

Supplementary Information for

Seasonal plasticity in the adult somatosensory cortex

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Supplementary Information

Fig. S1. Seasonal changes in the brains of individual Etruscan shrews determined by manual and automated segmentation of brain regions.

(A) Top, Magnetic resonance imaging was used to obtain T2-weighted images with an inplane resolution of $75*75 \mu m$, and $250 \mu m$ between planes. Bottom, the brain was segmented into cortex (orange), hippocampus (pink), subcortical areas (purple), olfactory bulb (green) and cerebellum (red) and 3 dimensional volumes of these regions and the whole brain (gray) were obtained (**B**). Measurement of the volumes of the whole brain (**C**), cortex (**D**), olfactory bulb (**E**), subcortical regions (**F**), hippocampus (**G**) and cerebellum (**H**) indicates that only the cortex exhibits consistent shrinkage during winter with no pronounced effect of seasonal variation on the other areas of the brain. The left graph indicates volumes determined by expert-user segmentation, and the right graph indicates volumes determined by automatic segmentation. Colors in graphs in C-H indicate individual animals.

(Black dots indicate means; + indicates Cohen's d>0.8, large effect; ++ indicates Cohen's d>1.2, very large effect; * indicates p<0.05, *** indicates p<0.001, two tailed paired t-test and p<0.001 One-way repeated measure ANOVA). For statistical information, see table S1.



Fig. S2. Shrew brain volume increases with age and weight and shows a more profound decline during winter on normalizing for these parameters.

Brain volume of Etruscan shrews (n=56) shows an increase with (A) the age and (B) the weight of a shrew. (C) Partial correlation values indicate a significant relationship between the age and weight of the shrew to its brain volume. (D) Implementing a generalized liner model to correct the brain volume for the age and weight of a shrew, indicates that (E) the normalized brain volumes in Etruscan shrews measured repeatedly over several seasons show a profound decline during autumn and winter.

(++ indicates Cohen's d>1.2, very large effect; +++ indicates Cohen's d>2, huge effect; *** indicates p<0.001, two tailed paired t-test and p<0.001 One-way repeated measure ANOVA).

For statistical information, see table S1.



Fig. S3. Determination of changes along different cortical axes.

Measurements (purple lines) were made along radial (A), cortical surface (B) and longitudinal axes (C) of the cortex (yellow) in summer and winter, pairwise in the same animals (n = 9 shrews) at 24 distinct locations (coordinates of nodes, marked in green here, in Table S2) to determine how the cortex changed from summer to winter along these axes. For the cortical surface and longitudinal axes, only a subset of measurement points are displayed for visual purposes. Specifically in the longitudinal axes, points were selected at different horizontal planes corresponding to the anterior (and medial) and posterior (and lateral) most points of the cortex in that plane.



Fig. S4. Cortical layers and cortical thickness in motor and visual cortices.

(A) Gene expression (Rorb, Sulf2), immunohistochemistry (PCP4) and (B) histochemistry (WFA) demarcate the cortical layers in the somatosensory cortex with the WFA intensity peaking in layer 4 of the somatosensory cortex (B). (C) The motor cortex (n=10 shrews, p=0.0477) and (D) visual cortex (n=9 shrews, p=0.0672) show a marginal decline in cortical thickness in the winter but are not statistically significant at the 95-percentile level on correcting for multiple comparisons (Two tailed Mann Whitney U test, Bonferroni corrected $\alpha = 0.017$). Error bars are mean \pm SEM. For statistical information, see table S1.

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Fig. S5. Etruscan shrews lack anatomically defined barrels for whiskers in layer 4 of the somatosensory cortex.

(A) Phylogenetic tree indicating species lacking whisker barrels in layer 4 of somatosensory cortex (red), those having indistinct barrels (orange) or clearly defined barrels (green). The Etruscan shrew, like most other mammals with whiskers, lacks barrels.

(**B**) Nissl histochemistry of somatosensory cortex of an Etruscan shrew showing no barrels.

