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Supplementary Videos: 0

Reporting Checklist for Nature Neuroscience

This checklist is used to ensure good reporting standards and to improve the reproducibility of published results. For more information, please read Reporting Life Sciences Research.

Please note that in the event of publication, it is mandatory that authors include all relevant methodological and statistical information in the manuscript.

Statistics reporting, by figure

- Please specify the following information for each panel reporting quantitative data, and where each item is reported (section, e.g. Results, & paragraph number).
- Each figure legend should ideally contain an exact sample size (n) for each experimental group/condition, where n is an exact number and not a range, a clear definition of how n is defined (for example x cells from x slices from x animals from x litters, collected over x days), a description of the statistical test used, the results of the tests, any descriptive statistics and clearly defined error bars if applicable.
- For any experiments using custom statistics, please indicate the test used and stats obtained for each experiment.
- Each figure legend should include a statement of how many times the experiment shown was replicated in the lab; the details of sample collection should be sufficiently clear so that the replicability of the experiment is obvious to the reader.
- For experiments reported in the text but not in the figures, please use the paragraph number instead of the figure number.

Note: Mean and standard deviation are not appropriate on small samples, and plotting independent data points is usually more informative. When technical replicates are reported, error and significance measures reflect the experimental variability and not the variability of the biological process; it is misleading not to state this clearly.

		TEST USED		n			DESCRIPTIVE STATS (AVERAGE, VARIANCE)		P VALUE		DEGREES OF FREEDOM & F/t/z/R/ETC VALUE	
	FIGURE NUMBER	WHICH TEST?	SECTION & PARAGRAPH #	EXACT VALUE	DEFINED?	SECTION & PARAGRAPH #	REPORTED?	SECTION & PARAGRAPH #	EXACT VALUE	SECTION & PARAGRAPH #	VALUE	SECTION & PARAGRAPH #
example	1a	one-way ANOVA	Fig. legend	9, 9, 10, 15	mice from at least 3 litters/group	Methods para 8	error bars are mean +/- SEM	Fig. legend	p = 0.044	Fig. legend	F(3, 36) = 2.97	Fig. legend
example	results, para 6	unpaired t-test	Results para 6	15	slices from 10 mice	Results para 6	error bars are mean +/- SEM	Results para 6	p = 0.0006	Results para 6	t(28) = 2.808	Results para 6

