nature portfolio

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Reporting Summary

Nature Portfolio 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 Portfolio policies, see our Editorial Policies 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	N/A

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 and reviewers. We strongly encourage code deposition in a community repository (e.g. GitHub). See the Nature Portfolio 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 description of any restrictions on data availability
- For clinical datasets or third party data, please ensure that the statement adheres to our policy

The authors declare no competing interests. The scRNA seq data were deposited in GEO under accession number #????.

Research involving human participants, their data, or biological material

Policy information about studies with human participants or human data. See also policy information about sex, gender (identity/presentation), and sexual orientation and race, ethnicity and racism.

Reporting on sex and gender	For the zebrafish experiments, larvae were used at early developmental stages, before sex differentiation occurs; therefore, sex was not considered in the study design. For the human samples, biopsies were obtained anonymously and sex information was not available. In addition, the sample size was not sufficient to allow meaningful sex-based disaggregation of the data.
Reporting on race, ethnicity, or other socially relevant groupings	N/A
Population characteristics	Skin biopsies from healthy donors and psoriasis patients were used. Clinical inclusion criteria were a psoriasis diagnosis evaluated by 2 dermatologists independently and the histology of skin lesions compatible with psoriasis/psoriasiform dermatitis evaluated by a pathologist. Clinical exclusion criteria were a diagnosis compatible with other dermatoses (atopic dermatitis, lichen planus, phytodermatosis and allergic contact eczema) and histology compatible with lichenoid dermatitis/ lichen planus or spongiotic dermatitis.
Recruitment	This was a retrospective study using archived samples from the Department of Pathological Anatomy at Hospital Clínico Universitario Virgen de la Arrixaca. Biopsies were selected based on the final histopathological diagnosis, and no direct patient recruitment was performed. T
Ethics oversight	Ethical Clinical Research Committee of The University Hospital Virgen de la Arrixaca (approval number #8/13).

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

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

For a reference copy of the document with all sections, see nature.com/documents/nr-reporting-summary-flat.pdf

Life sciences study design

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

Sample size	Sample sizes were based on the authors' experience with molecular and in vivo studies, as published in multiple previous reports. For animal models, experiments were designed to detect differences between treatment groups or genotype-dependent effects with 80% power at p = 0.05
Data exclusions	No data were excluded from the analysis
Replication	The experiment were perfomed al least three times, with the exception of the RUN & CUT experiment that was performed twice.
Randomization	Zebrafish larvae were tandomly assigned to each group by simple randomization
Blinding	Blinding was not applied in most laboratory experiments, as they were performed by a single investigator who was aware of the sample allocation. Given the objective and quantitative nature of the assays (e.g., imaging-based neutrophil counts and CUT&RUN quantification), the risk of bias is minimal.

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 and archaeology
☐	☒ Animals and other organisms
☐	☐ Clinical data
☐	☐ Dual use research of concern
☐	☐ Plants

Methods

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

Antibodies

Antibodies used

Primary antibodies:
Rabbit monoclonal anti-GAPDH (Abcam, ab181602), 1:500 (IHC/IF), 1:1000 (double IF), 1:2500 (WB), 6 µl/reaction (WB and CUT&RUN).
Mouse monoclonal anti-CD45 (Dako, M0701), 1:1000 (IF).
Rabbit polyclonal anti-nitrotyrosine (Thermo Fisher, A-21285), 1:200 (zebrafish IF).
Rabbit polyclonal anti-Histone H3 (acetyl K27) (Abcam, ab4729), 6 µl/reaction (CUT&RUN).
Rabbit monoclonal anti-Histone H3 (tri-methyl K4, clone C42D8) (Cell Signaling, #9751), 1:50 (positive control, CUT&RUN).
Rabbit monoclonal IgG XP isotype control (Cell Signaling, #66362), 1:20 (negative control, CUT&RUN).
Rabbit polyclonal anti-β-Actin (Santa Cruz Biotechnology, sc-47778), 1:2500 (WB).
Secondary antibodies:
Goat anti-rabbit Alexa Fluor 488 (Thermo Fisher, A-11008), 1:1000 (IF).
Goat anti-rabbit Alexa Fluor 594 (Thermo Fisher, A-11012), 1:400 (IHC/IF).
Donkey anti-rabbit IgG H&L Alexa Fluor 488 (Thermo Fisher, A-21206), 1:400 (double IF).
Goat anti-mouse IgG H&L Alexa Fluor 594 (Thermo Fisher, A-11032), 1:400 (double IF).
HRP-conjugated anti-rabbit secondary antibody, 1:2500 (WB).

Validation

All antibodies used were commercially available and validated by the manufacturers.

Eukaryotic cell lines

Policy information about cell lines and Sex and Gender in Research

Cell line source(s)

N/A

Authentication

N/A

Mycoplasma contamination

N/A

Commonly misidentified lines
(See ICLAC register)

N/A

Palaeontology and Archaeology

Specimen provenance

N/A

Specimen deposition

N/A

Dating methods

N/A

☐ Tick this box to confirm that the raw and calibrated dates are available in the paper or in Supplementary Information.

Ethics oversight

N/A

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

Animals and other research organisms

Policy information about studies involving animals; ARRIVE guidelines recommended for reporting animal research, and Sex and Gender in Research

Laboratory animals

Zebrafish (Danio rerio) larvae from 1-3 days postfertilization

Wild animals	N/A
Reporting on sex	N/A
Field-collected samples	N/A
Ethics oversight	Bioethical Committees of the University of Murcia (approval numbers #669/2020)

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

Clinical data

Policy information about clinical studies

All manuscripts should comply with the ICMJE guidelines for publication of clinical research and a completed CONSORT checklist must be included with all submissions.

Clinical trial registration	N/A
Study protocol	N/A
Data collection	N/A
Outcomes	N/A

Dual use research of concern

Policy information about dual use research of concern

Hazards

Could the accidental, deliberate or reckless misuse of agents or technologies generated in the work, or the application of information presented in the manuscript, pose a threat to:

No	Yes	
☒	☐	Public health
☒	☐	National security
☒	☐	Crops and/or livestock
☒	☐	Ecosystems
☒	☐	Any other significant area

Experiments of concern

Does the work involve any of these experiments of concern:

No	Yes	
☒	☐	Demonstrate how to render a vaccine ineffective
☒	☐	Confer resistance to therapeutically useful antibiotics or antiviral agents
☒	☐	Enhance the virulence of a pathogen or render a nonpathogen virulent
☒	☐	Increase transmissibility of a pathogen
☒	☐	Alter the host range of a pathogen
☒	☐	Enable evasion of diagnostic/detection modalities
☒	☐	Enable the weaponization of a biological agent or toxin
☒	☐	Any other potentially harmful combination of experiments and agents

Plants

Seed stocks	N/A
Novel plant genotypes	N/A
Authentication	N/A