(C) Immunohistochemistry for vesicular glutamate 2 in the somatosensory cortex of an Etruscan shrew showing no barrels.

(**D**) Histochemistry for zinc in the somatosensory cortex of an Etruscan shrew showing no barrels.

(E) Immunohistochemistry for parvalbumin in the somatosensory cortex of an Etruscan shrew showing no barrels.



Fig. S6. Regional and laminar alignment of 2-photon imaging and cytochrome oxidase histology.

(A) Surface blood vessel pattern for an imaging region. Black arrowheads indicate blood vessels used for alignment to 2-photon image shown in (B) where corresponding blood vessels are indicating by white arrowheads. (C) Cytochrome oxidase (CO) staining was used to locate 2-photon imaging sites (dashed box) based on aligning blood vessel patterns visible in CO staining (D, left panel, black arrows) and minimum intensity projections of resliced z-stacks (D, middle panel, white arrows). Additionally, faint reductions in cytochrome oxidase activity were visible at imaging sites (D, left panel, green arrows), enabling precise laminar alignment. (D, right panel) shows a maximum intensity projection of the same location.



Fig. S7. Two-photon imaging across cortical layers.

(A) Slice through a z-stack of a shrew with two photon imaging performed in layer 2 (B), layer 3 to layer 5 from top to bottom. (C) Cells that were reliably activated (green), suppressed (red) or unmodulated (gray) on touch across each layer. The number in the center of the circle denotes cells recorded in the respective condition.



Fig. S8. Two-photon imaging across different seasons with determination of activation and suppression by inferred spikes or directly by fluorescence intensities.

Overall and layer specific responses of cells in the summer and winter based on inferred spikes (A) or directly on fluorescence intensities (B) for layer 2, layer 3, and layer 4 confirms that a lower fraction of cells are suppressed on touch during winter. The number in the center of the circle denotes cells recorded in the respective condition. For statistical information, see table S1.



Fig. S9. Responses of cells attenuate faster after touch in summer.

(A) The calcium event rate (mean ±SEM) of cells in summer (orange, n=454 cells, 5 shrews) and winter (blue, n=794 cells, 7 shrews) aligned to whisker stimulation. (B) The change in the event rate (mean ±SEM) of cells in summer and winter aligned to whisker stimulation indicates significantly faster response attenuation during summer. (p=0.0017, Two tailed unpaired t-test, Bonferroni corrected $\alpha = 0.0031$). For statistical information, see table S1.

Table S1	. Experiments	and respective	statistical	analyses.
	1	1		•

Figure	Experime nt	Numbe r of measu rement	Numb er of animal	Mean ± SE	Effect Size (Cohen's	Signif icanc e (p- value	Statisti cal test
		S	S		d)		
		~				,	
1C (summer-	Brain Volume						Two tailed
autumn)	(% change)	10	10	$\textbf{-0.93} \pm 0.32$	0.91	0.019	Paired t-test
1C (summer-	Brain Volume						Two tailed
winter)	(% change)	9	9	-1.47 ± 0.38	1.29	0.004	Paired t-test
IC (summer-	(% change)	8	8	-0.03 ± 0.38	0.03	0.93	I wo tailed Paired t-test
spring)	(/o change)	0	0	-1.06 ± 0.45	0.05	0.95	T difed t test
				(summer-			
				autumn); -1.50 \pm			0
				0.49 (summer- winter): -0.11 +			one-way repeated
	Brain Volume			0.42 (summer-			measure
1C	(% change)	7	7	spring)	-	0.002	ANOVA
1D (summer-	Cortex Volume	10	10	1.72 + 0.55	0.07	0.012	Two tailed
1D (summer-	(% change)	10	10	-1.72 ± 0.55	0.97	0.013	Two tailed
winter)	(% change)	9	9	-3.76 ± 0.95	1.32	0.004	Paired t-test
1D (summer-	Cortex Volume						Two tailed
spring)	(% change)	8	8	-2.67 ± 0.77	1.23	0.010	Paired t-test
				-1.34 ± 0.73			
				autumn); $-3.80 \pm$			
				1.24 (summer-			One-way
	Contor Valera			winter); $-2.81 \pm$			repeated
1D	(% change)	7	7	0.88 (summer- spring)	-	< 0.001	ANOVA
110	(/o enunge)	,	,	2.27 ± 0.08		-0.001	nito m
				(summer);			
				2.61 ± 0.13			
				(autumn); 2.69 ± 0.16			One-way
				(winter);			repeated
	Body Weight	_	_	2.69 ± 0.18			measure
ID	(g)	7	7	(spring)	-	<0.001	ANOVA
						(radial-	
						longitudi	
						nal);	
						<0.00001 (radial	
						cortical	
						surface);	Two tailed
						< 0.00001	Fisher's
						(longitud	exact test
	Cortical axes					cortical	corrected a
1F	changes	648	9	-	-	surface)	= 0.017)
							Two tailed
							Mann Whitney U
				544.32 ± 4.58			test
	Cortex			(summer);			(Bonferroni
-	Thickness			495.68 ± 6.36			corrected α
2B	(µm)	152	15	(winter)	1.03	<0.00001	= 0.017)

