

## 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  |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> The exact sample size ( $n$ ) for each experimental group/condition, given as a discrete number and unit of measurement  |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> A statement on whether measurements were taken from distinct samples or whether the same sample was measured repeatedly  |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> The statistical test(s) used AND whether they are one- or two-sided<br><i>Only common tests should be described solely by name; describe more complex techniques in the Methods section.</i>   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> A description of all covariates tested  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> A description of any assumptions or corrections, such as tests of normality and adjustment for multiple comparisons   |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> 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) |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> For null hypothesis testing, the test statistic (e.g. $F$ , $t$ , $r$ ) with confidence intervals, effect sizes, degrees of freedom and $P$ value noted<br><i>Give <math>P</math> values as exact values whenever suitable.</i>                            |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> For Bayesian analysis, information on the choice of priors and Markov chain Monte Carlo settings  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> For hierarchical and complex designs, identification of the appropriate level for tests and full reporting of outcomes  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> 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	NCBI Blast+ 2.10.0 suite
Data analysis	CLANS (29.05.2012), GraphPad PRISM 9, Excel 2019, iTOL v6, AlphaFold2, MAFFT v7.505, Clustal Omega v1.2.4, WebLogo, WebLogo 3, NCBI's CDD v3.19, ChimeraX v1.4, HHpred

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 experimental and computational data that support the findings of this research are available in this article and its supplementary information files. Source data are provided with this paper.

## 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	NA
Reporting on race, ethnicity, or other socially relevant groupings	NA
Population characteristics	NA
Recruitment	NA
Ethics oversight	NA

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](https://www.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 of 3 or 4 samples were used in growth assays and competition assays. They were chosen since they are the minimal sample size required for statistical analyses, and because they are used in the majority of similar manuscripts in the field.
Data exclusions	No data were excluded from analyses.
Replication	All experiments were performed at least twice with similar results
Randomization	Experiments were repeated independently on different dates, yielding similar results.
Blinding	Blinding was not performed since the assays described in the manuscript are such that they are setup, performed, and analyzed by the same individual.

## 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	Included in the study
<input type="checkbox"/>	<input checked="" type="checkbox"/> Antibodies
<input checked="" type="checkbox"/>	<input type="checkbox"/> Eukaryotic cell lines
<input checked="" type="checkbox"/>	<input type="checkbox"/> Palaeontology and archaeology
<input checked="" type="checkbox"/>	<input type="checkbox"/> Animals and other organisms
<input checked="" type="checkbox"/>	<input type="checkbox"/> Clinical data
<input checked="" type="checkbox"/>	<input type="checkbox"/> Dual use research of concern
<input checked="" type="checkbox"/>	<input type="checkbox"/> Plants

### Methods

n/a	Included in the study
<input checked="" type="checkbox"/>	<input type="checkbox"/> ChIP-seq
<input checked="" type="checkbox"/>	<input type="checkbox"/> Flow cytometry
<input checked="" type="checkbox"/>	<input type="checkbox"/> MRI-based neuroimaging

## Antibodies

Antibodies used

1)  $\alpha$ -FLAG M2 (Sigma-Aldrich, F1804)  
 2)  $\alpha$ -Myc (Santa Cruz, 9E10, sc-40)  
 3)  $\alpha$ - $\beta$ -actin antibodies (Santa Cruz, sc-47778, C4)  
 4) Direct-BlotTM HRP anti-E. coli RNA polymerase Sigma 70 (mouse mAb #663205; BioLegend)

Validation

5) Custom-made  $\alpha$ -VgrG1 (Polyclonal antibodies were produced in-house with rabbits for the *Vibrio parahaemolyticus* VgrG1 (VP1394) peptide KDMSTKVLNNRYRDIGQDE and were affinity purified (GenScript))

1)  $\alpha$ -FLAG M2 manufacturer website: <https://www.sigmaaldrich.com/IL/en/product/sigma/f1804>

2)  $\alpha$ -c-Myc manufacturer website: <https://www.scbt.com/scbt/product/c-myc-antibody-9e10>

3)  $\alpha$ - $\beta$ -actin manufacturer website: <https://www.scbt.com/p/beta-actin-antibody-c4>

4)  $\alpha$ -RNA polymerase sigma 70 manufacturer website: <https://www.biolegend.com/en-us/products/direct-blot-hrp-anti-eme-coli-emrna-sigma-70-antibody-13486>

5) VgrG1 Antibody specificity was tested in-house using *Vibrio* wild-type or vgrG1-deletion strains. This antibody was also used in DOI: 10.1128/AEM.00737-17 and in DOI 10.15252/embr.201744226