nature research

Corresponding author(s): Clemens Neufert

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Reporting Summary

Nature Research wishes to improve the reproducibility of the work that we publish. This form provides structure for consistency and transparency in reporting. For further information on Nature Research policies, see Authors & Referees and the Editorial Policy Checklist.

Statistics

For all statistical analyses, confirm that the following items are present in the figure legend, table legend, main text, or Methods section.

n/a	Confirmed
☐	☒ The exact sample size (*n*) for each experimental group/condition, given as a discrete number and unit of measurement
☒	☐ A statement on whether measurements were taken from distinct samples or whether the same sample was measured repeatedly
☒	☐ The statistical test(s) used AND whether they are one- or two-sided *Only common tests should be described solely by name; describe more complex techniques in the Methods section.*
☒	☐ A description of all covariates tested
☒	☐ A description of any assumptions or corrections, such as tests of normality and adjustment for multiple comparisons
☒	☐ A full description of the statistical parameters including central tendency (e.g. means) or other basic estimates (e.g. regression coefficient) AND variation (e.g. standard deviation) or associated estimates of uncertainty (e.g. confidence intervals)
☒	☐ For null hypothesis testing, the test statistic (e.g. *F*, *t*, *r*) with confidence intervals, effect sizes, degrees of freedom and *P* value noted *Give P values as exact values whenever suitable.*
☒	☐ For Bayesian analysis, information on the choice of priors and Markov chain Monte Carlo settings
☒	☐ For hierarchical and complex designs, identification of the appropriate level for tests and full reporting of outcomes
☒	☐ Estimates of effect sizes (e.g. Cohen's *d*, Pearson's *r*), indicating how they were calculated

Our web collection on statistics for biologists contains articles on many of the points above.

Software and code

Policy information about availability of computer code

Data collection	n/a
Data analysis	Open source software OsiriX (https://www.osirix-viewer.com) Commercial software Imaris (Bitplane, Switzerland)

For manuscripts utilizing custom algorithms or software that are central to the research but not yet described in published literature, software must be made available to editors/reviewers. We strongly encourage code deposition in a community repository (e.g. GitHub). See the Nature Research guidelines for submitting code & software for further information.

Data

Policy information about availability of data

All manuscripts must include a data availability statement. This statement should provide the following information, where applicable:

- Accession codes, unique identifiers, or web links for publicly available datasets
- A list of figures that have associated raw data
- A description of any restrictions on data availability

All data generated during this study are included in this published article.

Field-specific reporting

Please select the one below that is the best fit for your research. If you are not sure, read the appropriate sections before making your selection.

☒ Life sciences ☐ Behavioural & social sciences ☐ Ecological, evolutionary & environmental sciences

Life sciences study design

All studies must disclose on these points even when the disclosure is negative.

Sample size	-
Data exclusions	-
Replication	-
Randomization	-
Blinding	-

Reporting for specific materials, systems and methods

We require information from authors about some types of materials, experimental systems and methods used in many studies. Here, indicate whether each material, system or method listed is relevant to your study. If you are not sure if a list item applies to your research, read the appropriate section before selecting a response.

Materials & experimental systems

n/a	Involved in the study
☐	☒ Antibodies
☒	☐ Eukaryotic cell lines
☒	☐ Palaeontology
☐	☒ Animals and other organisms
☒	☐ Human research participants
☒	☐ Clinical data

Methods

n/a	Involved in the study
☒	☐ ChIP-seq
☒	☐ Flow cytometry
☒	☐ MRI-based neuroimaging

Antibodies

Antibodies used	Rat monoclonal anti-BrdU antibody, clone BU1/75 (ICR1), Abcam Cat# ab6326, RRID:AB_305426 Rat anti-mouse CD31 AF647 antibody, clone MEC13.3, BioLegend Cat# 102516, RRID:AB_2161029 Rabbit anti-mouse Ki67 antibody, clone SP6, Abcam Cat# ab16667, RRID:AB_302459 Donkey anti-rabbit IgG AF555, polyclonal, BioLegend Cat# 406412, RRID:AB_2563181 Mouse anti-mouse E-Cadherin antibody, clone 36/E-Cadherin (RUO), BD Biosciences Cat# 610182, RRID:AB_397581 Rabbit anti-human Zeb1 antibody, polyclonal, Sigma-Aldrich Cat# HPA027524, RRID:AB_1844977 Rabbit anti-mouse Zeb1 antibody, polyclonal, Novus Cat# NBP1-05987, RRID:AB_2273178 Rabbit anti-mouse Snai1 antibody, clone C15D3, Cell Signaling Technology Cat# 3879, RRID:AB_2255011 Rabbit anti-mouse Snai2 antibody, clone C19G7, Cell Signaling Technology Cat# 9585, RRID:AB_2239535 Rabbit anti-mouse Twist1, polyclonal, Abcam Cat# ab50581, RRID:AB_883292 Rat anti-mouse CD326 AF488 antibody, Clone G8.8, BioLegend Cat# 118210, RRID:AB_1134099 Rabbit anti-mouse pStat3 (Tyr705) antibody, Clone D3A7, Cell Signaling Technology Cat# 9145, RRID:AB_2491009 Rabbit anti-mouse Vimentin AF488 antibody, Clone D21H3, Cell Signaling Technology Cat# 9854, RRID:AB_10829352
Validation	-

Animals and other organisms

Policy information about studies involving animals; ARRIVE guidelines recommended for reporting animal research

Laboratory animals	Conditional p53 knock-out mice (Tp53ΔIEC), male and female, 8-week old Conditional tdTomato reporter mice (ColVICre tdTomato), male and female, 8-week old
Wild animals	-
Field-collected samples	-
Ethics oversight	Government of Middle Franconia and government of Rhineland-Palatinate.

Note that full information on the approval of the study protocol must also be provided in the manuscript.