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		TEST USED		n			DESCRIPTIVE STATS (AVERAGE, VARIANCE)		P VALUE		DEGREES OF FREEDOM & F/t/z/R/ETC VALUE	
	FIGURE NUMBER	WHICH TEST?	SECTION & PARAGRAPH #	EXACT VALUE	DEFINED?	SECTION & PARAGRAPH #	REPORTED?	SECTION & PARAGRAPH #	EXACT VALUE	SECTION & PARAGRAPH #	VALUE	SECTION & PARAGRAPH #
+ -	3a	Pearson's correlation	Fig. legend Results para 5	18	10 sessions from M1, 8 sessions from M2	Fig. legend Results para 5	Pearson correlation coefficient r: same: -0.72064 different: 0.63676	Fig. legend Results para 5	same: 0.00074 different: 0.00449	Fig. legend Results para 5	df: 16	not reported
+ -	S4a	Pearson's correlation category: faces	Fig. legend Results para 11	14	9 sessions from M1, 5 sessions from M2	Fig. legend Results para 10	Pearson correlation coefficient r: same: -0.54319 different: 0.70014	Fig. S4a Fig. legend Results para 11	same: 0.044706 different: 0.0053008	Fig. S4a Fig. legend Results para 11	df: 12	not reported
+ -	S4b	Pearson's correlation category: apples	Fig. legend Results para 11	14	9 sessions from M1, 5 sessions from M2	Fig. legend Results para 11	Pearson correlation coefficient r: same: 0.078589 different: 0.047032	Fig. S4b	same: 0.78943 different: 0.87315	Fig. S4b	df: 12	not reported
+ -	S4c	Pearson's correlation category: citrus fruits	Fig. legend Results para 11	14	9 sessions from M1, 5 sessions from M2	Fig. legend Results para 11	Pearson correlation coefficient r: same: -0.30954 different: 0.23053	Fig. S4c	same: 0.2815 different: 0.42783	Fig. S4c	df: 12	not reported
+ -	S4d	Pearson's correlation category: pots	Fig. legend Results para 11	14	9 sessions from M1, 5 sessions from M2	Fig. legend Results para 11	Pearson correlation coefficient r: same: 0.21906 different: 0.14998	Fig. S4d	same: 0.45179 different: 0.660883	Fig. S4d	df: 12	not reported
+ -	S4e	Pearson's correlation category: clocks	Fig. legend Results para 11	14	9 sessions from M1, 5 sessions from M2	Fig. legend Results para 11	Pearson correlation coefficient r: same: 0.051451 different: 0.24503	Fig. S4e	same: 0.86133 different: 0.3985	Fig. S4e	df: 12	not reported
+ -	S10a	3-way ANOVA	Fig. legend	2368 trials	1 session	Fig. legend	not reported		trial type $p < 0.0001$	Fig. legend	$F(1, 92) = 401.58$	Fig legend
+ -	S10a	3-way ANOVA continued	Fig. legend	2368 trials	1 session	Fig. legend	not reported		stimulation $p < 0.0001$	Fig. legend	$F(3, 92) = 110.74$	Fig. legend
+ -	S10a	3-way ANOVA continued	Fig. legend	2368 trials	1 session	Fig. legend	not reported		identity $p = 0.0666$	Fig. legend	$F(31, 92) = 1.51$	Fig. legend
+ -	S10a	3-way ANOVA continued	Fig. legend	2368 trials	1 session	Fig. legend	not reported		trial*stimulation $p < 0.0001$	Fig. legend	$F(3, 92) = 39.75$	Fig. legend
+ -	S10a	3-way ANOVA continued	Fig. legend	2368 trials	1 session	Fig. legend	not reported		trial*identity $p = 0.0665$	Fig. legend	$F(31, 92) = 1.51$	Fig. legend
+ -	S10a	3-way ANOVA continued	Fig. legend	2368 trials	1 session	Fig. legend	not reported		stimulation*identity $p = 0.6137$	Fig. legend	$F(93, 92) = 0.94$	Fig. legend
+ -	S10b	3-way ANOVA	Fig. legend	2025 trials	1 session	Fig. legend	not reported		trial type $p < 0.0001$	Fig. legend	$F(1, 92) = 150.51$	Fig. legend
+ -	S10b	3-way ANOVA continued	Fig. legend	2025 trials	1 session	Fig. legend	not reported		stimulation $p < 0.0001$	Fig. legend	$F(3, 92) = 57.88$	Fig. legend

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+ -	S10b	3-way ANOVA continued	Fig. legend	2025 trials	1 session	Fig. legend	not reported		identity p = 0.2937	Fig. legend	F(31, 92) = 1.15	Fig. legend
+ -	S10b	3-way ANOVA continued	Fig. legend	2025 trials	1 session	Fig. legend	not reported		trial*stimulation p < 0.0001	Fig. legend	F(3, 92) = 10.22	Fig. legend
+ -	S10b	3-way ANOVA continued	Fig. legend	2025 trials	1 session	Fig. legend	not reported		trial*identity p = 0.2846	Fig. legend	F(31, 92) = 1.16	Fig. legend
+ -	S10b	3-way ANOVA continued	Fig. legend	2025 trials	1 session	Fig. legend	not reported		stimulation*identity p = 0.8079	Fig. legend	F(93, 92) = 0.83	Fig. legend
+ -	2a-g	Fisher's Exact Test	Suppl. Table 3		see Supplementary Table 3	Suppl Table 3	see Supplementary Table 3	Suppl Table 3	see Supplementary Table 3	Suppl Table 3	see Supplementary Table 3	Suppl Table 3
+ -	2h		Suppl. Table 4		see Supplementary Table 4	Suppl. Table 4	d prime, criterion c	Suppl. Table 4	see Supplementary Table 4	Suppl. Table 4	see Supplementary Table 4	Suppl. Table 4
+ -	4a,c-j	Fisher's Exact Tests	Suppl. Table 3		see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3
+ -	5	Fisher's Exact Tests	Suppl. Table 3		see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3
+ -	7	Fisher's Exact Tests	Suppl. Table 3		see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3
+ -	8	Fisher's Exact Tests	Suppl. Table 3		see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3
+ -	S2	Fisher's Exact Tests	Suppl. Table 3		see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3
+ -	S3	Fisher's Exact Tests	Suppl. Table 3		see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3
+ -	S5	Fisher's Exact Tests	Suppl. Table 3		see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3
+ -	S6	Fisher's Exact Tests	Suppl. Table 3		see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3
+ -	S9	Fisher's Exact Tests	Suppl. Table 3		see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3	see Supplementary Table 3	Suppl. Table 3
+ -	S10	Fisher's Exact Tests	Suppl. Table 5		see Supplementary Table 5	Suppl. Table 5	see Supplementary Table 5	Suppl. Table 5	see Supplementary Table 5	Suppl. Table 5	see Supplementary Table 5	Suppl. Table 5

Representative figures

1. Are any representative images shown (including Western blots and immunohistochemistry/staining) in the paper?

   If so, what figure(s)?

