

Peer Review Information

Journal: Nature Structural & Molecular Biology

Manuscript Title: Diverse silent chromatin states modulate genome compartmentalization and loop extrusion barriers

Corresponding author name(s): Job Dekker, George Spracklin

Editorial Notes:

Redactions – transferred manuscripts (mention of previous referee reports from elsewhere) This manuscript has been previously reviewed at another journal. This document only contains reviewer comments, rebuttal and decision letters for versions considered at Nature Structural & Molecular Biology. Mentions of prior referee reports have been redacted

Reviewer Comments & Decisions:

Decision Letter, first revision:

Message: Our ref: NSMB-A46086-T

8th Jun 2022

Dear Dr. Dekker,

Thank you for submitting your revised manuscript "Heterochromatin diversity modulates genome compartmentalization and loop extrusion barriers" (NSMB-A46086-T). It has now been seen by the original referees and their comments are below. The reviewers find that the paper has improved in revision, and therefore we'll be happy in principle to publish it in Nature Structural & Molecular Biology, pending minor revisions to satisfy the referees' final requests and to comply with our editorial and formatting guidelines.

We are now performing detailed checks on your paper and will send you a checklist detailing our editorial and formatting requirements in about a week. Please do not upload the final materials and make any revisions until you receive this additional information from us.

To facilitate our work at this stage, we would appreciate if you could send us the main text as a word file. Please make sure to copy the NSMB account (cc'ed above).

Thank you again for your interest in Nature Structural & Molecular Biology Please do not hesitate to contact me if you have any questions.

Sincerely,

Carolina

Carolina Perdigoto, PhD
Chief Editor
Nature Structural & Molecular Biology
orcid.org/0000-0002-5783-7106

Reviewer #1 (Remarks to the Author):

The revised version of the manuscript has improved clarity and addresses many of my previous comments. I agree that some of the experiments I originally suggested would need a stretch of work that might be kept for future work and I am in favour of publication of the current version of the manuscript.

Reviewer #2 (Remarks to the Author):

The authors have addressed all the points that I raised and I don't have further concerns about the work.

Reviewer #3 (Remarks to the Author):

The authors have responded to the remarks this reviewer has raised for the first submission of this manuscript [Redacted]. They either revising the manuscript or convincingly discussing why certain analyses were not possible. I find it acceptable for publication in Nature Structural & Molecular Biology, which is in my opinion a very suitable journal for this manuscript.

Decision Letter, author guidance:

Message: Our ref: NSMB-A46086-T

5th Jul 2022

Dear Dr. Dekker,

Thank you for your patience as we've prepared the guidelines for final submission of your Nature Structural & Molecular Biology manuscript, "Heterochromatin diversity modulates genome compartmentalization and loop extrusion barriers" (NSMB-A46086-T). Please carefully follow the step-by-step instructions provided in the attached file, and add a response in each row of the table to indicate the changes that you have made. Ensuring that each point is addressed will help to ensure that your revised manuscript can be swiftly handed over to our production team.

We would like to start working on your revised paper, with all of the requested files and forms, as soon as possible (preferably within two weeks). Please get in contact with us if you anticipate delays.

When you upload your final materials, please include a point-by-point response to any remaining reviewer comments.

If you have not done so already, please alert us to any related manuscripts from your group that are under consideration or in press at other journals, or are being written up for submission to other journals (see: <https://www.nature.com/nature-research/editorial-policies/plagiarism#policy-on-duplicate-publication> for details).

In recognition of the time and expertise our reviewers provide to Nature Structural & Molecular Biology's editorial process, we would like to formally acknowledge their contribution to the external peer review of your manuscript entitled "Heterochromatin diversity modulates genome compartmentalization and loop extrusion barriers". For those reviewers who give their assent, we will be publishing their names alongside the published article.

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Please use the following link for uploading these materials:
[Redacted]

If you have any further questions, please feel free to contact me.

Best regards,

Sophia Frank
Editorial Assistant
Nature Structural & Molecular Biology
nsmb@us.nature.com

On behalf of

Carolina Perdigoto, PhD
Chief Editor
Nature Structural & Molecular Biology
orcid.org/0000-0002-5783-7106

Reviewer #1:

Remarks to the Author:

The revised version of the manuscript has improved clarity and addresses many of my previous comments. I agree that some of the experiments I originally suggested would need a stretch of work that might be kept for future work and I am in favour of publication of the current version of the manuscript.

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The authors have addressed all the points that I raised and I don't have further concerns about the work.

Reviewer #3:

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The authors have responded to the remarks this reviewer has raised for the first submission of this manuscript [Redacted]. They either revising the manuscript or convincingly discussing why certain analyses were not possible.

I find it acceptable for publication in Nature Structural & Molecular Biology, which is in my opinion a very suitable journal for this manuscript.

Final Decision Letter:

Message 1st Nov 2022

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Dear Dr. Dekker,

We are now happy to accept your revised paper "Diverse silent chromatin states modulate

genome compartmentalization and loop extrusion barriers" for publication as a Article in Nature Structural & Molecular Biology.

Acceptance is conditional on the manuscript's not being published elsewhere and on there being no announcement of this work to the newspapers, magazines, radio or television until the publication date in Nature Structural & Molecular Biology.

Over the next few weeks, your paper will be copyedited to ensure that it conforms to Nature Structural & Molecular Biology style. Once your paper is typeset, you will receive an email with a link to choose the appropriate publishing options for your paper and our Author Services team will be in touch regarding any additional information that may be required.

After the grant of rights is completed, you will receive a link to your electronic proof via email with a request to make any corrections within 48 hours. If, when you receive your proof, you cannot meet this deadline, please inform us at rjsproduction@springernature.com immediately.

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Due to the importance of these deadlines, we ask that you please let us know now whether you will be difficult to contact over the next month. If this is the case, we ask you provide us with the contact information (email, phone and fax) of someone who will be able to check the proofs on your behalf, and who will be available to address any last-minute problems.

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Kind regards,
Florian

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