Intracellular adenosine regulates epigenetic programming in endothelial cells to promote angiogenesis

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PLEASE NOTE THAT THIS CHECKLIST WILL BE PUBLISHED ALONGSIDE YOUR PAPER

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Reporting Checklist for Life Sciences Articles (Rev. July 2015)

This checklist is used to ensure good reporting standards and to improve the reproducibility of published results. These guidelines are consistent with the Principles and Guidelines for Reporting Preclinical Research issued by the NIH in 2014. Please follow the journal's authorship guidelines in preparing your manuscript.

A. Figures

1. Data

The data shown in figures should satisfy the following conditions:

- the data were obtained and processed according to the field’s best practice and are presented to reflect the results of the experiments in an accurate and unbiased manner.
- figures include only data points, measurements or observations that can be compared to each other in a scientifically meaningful way.
- graphs include clearly labeled error bars for independent experiments and sample sizes. Unless justified, error bars should not be shown for technical replicates.
- if n > 3, the individual data points from each experiment should be plotted and any statistical test employed should be justified.
- source data should be included to report the data underlying graphs. Please follow the guidelines set out in the authorship guidelines on Data Presentation.

2. Captions

Each figure caption should contain the following information, for each panel where they are relevant:

- a specification of the experimental system investigated (e.g. cell line, species name).
- the assay(s) and method(s) used to carry out the reported observations and measurements.
- an explicit mention of the biological and chemical entity(ies) that are being measured.
- an explicit mention of the biological and chemical entity(ies) that are altered/changed/perturbed in a controlled manner.
- the exact sample size (n) for each experimental group/condition, given as a number, not a range.
- a statement of how many times the experiment was independently replicated in the laboratory.

Definitions of statistical methods and measures:

- common tests, such as t-test (please specify whether paired or unpaired), simple p-tests, Wilcoxon and Mann-Whitney tests, can be unambiguously identified by name only, but more complex techniques should be described in the methods section.
- * p-Tests one-sided or two-sided?
- are there adjustments for multiple comparisons?
- exact statistical test results, e.g., P-value > x but P-value < 0.05.
- definition of “center value” as median or average.
- definition of error bars as ± of s.d. or s.e.m.

Any discussions too long for the figure legend should be included in the methods section and/or with the source data.

Please ensure that the answers to the following questions are reported in the manuscript itself. We encourage you to include a specific subsection in the methods section for statistics, reagents, animal models and human subjects.

In the pink boxes below, provide the page number(s) of the manuscript draft or figure legend(s) where the information can be located. Every question should be answered. If the question is not relevant to your research, please write NA (non-applicable).

B. Statistics and general methods

1. How was the sample size chosen to ensure adequate power to detect a pre-specified effect size?

The minimum sample size and sample sizes required to achieve statistical significance were determined by power analysis and prior experience. Sample size per group can be found in the figure legends. See “Statistical analysis” section.

2. For animal studies, include a statement about sample size not even if no statistical methods were used.

See above. Statistical analysis used in each figure are indicated in figure legend.

3. Describe inclusion/exclusion criteria if samples or animals were excluded from the analysis. Were the criteria pre-established?

Data were used for experiments on hindlimb ischemia models and wound healing models to avoid additional variability due to the gender. No data were excluded from any of the experiments. See “Statistical analysis” section and “Appendix Materials and Methods” section.

4. Were any steps taken to minimize the effects of subjective bias when allocating animals/samples to treatment (e.g. randomization procedure)? If yes, please describe.

Randomization was used. Animals were grouped based on their age and genotype. See “Statistical analysis” section.

For animal studies, include a statement about randomization even if no randomization was used.

5. Please list out these boxes. Are not worry if you cannot see all your text once you press return.

C. Reagents

1. For every figure, are statistical tests justified as appropriate?

Yes, statistical tests are mentioned in the “Statistical analysis” section.

2. Are the data and the assumptions of the tests (e.g., normal distribution) described and methods used to assess it?

According to prior experience.

3. If there an estimate of variation within each group of data?

Yes, see figure legends.

4. If the variance similar between the groups that are being statistically compared?

Yes, see figure legends.

5. For every figure, are the biological replicates (including how many animals, litters, cultures, etc.) justified?

Not be shown for technical replicates.

6. Definitions of statistical methods and measures:

- the exact sample size (n) for each experimental group/condition, given as a number, not a range;
- an explicit mention of the biological and chemical entity(ies) that are being measured.
- the assay(s) and method(s) used to carry out the reported observations and measurements.
- a specification of the experimental system investigated (e.g. cell line, species name).

7. For animal studies, include a statement about randomization even if no randomization was used.

See above.

8. Are the data and the assumptions of the tests (e.g., normal distribution) described and methods used to assess it?

According to prior experience.

9. If there an estimate of variation within each group of data?

Yes, see figure legends.

10. If the variance similar between the groups that are being statistically compared?

Yes, see figure legends.

11. Are the biological replicates (including how many animals, litters, cultures, etc.) justified?

Not be shown for technical replicates.