With the exception of Fig. 1, 3a, 7, Suppl. Fig. 4, 10, and 11, all figures show the results of individual sessions per panel, so in a sense all other figure show "representative" images. Reported significances were always calculated per session. Supplementary tables 1 and 3 give the results for all repetitions of the different experiments.

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2. For each representative image, is there a clear statement of how many times this experiment was successfully repeated and a discussion of any limitations in repeatability? If so, where is this reported (section, paragraph #)?	Not explicitly; though we do make a point that the precise stimulation position is important and does explain a large part of the inter-session variance (see figure 3 and supplementary figure 4), as well as Results paragraphs 5 and 11. Supplementary tables 1 and 3 give the results for all repetitions of the different experiments and Supplementary figure 1 shows for all patches and subjects the results of individual experiments (together with average and standard error of the mean).

Statistics and general methods

1. Is there a justification of the sample size? If so, how was it justified? Where (section, paragraph #)? Even if no sample size calculation was performed, authors should report why the sample size is adequate to measure their effect size.	As customary in non-human-primate research we report data from two individuals. We report single-session data and assess the significance of the relevant comparisons also per session. Since the reported effect sizes are relatively large (up to a 90% change in percentage points) and hence reach statistical significance easily and the inter-session variance due to exact stimulation location was quite large, we feel justified in reporting single session data instead of averages which would "wash out" the location specificity of the reported results.
2. Are statistical tests justified as appropriate for every figure? Where (section, paragraph #)?	Since we mainly compare contingency tables of correct and incorrect trials for different visual stimulus and electrical microstimulation conditions, we have the choice of chi-square and Fisher's exact test (FTE); since unlike the chi-square test, the FTE works with small, sparse, or unbalanced data as encountered when the performance approaches 100%, we used the FTE. See subsection "Data analysis" under the "Methods" section.
a. If there is a section summarizing the statistical methods in the methods, is the statistical test for each experiment clearly defined?	Yes. We always used Fisher's exact test, except for figure 3a and supplementary figure 4 were we report Pearson correlation results
b. Do the data meet the assumptions of the specific statistical test you chose (e.g. normality for a parametric test)? Where is this described (section, paragraph #)?	The main assumption of Fisher's exact test, independence of the rows and column classifications, were met by our experimental design in that we randomized the same percentage of trials for microstimulation for all experimental categories.
c. Is there any estimate of variance within each group of data? Is the variance similar between groups that are being statistically compared? Where is this described (section, paragraph #)?	Fisher's exact test works on contingency tables summarizing the number of correct and incorrect trials per condition, we did not calculate nor report variance estimates nor other descriptive statistics over all sessions (with the exception of supplementary figure 1 where we show all individual session results by subject and patch as well as the averages and standard error of the means, supplementary table 2 gives the number of sessions for each of the groups)
d. Are tests specified as one- or two-sided?	All Fisher's exact tests were specified as two-sided.
e. Are there adjustments for multiple comparisons?	Since we only performed a pre-planned comparison between microstimulation and non-microstimulation trials inside each category (object identity times same-ness), or one test per condition no multiple comparison adjustments were required.