-						0.2983	
						(summer	Two tailed
						1 –	Mann
				71.88 ± 2.98		winter);	Whitney U
				(summer 1); $74.5(+2.22)$	0.17 (summer	0.0001	test
	Thickness			(4.56 ± 2.32) (winter): 88 25 +	1 - winter;	(summer	(Bonferroni
2D (L1)	(um)	97	15	2.60 (summer 2)	2 - winter	winter)	= 0.004)
(==)	((****)					0.5552	
						(summer	Two tailed
						1 –	Mann
				41.86 ± 0.95	0.12 (winter);	Whitney U
	Contax			(summer 1); 40.75 ± 1.66	0.13 (summer	0.6031	(Ponformani
	Thickness			(winter): 43.06 +	1 = winter), 0.22(summer		(Bonnerholm
2D (L2)	(µm)	97	15	2.16 (summer 2)	2 - winter	winter)	= 0.004)
						0.0455	
						(summer	Two tailed
						1 -	Mann
				86.30 ± 2.65	0.54 (антегная	winter);	Whitney U
	Cortex			(summer 1); 99.27 + 5.09	1 - winter	0.0743 (summer	(Bonferroni
	Thickness			(winter): $97.39 \pm$	0.07 (summer	2 –	corrected α
2D (L3)	(µm)	97	15	4.91 (summer 2)	2 - winter)	winter)	= 0.004)
						< 0.00001	
						(summer	Two tailed
				165.07 ± 2.84		1 -	Mann
				(summer 1);	1.04 (антегная	winter);	Whitney U
	Cortex			(119.53 ± 4.66)	1.94 (summer $1 - winter)$.	<0.00001 (summer	(Bonferroni
	Thickness			± 4.45 (summer	1.27 (summer	2 –	corrected a
2D (L4)	(µm)	97	15	2)	2 - winter)	winter)	= 0.004)
						0.1285	
						(summer	Two tailed
				84.44 ± 3.43		1 -	Mann
				(summer1);	0.52 (gummor	winter);	Whitney U
	Cortex			(winter) 104 60	1 - winter)	(summer	(Bonferroni
	Thickness			± 3.52 (summer	0.22 (summer	2 –	corrected α
2D (L5)	(µm)	97	15	2)	2 - winter	winter)	= 0.004)
						0.2757	
						(summer	Two tailed
				70 41 + 2 41		1 -	Mann
				(0.41 ± 2.41)	0.21 (summer	0.1362	test
	Cortex			66.92 ± 3.25	1 - winter):	(summer	(Bonferroni
	Thickness			(winter); 73.22 ±	0.36 (summer	2 –	corrected α
2D (L6)	(µm)	96	15	2.81 (summer 2)	2 – winter)	winter)	= 0.004)
				25933 ± 759			Two tailed
	Nour- D'			(summer);			Mann White H
2 E	(ner mm^2)	2861	10	18214 ± 789	262	<0.00001	whitney U
		3004	10	(winter) 169954 + 5675	2.02	~0.00001	Two tailed
				(summer):			Mann
	Neuron Density			148120 ± 8454			Whitney U
2F	(per mm ³)	3864	10	(winter)	0.84	0.0751	test
3F				43% (summer);		_	
(suppressed)	Cell responses	420	12	28% (winter)	-	< 0.0001	z-test
							Chi-square
							(Bonformor:
							corrected a
3G (L2)	Cell responses	342	12	-	-	0.006	= 0.017)
- (/							Chi-square
							test
							(Bonferroni
	~ "						corrected α
3G (L3)	Cell responses	213	12	-	-	0.012	= 0.017)