12. Definitions of statistical methods and measures:

- the exact sample size (n) for each experimental group/condition, given as a number, not a range;
- an explicit mention of the biological and chemical entity(ies) that are being measured.
- the assay(s) and method(s) used to carry out the reported observations and measurements.
- a specification of the experimental system investigated (e.g. cell line, species name).

13. For animal studies, include a statement about randomization even if no randomization was used.

See above.

14. Are the data and the assumptions of the tests (e.g., normal distribution) described and methods used to assess it?

According to prior experience.

15. If there an estimate of variation within each group of data?

Yes, see figure legends.

16. If the variance similar between the groups that are being statistically compared?

Yes, see figure legends.

17. Are the biological replicates (including how many animals, litters, cultures, etc.) justified?

Not be shown for technical replicates.

18. Definitions of statistical methods and measures:

- the exact sample size (n) for each experimental group/condition, given as a number, not a range;
- an explicit mention of the biological and chemical entity(ies) that are being measured.
D- Animal Models

5. Report species, strain, gender, age of animals and genetic modification status where applicable. Please detail housing and husbandry conditions and the source of animals.

6. To show that antibodies were profiled for use in the system under study (assay and species), provide a citation, catalog number and clone number, supplementary information or reference to an antibody validation profile e.g., Antibodypedia (see link list at top right), IDScreen (see link list at top right).

7. Identify the source of cell lines and report if they were recently authenticated e.g., by STR profiling and tested for mycoplasma contamination.

8. Include a statement confirming that informed consent was obtained from all subjects and that the experiments conformed to the principles set out in the WMA Declaration of Helsinki and the Department of Health and Human Services Belmont Report.

9. For experiments involving the cultivation, include a statement of compliance with ethical regulations and identify the committee(s) approving the experiments.

10. We recommend consulting the ARRIVE guidelines (see link list at top right) to ensure that other relevant aspects of animal studies are adequately reported. See author guidelines, under Reporting Guidelines. See also: NIH (see link list at top right) and MRC (see link list at top right) recommendations. Please confirm compliance.

E- Human Subjects

11. Identify the committee(s) approving the study protocol.

12. Include a statement confirming that informed consent was obtained from all subjects and that the experiments conformed to the principles set out in the WMA Declaration of Helsinki and the Department of Health and Human Services Belmont Report.

13. For publication of patient photos, include a statement confirming that consent to publish was obtained.

14. Report any restrictions on the availability (and/or on the use) of human data or samples.

15. Report the clinical trial registration number (at ClinicalTrials.gov or equivalent), if applicable.

16. For phase 1 and 2 controlled clinical trials, please refer to the CONSORT flow diagrams (see link list at top right) and submit the CONSORT checklist (see link list at top right) with your submission. See author guidelines, under Reporting Guidelines. Please confirm you have submitted this list.

17. For phase 1 and 2 controlled clinical trials, we recommend that you follow the REMARK reporting guidelines (see link list at top right). See author guidelines, under Reporting Guidelines. Please confirm you have followed these guidelines.

F- Data Accessibility

18. Provide accession codes for deposited data. See author guidelines, under Data Availability.

19. Data deposition in a public repository is mandatory for:
   a. Primary, DNA and RNA sequences
   b. Microarray datasets
   c. Crystallographic data for small molecules
   d. Functional genomics data
   e. Proteomics and molecular interactions

20. Deposited is strongly recommended for any datasets that are central and integral to the study, please consider the journal's data policy. If no structured public repository exists for a given data type, we encourage the provision of datasets in the manuscript as a Supplementary Document (see author guidelines under Expanded View) or in structured repositories such as Dryad (see link list at top right) or Figshare (see link list at top right).

21. Access to human clinical and genomic datasets should be provided with few restrictions as is possible while respecting ethical obligations to the patients and relevant medical and legal issues. If practically possible and compatible with the individual consent agreements within the study, such data should be deposited in one of the major public access controlled repositories such as dbGaP (see link list at top right) or EGA (see link list at top right).

22. Insofar as possible, primary and referenced data should be formally cited in a Data Availability section. Please state whether you have included this section.

Examples:

- Primary Data
  - EMBL-EBI
  - GenBank
  - PDB
  - X-Ray
  - Atomic

- Supplementary Data
  - Figure legends
  - Table contents
  - Citations

- NIH databases
  - Gene Expression Omnibus
  - Gene Expression Omnibus (GEO)

- ClinicalTrials.gov

- OMIM

23. Computer models that are central and integral to a study should be shared without restrictions and provided in a machine-readable form. The relevant accession numbers or links should be provided. When possible, standardized formats (e.g., SBML, CANTL) should be used instead of scripts (e.g., MATLAB). Authors are strongly encouraged to follow the MIREL guidelines (see link list at top right) and deposit their model in a public database such as BioModels (see link list at top right).

24. For manuscript progenitor studies, we recommend that you follow the REMARK reporting guidelines (see link list at top right). See author guidelines, under Reporting Guidelines. Please confirm you have followed these guidelines.

25. Please provide a statement confirming that you have adequately reported information relevant to your animal studies.