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3. To promote transparency, *Nature Neuroscience* has stopped allowing bar graphs to report statistics in the papers it publishes. If you have bar graphs in your paper, please make sure to switch them to dot-plots (with central and dispersion statistics displayed) or to box-and-whisker plots to show data distributions.	The reported bar graphs in our paper are not showing summary statistics, so per bar there really is only one value and no associated dispersion. We believe and have confirmed with our editor that our bar graphs follow the spirit of Nature Neuroscience's policy quite well.
4. Are criteria for excluding data points reported? Was this criterion established prior to data collection? Where is this described (section, paragraph #)?	We included all trials in which the animals did not break fixation before the the choice targets appeared.
5. Define the method of randomization used to assign subjects (or samples) to the experimental groups and to collect and process data. If no randomization was used, state so. Where does this appear (section, paragraph #)?	We fully randomized trails with 50% probability into same and different identity trials. Electrical stimulation was delivered on 33% of trials (trials were grouped into groups of six; within these six trials, two had no microstimulation, while four had microstimulation 50% of the time, randomly chosen; we inserted the two non-microstimulation trials to maintain electrode integrity by avoiding long sequences of stimulation trials). The randomization procedure is described under Methods paragraph 5.
6. Is a statement of the extent to which investigator knew the group allocation during the experiment and in assessing outcome included? If no blinding was done, state so. Where (section, paragraph #)?	No, not applicable.
7. For experiments in live vertebrates, is a statement of compliance with ethical guidelines/regulations included? Where (section, paragraph #)?	Yes; section "Methods" first paragraph.
8. Is the species of the animals used reported? Where (section, paragraph #)?	Yes, Rhesus macaque; section Methods second paragraph.
9. Is the strain of the animals (including background strains of KO/ transgenic animals used) reported? Where (section, paragraph #)?	No. Not applicable.
10. Is the sex of the animals/subjects used reported? Where (section, paragraph #)?	M1. M2 Yes, male; under section "Methods" paragraph 2. M3, M4 also male not reported in text.
11. Is the age of the animals/subjects reported? Where (section, paragraph #)?	No.
12. For animals housed in a vivarium, is the light/dark cycle reported? Where (section, paragraph #)?	All animals were kept with a light cycle from 7:00 AM to 20:00 PM. Not reported in the main text.

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13. For animals housed in a vivarium, is the housing group (i.e. number of animals per cage) reported?

    Where (section, paragraph #)?

All animals were pair-housed. Not reported in the main text.

14. For behavioral experiments, is the time of day reported (e.g. light or dark cycle)?

    Where (section, paragraph #)?

Typically, experiments were performed in the light cycle during the period from 9:00AM to 20:00 PM. Not reported in the main text.

15. Is the previous history of the animals/subjects (e.g. prior drug administration, surgery, behavioral testing) reported?

    Where (section, paragraph #)?

No.

    a. If multiple behavioral tests were conducted in the same group of animals, is this reported?

       Where (section, paragraph #)?

No.

16. If any animals/subjects were excluded from analysis, is this reported?

    Where (section, paragraph #)?

No animals were excluded from the analysis.

    a. How were the criteria for exclusion defined?

       Where is this described (section, paragraph #)?

Not applicable.

    b. Specify reasons for any discrepancy between the number of animals at the beginning and end of the study.

       Where is this described (section, paragraph #)?

Not applicable.

Reagents

1. Have antibodies been validated for use in the system under study (assay and species)?

No.

    a. Is antibody catalog number given?

       Where does this appear (section, paragraph #)?

Not applicable.

    b. Where were the validation data reported (citation, supplementary information, Antibodypedia)?

       Where does this appear (section, paragraph #)?

Not applicable.

2. Cell line identity

    a. Are any cell lines used in this paper listed in the database of commonly misidentified cell lines maintained by ICLAC and NCBI Biosample?

       Where (section, paragraph #)?

No.

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b. If yes, include in the Methods section a scientific justification of their use--indicate here in which section and paragraph the justification can be found.

Not applicable.

c. For each cell line, include in the Methods section a statement that specifies:
- the source of the cell lines
- have the cell lines been authenticated? If so, by which method?
- have the cell lines been tested for mycoplasma contamination?

Where (section, paragraph #)?

Not applicable.

Data deposition

Provide a Data availability statement in the Methods section under "Data availability", which should include, where applicable:
• Accession codes for deposited data
• Other unique identifiers (such as DOIs and hyperlinks for any other datasets)
• At a minimum, a statement confirming that all relevant data are available from the authors
• Formal citations of datasets that are assigned DOIs
• A statement regarding data available in the manuscript as source data
• A statement regarding data available with restrictions

See our data availability and data citations policy page for more information.

Data deposition in a public repository is mandatory for:

a. Protein, DNA and RNA sequences
b. Macromolecular structures
c. Crystallographic data for small molecules
d. Microarray data

Deposition is strongly recommended for many other datasets for which structured public repositories exist; more details on our data policy are available here. We encourage the provision of other source data in supplementary information or in unstructured repositories such as Figshare and Dryad.

We encourage publication of Data Descriptors (see Scientific Data) to maximize data reuse.

Where is the Data Availability statement provided (section, paragraph #)?