							Chi-square
							test
							(Bonferroni
20 (1.4)	C-11	107	12			<0.0001	corrected α
3G (L4)	Cell responses	107	12	-	-	<0.0001	= 0.01/)
				3133 ± 137			I wo talled Mann
	Neuron Density			(summer): 2522			Whitney U
4C	(per mm ²)	509	10	± 180 (winter)	0.98	0.0151	test
	Brain volume						Two tailed
4E	(% change)	7	7	-1.93 ± 0.29	2.48	< 0.001	Paired t-test
				-1.93 ± 0.29			One-way
				(summer-			repeated
45	Brain Volume	7	7	summer limited		0.002	measure
4E	(% change)	/	/	Iood)	-	0.002	ANOVA Two toiled
4F	(% change)	7	7	-6.72 ± 1.50	1.69	0.004	Paired t-test
	(70 change)	/	/	-6.72 ± 1.50	1.07	0.004	One-way
				(summer-			repeated
	Cortex Volume			summer limited			measure
4E	(% change)	7	7	food)	-	< 0.001	ANOVA
	Olfactory bulb						
(5	volume (%	-	_	0.00 . 0.70	0.02	0.040	Two tailed
4E	change)	7	7	0.22 ± 2.73	0.03	0.940	Paired t-test
	Olfactory bulb			0.22 ± 2.73			One-way
	volume (%			(summer limited			measure
4E	change)	7	7	food)	-	0.994	ANOVA
	Subcortical	,	,	1000)		0.771	11110111
	regions volume						Two tailed
4E	(% change)	7	7	-0.06 ± 1.14	0.02	0.957	Paired t-test
				-0.06 ± 1.14			One-way
	Subcortical			(summer-			repeated
415	regions volume	7	7	summer limited		0.105	measure
4E	(⁷⁰ change) Hippocampus	/	/	1000)	-	0.105	ANOVA
	volume (%						Two tailed
4E	change)	7	7	-3.00 ± 2.32	0.49	0.24	Paired t-test
				-3.00 ± 2.32			One-way
	Hippocampus			(summer-			repeated
	volume (%			summer limited			measure
4E	change)	7	7	food)	-	0.392	ANOVA
	Cerebellum						T 4-11-1
4F	change)	7	7	5.42 ± 2.29	0.89	0.056	Paired t-test
12	enange)	,	,	5.42 ± 2.29	0.09	0.050	One-way
	Cerebellum			(summer-			repeated
	volume (%			summer limited			measure
4E	change)	7	7	food)	-	0.068	ANOVA
S1C							
(summer-				61.42 ± 0.94			
autumn;	Brain volume			(summer); 60.63			Two tailed
expert)	(mm ³)	10	10	± 1.06 (autumn)	0.83	0.027	Paired t-test
S1C							
(summer-	р.,			61.59 ± 1.03			T
winter;	Brain volume $(m m^3)$	0	0	(summer); 60.74	0.6	0.052	I wo tailed
sic	(mm [*])	9	9	\pm 1.10 (winter)	0.0	0.055	Paired t-test
(summer-				61.89 ± 1.12			
spring:	Brain volume			(summer): 61.94			Two tailed
expert)	(mm ³)	8	8	± 1.11 (spring)	0.89	0.814	Paired t-test
. ,				61.51 ± 1.22			
				(summer); 60.84			
				\pm 1.32 (autumn);			One-way
	Ducin 1			60.69 ± 1.24			repeated
SIC (expert)	(mm^3)	7	7	(winter); $61.5/\pm$	_	<0.001	
STC (expert)		1	/	1.21 (spring)	-	~0.001	ANOVA

