

Life Sciences Reporting Summary

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For further information on the points included in this form, see [Reporting Life Sciences Research](#). For further information on Nature Research policies, including our [data availability policy](#), see [Authors & Referees](#) and the [Editorial Policy Checklist](#).

► Experimental design

1. Sample size

Describe how sample size was determined.

The sample sizes for the animal studies were established by prior studies conducted to determine the efficacy of the AOM/DSS treatment. These numbers were then chosen as the minimum number required for conclusions of biological significance, in consultation with the SingHealth Institutional Animal Care and Use Committee.

2. Data exclusions

Describe any data exclusions.

We excluded the data on the colorectal tissue length. This is because the data was not conclusive and irrelevant to the study.

3. Replication

Describe whether the experimental findings were reliably reproduced.

All attempts in experimental replicates were successful.

4. Randomization

Describe how samples/organisms/participants were allocated into experimental groups.

Mice allocation to differing groups were performed at random .

5. Blinding

Describe whether the investigators were blinded to group allocation during data collection and/or analysis.

There are no blinding involved as the tests were conducted in mice models.

Note: all studies involving animals and/or human research participants must disclose whether blinding and randomization were used.

6. Statistical parameters

For all figures and tables that use statistical methods, confirm that the following items are present in relevant figure legends (or in the Methods section if additional space is needed).

n/a Confirmed

- ☐ ☒ The exact sample size (n) for each experimental group/condition, given as a discrete number and unit of measurement (animals, litters, cultures, etc.)
- ☐ ☒ A description of how samples were collected, noting whether measurements were taken from distinct samples or whether the same sample was measured repeatedly
- ☐ ☒ A statement indicating how many times each experiment was replicated
- ☐ ☒ The statistical test(s) used and whether they are one- or two-sided (note: only common tests should be described solely by name; more complex techniques should be described in the Methods section)
- ☐ ☒ A description of any assumptions or corrections, such as an adjustment for multiple comparisons
- ☐ ☒ The test results (e.g. P values) given as exact values whenever possible and with confidence intervals noted
- ☐ ☒ A clear description of statistics including central tendency (e.g. median, mean) and variation (e.g. standard deviation, interquartile range)
- ☐ ☒ Clearly defined error bars

See the web collection on [statistics for biologists](#) for further resources and guidance.

► Software

Policy information about [availability of computer code](#)

7. Software

Describe the software used to analyze the data in this study.

Sigmaplot and Prism Graphpad were used for general statistical analysis, and ImageJ was used for microscopy analysis.

For manuscripts utilizing custom algorithms or software that are central to the paper but not yet described in the published literature, software must be made available to editors and reviewers upon request. We strongly encourage code deposition in a community repository (e.g. GitHub). *Nature Methods* [guidance for providing algorithms and software for publication](#) provides further information on this topic.

► Materials and reagents

Policy information about [availability of materials](#)

8. Materials availability

Indicate whether there are restrictions on availability of unique materials or if these materials are only available for distribution by a for-profit company.

No unique materials were used.

9. Antibodies

Describe the antibodies used and how they were validated for use in the system under study (i.e. assay and species).

Tissues used for immunohistochemistry staining were incubated with 10 μ M GFP-HlpA, 10 μ M GFP or primary antibodies targeting various HSPG (Mouse monoclonal to syndecan1 [ab34164]; Rabbit polyclonal to syndecan2 [ab191062]) and Anti-E. coli (Goat polyclonal to E. coli [ab13627]) at 4°C overnight in a moisture chamber. The slides with primary antibodies were briefly rinsed with distilled water and incubated with the corresponding secondary antibodies conjugated with Alexfluor488 (Goat anti-mouse IgG AlexaFluor488 [ab150113]; Goat anti-rabbit IgG AlexaFluor488 [ab150077]; Donkey anti-goat IgG H&L AlexaFluor488 [ab150129]) for an hour at room temperature.

10. Eukaryotic cell lines

a. State the source of each eukaryotic cell line used.

HCT116 human colorectal carcinoma cells (ATCC, Manassas, USA), LoVo human colorectal adenocarcinoma cells (ATCC), AGS human gastric adenocarcinoma cells (ATCC), MCF7 human breast adenocarcinoma cells (ATCC), human esophageal smooth muscle primary cells (SMCs) (Cell Biologics, Chicago, USA) and CT26 mouse colorectal carcinoma cells (ATCC) were used in this study.

b. Describe the method of cell line authentication used.

Cells were purchased directly from ATCC and Cell Biologics.

c. Report whether the cell lines were tested for mycoplasma contamination.

Cells were cleared of mycoplasma contamination prior to use using Mycoalert™ PLUS mycoplasma detection kit (Lonza).

d. If any of the cell lines used are listed in the database of commonly misidentified cell lines maintained by [ICLAC](#), provide a scientific rationale for their use.

No commonly misidentified cell lines listed in ICLAC were used.

► Animals and human research participants

Policy information about [studies involving animals](#); when reporting animal research, follow the [ARRIVE guidelines](#)

11. Description of research animals

Provide details on animals and/or animal-derived materials used in the study.

Non-randomized male Balb/c mice (aged 5–6 weeks, weight 18–22 g, InVivos Pte. Ltd, Singapore) used in this study were allowed to acclimatize for three days in animal-holding conditions before inclusion in the experiments.

Policy information about [studies involving human research participants](#)

12. Description of human research participants

Describe the covariate-relevant population characteristics of the human research participants.

This study did not involve human participants.