For all reported sessions (including those sessions that where only included in the regression analysis for Fig. 3 and Suppl. Fig 3 as Supplementary Tables 2; this table contains for each session the absolute numbers of hits and misses for all combinations of same/different and microstimulation/no microstimulation. We believe that by including this data interested parties will be able to re-analyze this data set in the future.

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Computer code/software

Any custom algorithm/software that is central to the methods must be supplied by the authors in a usable and readable form for readers at the time of publication. However, referees may ask for this information at any time during the review process.

1. Identify all custom software or scripts that were required to conduct the study and where in the procedures each was used.	All visual stimulation and behavioral control was performed using Shay Ohayon's Kofiko; electrode trajectory planning was performed using Shay Ohayon's Planner; see https://github.com/shayo for repositories of both. Data analysis was performed by custom matlab scripts.
2. If computer code was used to generate results that are central to the paper's conclusions, include a statement in the Methods section under "**Code availability**" to indicate whether and how the code can be accessed. Include version information as necessary and any restrictions on availability.	All analysis was performed using standard statistics functions supplied as part of Matlab's toolboxes. Fisher's exact test was included as implemented by Giuseppe Cardillo and distributed as https://www.mathworks.com/matlabcentral/fileexchange/26883-myfisher

Human subjects

1. Which IRB approved the protocol? Where is this stated (section, paragraph #)?	Only non-human primates were used, no human subjects.
2. Is demographic information on all subjects provided? Where (section, paragraph #)?	Not applicable.
3. Is the number of human subjects, their age and sex clearly defined? Where (section, paragraph #)?	Not applicable.
4. Are the inclusion and exclusion criteria (if any) clearly specified? Where (section, paragraph #)?	Not applicable.
5. How well were the groups matched? Where is this information described (section, paragraph #)?	Not applicable.
6. Is a statement included confirming that informed consent was obtained from all subjects? Where (section, paragraph #)?	Not applicable.
7. For publication of patient photos, is a statement included confirming that consent to publish was obtained? Where (section, paragraph #)?	Not applicable.

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fMRI studies

For papers reporting functional imaging (fMRI) results please ensure that these minimal reporting guidelines are met and that all this information is clearly provided in the methods:

1. Were any subjects scanned but then rejected for the analysis after the data was collected?	No. In total four animals were scanned; two were used for the main experiments; the third was used to illustrate the effect of micro-stimulation current on the volume of activated tissue; the fourth was used to elucidate the response of the face patches to abstracted and veridical house images.
a. If yes, is the number rejected and reasons for rejection described? Where (section, paragraph #)?	Not applicable.
2. Is the number of blocks, trials or experimental units per session and/or subjects specified? Where (section, paragraph #)?	Except for the combined fMRI-microstim experiment in M3, we do not report the fMRI specifics as these have been reported in depth in our earlier papers cited; in M1 and M2 we only used fMRI to localize the face patches in each individual (for confirmation of stimulation locations we only used structural MRI); in M4 we localized the face patches as well as the responses to abstracted and veridical houses.
3. Is the length of each trial and interval between trials specified?	No. We always used simple blocked designes with on-off periods of around 30 seconds.
4. Is a blocked, event-related, or mixed design being used? If applicable, please specify the block length or how the event-related or mixed design was optimized.	All fMRI experiments were performed as blocked designs.
5. Is the task design clearly described? Where (section, paragraph #)?	For localization experiments the animals were only required to keep fixation on a small fixation point on a screen, while passively viewing images presented centrally (diameter 5-7 degree visual angle).
6. How was behavioral performance measured?	Fixation was controlled by an ISCAN eye tracker.
7. Is an ANOVA or factorial design being used?	No.
8. For data acquisition, is a whole brain scan used? If not, state area of acquisition.	Data for M1, M2, and M4 were acquired for the whole brain. For M3 (figure 3) we used a field of view that contained the whole temporal lobe roughly centered around the stimulation electrode as the goal of this experiment was to compare the local spread of fMRI activation caused by different stimulation currents.
a. How was this region determined?	M3: FOV was centered around the stimulation cite to allow for the maximum possible activation spread in all directions