\$1C							
(summer				66.17 ± 1.06			
(summer-	Destinantes			(00.17 ± 1.00)			T 4. 1. 4
autumn;	Brain volume	10	10	(summer); 65.//	0.02	0.000	I wo tailed
automated)	(mm ³)	10	10	± 0.92 (autumn)	0.83	0.280	Paired t-test
S1C							
(summer-				66.30 ± 1.76			
winter;	Brain volume			(summer); 65.26			Two tailed
automated)	(mm^3)	9	9	± 1.18 (winter)	0.6	0.057	Paired t-test
SIC		-	-				
(summer-				66.61 ± 1.29			
(summer-	Duoin violumo			(300.01 ± 1.29)			True tailed
spring;	Brain volume	0	0	(summer); 66.52	0.00	0.015	I wo tailed
automated)	(mm ³)	8	8	\pm 1.45 (spring)	0.89	0.815	Paired t-test
				66.17 ± 1.40			
				(summer); 65.45			
				± 1.17 (autumn);			One-way
				65.07 ± 1.50			repeated
SIC	Brain volume			$(winter): 65.07 \pm$			mensure
(automated)	(mm ³)	7	7	$(winter), 05.97 \pm 1.54 (aming)$		0.160	ANOVA
(automateu)	(11111)	/	/	1.54 (spring)	-	0.100	ANOVA
SID							
(summer-				12.54 ± 0.19			
autumn;	Cortex Volume			(summer); 12.16			Two tailed
expert)	(mm ³)	10	10	± 0.20 (autumn)	1.03	0.01	Paired t-test
S1D							
(summer-				12.47 ± 0.20			
wintor	Cortox Volumo			(2.77 ± 0.20)			Two tailed
winter,		0	0	(summer), 11.90	1.00	0.000	I wo taneu
expert)	(mm ³)	9	9	± 0.30 (winter)	1.26	0.009	Paired t-test
S1D							
(summer-				12.52 ± 0.22			
spring;	Cortex Volume			(summer); 12.23			Two tailed
expert)	(mm^3)	8	8	± 0.13 (spring)	0.78	0.074	Paired t-test
	()	-	~	12.45 ± 0.24	0.7.0		
				(2.75 ± 0.27)			
				(summer); 12.20			0
				\pm 0.22 (autumn);			One-way
				11.85 ± 0.34			repeated
	Cortex Volume			(winter); $12.12 \pm$			measure
S1D (expert)	(mm^3)	7	7	0.10 (spring)	-	< 0.001	ANOVA
S1D							
(summer-				11.30 ± 0.18			
outumn	Cortox Volumo			(300 ± 0.10)			Two tailed
autumin,	(mm ³)	10	10	(summer), 11.21	0.42	0.217	Doined t test
automated)	(mm)	10	10	± 0.17 (autumn)	0.42	0.217	Paired t-test
SID				11.24 . 0.20			
(summer-				11.36 ± 0.20			
winter;	Cortex Volume			(summer); 10.98			Two tailed
automated)	(mm^3)	9	9	± 0.20 (winter)	0.95	0.021	Paired t-test
S1D							
(summer-				11.37 ± 0.22			
(summer-	Center Velence			(11.57 ± 0.22)			Trees to its d
spring;	Cortex volume	0	0	(summer); 11.02	1.04	0.000	I wo talled
automated)	(mm ²)	8	8	± 0.25 (spring)	1.04	0.008	Paired t-test
				11.26 ± 0.23			
				(summer); 11.17			
				± 0.22 (autumn):			One-way
				10.95 ± 0.25			repeated
S1D	Cortex Volume			$(winter) \cdot 10.90 +$			measure
(automated)	(mm ³)	7	7	0.18 (enring)	_	0.004	ANOVA
	(mm)	/	,	0.10 (spring)	-	0.004	ANOVA
SIE				5.07 . 0.10			
(summer-				5.87 ± 0.19			
autumn;	Olfactory bulb			(summer); 5.84			Two tailed
expert)	volume (mm ³)	10	10	± 0.19 (autumn)	0.06	0.854	Paired t-test
S1E			<u> </u>				
(summer-				5.94 ± 0.20			
winter	Olfactory bulb			(summer): 5.77			Two tailed
winter,	volume (mm ³)	0	0	± 0.22 (winter)	0.17	0.201	Doirod t tost
expert)	volume (mm ²)	9	9	\pm 0.25 (winter)	0.17	0.301	Paired t-test
SIE							
(summer-				5.93 ± 0.23			
spring;	Olfactory bulb			(summer); 5.93			Two tailed
expert)	volume (mm ³)	8	8	± 0.18 (spring)	0.09	0.996	Paired t-test
· · ·	, í			5.90 ± 0.26			
	Olfactory bulb			(summer): 5.88			One-way
SIF (expert)	volume (mm ³)	7	7	+0.22 (autumn).	_	0.606	reneated
ore (expert)		/	/	± 0.22 (autumn);		0.000	repeated

