upload a compare copy of the manuscript (without figures) as a "Marked-Up Manuscript" file.
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• Manuscript: A .DOC version of the revised manuscript
• Figures: Editable, high-resolution, individual figure files are required at revision, TIFF or EPS files are preferred

For complete guidelines on revision requirements, please see the journal Submission and Review Process requirements at https://journals.asm.org/journal/Spectrum/submission-review-process. **Submissions of a paper that does not conform to Microbiology Spectrum guidelines will delay acceptance of your manuscript.**

Please return the manuscript within 60 days; if you cannot complete the modification within this time period, please contact me. If you do not wish to modify the manuscript and prefer to submit it to another journal, please notify me of your decision immediately so that the manuscript may be formally withdrawn from consideration by Microbiology Spectrum.

If your manuscript is accepted for publication, you will be contacted separately about payment when the proofs are issued; please follow the instructions in that e-mail. Arrangements for payment must be made before your article is published. For a complete list of **Publication Fees**, including supplemental material costs, please visit our [website](https://journals.asm.org).

Corresponding authors may [join or renew ASM membership](https://asmusa.org) to obtain discounts on publication fees. Need to upgrade your membership level? Please contact Customer Service at Service@asmusa.org.

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November 1, 2022

Prof. Zhaomin Yang
Virginia Tech
Biological Sciences
117 Life Sciences I
970 Washington St. SW
Blacksburg, VA 24061-0910

Re: Spectrum03877-22R2 (Discovery of two inhibitors of the type IV pilus assembly ATPase PilB as potential antivirulence compounds)

Dear Prof. Zhaomin Yang:

Your manuscript has been accepted, and I am forwarding it to the ASM Journals Department for publication. You will be notified when your proofs are ready to be viewed.

The ASM Journals program strives for constant improvement in our submission and publication process. Please tell us how we can improve your experience by taking this quick Author Survey.

As an open-access publication, Spectrum receives no financial support from paid subscriptions and depends on authors’ prompt payment of publication fees as soon as their articles are accepted. You will be contacted separately about payment when the proofs are issued; please follow the instructions in that e-mail. Arrangements for payment must be made before your article is published. For a complete list of Publication Fees, including supplemental material costs, please visit our website.

ASM policy requires that data be available to the public upon online posting of the article, so please verify all links to sequence records, if present, and make sure that each number retrieves the full record of the data. If a new accession number is not linked or a link is broken, provide production staff with the correct URL for the record. If the accession numbers for new data are not publicly accessible before the expected online posting of the article, publication of your article may be delayed; please contact the ASM production staff immediately with the expected release date.

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Thank you for submitting your paper to Spectrum.

Sincerely,

Paolo Visca
Editor, Microbiology Spectrum

Journals Department
American Society for Microbiology
1752 N St., NW
Washington, DC 20036
E-mail: spectrum@asmusa.org

Supplemental Material: Accept