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9. Is the field strength (in Tesla) of the MRI system stated?	Yes, nominally 3Tesla, or 2.89362 Tesla as reported by the scanner.
a. Is the pulse sequence type (gradient/spin echo, EPI/spiral) stated?	No, we used standard Siemens gradient echo EPI sequences with a isotropic voxelsize of 1.0 mm for M1, M2, and M4. Since we used the same localization system used in earlier studies we refer to those for details since nothing was changed. For M3 we used a voxelsize of 1.5 mm isotriopic, and a a multi-gradient echo EPI.
b. Are the field-of-view, matrix size, slice thickness, and TE/TR/ flip angle clearly stated?	For M1, M2, and M4 see referenced papers. For M3 three a multi-echo sequence (EPI, TR 4 s, TE 25 ms, 64 x 64 matrix, 28 slices at 1.5 mm3 isotropic resolution 136 Volumes per run).
10. Are the software and specific parameters (model/functions, smoothing kernel size if applicable, etc.) used for data processing and pre-processing clearly stated?	Yes, all fMRI analysis was performed usig Fressurfer's fs-fast data processind stream.
11. Is the coordinate space for the anatomical/functional imaging data clearly defined as subject/native space or standardized stereotaxic space, e.g., original Talairach, MNI305, ICBM152, etc? Where (section, paragraph #)?	For each animal we used a reference structural scan to which all other MRI-data (localizer fMRI data as well as per session structural MRI electrode position documentation data) was co-registered. We do not report group analysis results.
12. If there was data normalization/standardization to a specific space template, are the type of transformation (linear vs. nonlinear) used and image types being transformed clearly described? Where (section, paragraph #)?	All registrations to each animal's reference structural data were performed as affine registrations. No inter-animal normalization was performed, since the goal of the localization experiments was to map the face patch system in each subject to allow electrode targeting.
13. How were anatomical locations determined, e.g., via an automated labeling algorithm (AAL), standardized coordinate database (Talairach daemon), probabilistic atlases, etc.?	Face patches were individually localized for all four animals and the resulting 3-dimensional "maps" were the used for electrode trajectory planning and confirmation of documented stimulation positions.
14. Were any additional regressors (behavioral covariates, motion etc) used?	We added regressors to control motion correlated signal and for localization experiments we excluded individual time points / TRs during which the animals did not fixate for at least 70% of the TR duration (to account for the delay in the HRF we accounted each fixation sample not at the actual measurement time, but shifted it by 2.4 seconds forward in time, the time it took the HRF to peak).
15. Is the contrast construction clearly defined?	No. We simply compared blocks in which we presented faces or houses with blocks in which we presented different categories of non-face non-house objects.
16. Is a mixed/random effects or fixed inference used?	We only performed analyses on the per-individual level.
a. If fixed effects inference used, is this justified?	
17. Were repeated measures used (multiple measurements per subject)?	No.
a. If so, are the method to account for within subject correlation and the assumptions made about variance clearly stated?	Not applicable.

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18. If the threshold used for inference and visualization in figures varies, is this clearly stated?	The threshold for figure 1a, b is given in the legend, the threshold for supplementary figure 6 (threshold of 1.0000e-10 and a saturation value of 1.0000e-20 with 1.0000e-10 corresponding to <= 0.0005 Bonferroni corrected) is not specified in the text, but is the same threshold as used in figure 1b just with as as graded overlay to illustrate that the electrode tip ended in the core of the face patch (or rather on of the central voxels with really high significance). For Suppl. Fig. 7 we also used a threshold of 1.0000e-10 corresponding to <= 0.0005 Bonferroni corrected. For Fig. 7 we report lower thresholds for M2. All fMRI figures show the threshold and saturation points of the p-maps in color scale bars in units of uncorrected negative decadic logarithm of p.
19. Are statistical inferences corrected for multiple comparisons?	The figure legend for figure 1a, b state the Bonferroni corrected threshold equivalent of the lower threshold.
a. If not, is this labeled as uncorrected?	
20. Are the results based on an ROI (region of interest) analysis?	For FIg. 7c and Suppl. Fig. 7c we report the average beta-value for individual face-patches.
a. If so, is the rationale clearly described?	Yes.
b. How were the ROI's defined (functional vs anatomical localization)?	Face patch ROI's were based on localization fMRI mapping experiments in each individual monkey.
21. Is there correction for multiple comparisons within each voxel?	We only report uncorrected values in the figures. Based on the number of brain voxels per volume (M1, M2, M3 <= 174893 out of 497664; M3 47641 out of 114688) the worst case Bonferroni correction 0.05/174893 will result in an uncorrected p <= 2.8589e-07. So with the exception of Fig. 7 b) all reported overlay saturation values are well above the Bonferroni threshold for 0.05.
22. For cluster-wise significance, is the cluster-defining threshold and the corrected significance level defined?	No cluster-wise analysis was performed, but voxel-wise.

Additional comments

Additional Comments	

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