				5.85 ± 0.29			measure
				(winter); $5.95 \pm$			ANOVA
				0.21 (spring)			
S1E							
(summer-				5.36 ± 0.12			
autumn;	Olfactory bulb	10	10	(summer); 5.37	0.02	0.012	Two tailed
automated)	volume (mm ³)	10	10	± 0.09 (autumn)	0.03	0.913	Paired t-test
SIE				5.0 () 0.10			
(summer-	016 / 1 11			5.36 ± 0.13			T (11
winter;	Olfactory bulb	0	0	(summer); 5.48	0.52	0.521	I wo tailed
automated)	volume (mm ²)	9	9	± 0.07 (Winter)	0.52	0.521	Paired t-test
SIE				5.42 ± 0.00			
(summer-	Olfostowy bulb			5.45 ± 0.09			True tailed
spring;	Vilaciory build	0	0	± 0.12 (summer); 5.41	0.26	0.624	I wo talled
automateu)	volume (mm)	0	0	± 0.13 (spring)	0.20	0.034	raneu t-test
				(3.37 ± 0.12)			
				± 0.10 (autumn):			One wow
				± 0.10 (autumn), 5.42 ± 0.06			repeated
S1E	Olfactory bulb			(1.42 ± 0.00)			measure
(automated)	$volume (mm^3)$	7	7	$(\text{winter}), 5.55 \pm$		0.092	ANOVA
(autoillateu)	volume (mm)	/	/	0.15 (spring)	-	0.092	ANOVA
(summer-	Subcortical			13.85 ± 0.30			
(summer-	regions volume			(summer): 14.12			Two toiled
autuilii,	(mm ³)	10	10	± 0.39 (autumn)	0.25	0.442	Poired t test
sir	(11111)	10	10	± 0.39 (autumn)	0.23	0.442	rancu t-test
(cummor	Subcortical			12.85 ± 0.22			
(summer-	ragiona volumo			(3.05 ± 0.35)			Two toiled
winter;	regions volume	0	0	(summer); 14.40	0.79	0.040	I wo talled
expert)	(mm ²)	9	9	± 0.29 (winter)	0.78	0.049	Paired t-test
511	Subcontinal			12.06 + 0.26			
(summer-	Subcortical			13.90 ± 0.30			T (11
spring;	regions volume	0	0	(summer); 14.52	0.02	0.072	I wo tailed
expert)	(mm ²)	8	8	± 0.36 (spring)	0.93	0.063	Paired t-test
				13.76 ± 0.34			
				(summer); 14.17			0
				± 0.5 / (autumn);			One-way
	Subcortical			14.42 ± 0.37			repeated
G1E ()	regions volume	-	-	(winter); $14.47 \pm$		0.070	measure
SIF (expert)	(mm ²)	1	1	0.41 (spring)	-	0.078	ANOVA
SIF	Confront and			14.21 + 0.22			
(summer-	Subcortical			14.21 ± 0.23			True to la d
autumn;	regions volume	10	10	(summer); 14.21	0.02	0.042	I wo tailed
automated)	(mm ²)	10	10	± 0.25 (autumn)	0.02	0.943	Paired t-test
SIF	Confront and			14.24 + 0.26			
(summer-	Subcortical			14.24 ± 0.26			T (11
winter;	regions volume	0	0	(summer); 14.13	0.17	0.670	I wo tailed
automated)	(mm [*])	9	9	± 0.30 (winter)	0.17	0.078	Paired t-test
SIF				14.22 + 0.20			
(summer-	Subcortical			14.23 ± 0.29			T (11
spring;	regions volume	0	0	(summer); 14.26	0.16	0.701	I wo tailed
automated)	(mm ³)	8	8	± 0.31 (spring)	0.16	0.781	Paired t-test
				14.12 ± 0.31			
				(summer); 14.10			
				± 0.34 (autumn);			One-way
	Subcortical			14.06 ± 0.38			repeated
SIF	regions volume	_	_	(winter); 14.18 \pm			measure
(automated)	(mm²)	7	7	0.35 (spring)	-	0.706	ANOVA
SIG				- 10 - 10			
(summer-				7.10 ± 0.18			
autumn;	Hippocampus			(summer); 7.12			Two tailed
expert)	volume (mm')	10	10	± 0.15 (autumn)	0.05	0.88	Paired t-test
S1G							
(summer-				7.14 ± 0.20			
winter;	Hippocampus			(summer); 7.27			Two tailed
expert)	volume (mm ³)	9	9	± 0.17 (winter)	0.31	0.49	Paired t-test
S1G							
(summer-				7.23 ± 0.19			
spring;	Hippocampus			(summer); 6.93			Two tailed
expert)	volume (mm ³)	8	8	± 0.15 (spring)	0.38	0.102	Paired t-test

	Hinnocompus			7.22 ± 0.22 (summer); 7.02 ± 0.20 (autumn); 7.19 ± 0.21 (winter); 6.80 +			One-way repeated
S1G (expert)	volume (mm ³)	7	7	0.16 (spring)	-	0.165	ANOVA
S1G (summer- autumn; automated)	Hippocampus volume (mm ³)	10	10	6.72 ± 0.13 (summer); 6.75 ± 0.14 (autumn)	0.16	0.621	Two tailed Paired t-test
sig (summer- winter; automated)	Hippocampus volume (mm ³)	9	9	6.75 ± 0.14 (summer); 6.66 ± 0.14 (winter)	0.32	0.511	Two tailed Paired t-test
(summer- spring; automated)	Hippocampus volume (mm ³)	8	8	6.74 ± 0.16 (summer); 6.78 ± 0.13 (spring)	0.30	0.576	Two tailed Paired t-test
S1G (automated)	Hippocampus volume (mm ³)	7	7	$\begin{array}{c} 6.68 \pm 0.18 \\ (\text{summer}); \ 6.70 \\ \pm \ 0.19 \ (\text{autumn}); \\ 6.61 \pm 0.16 \\ (\text{winter}); \ 6.72 \pm \\ 0.14 \ (\text{spring}) \end{array}$	-	0.746	One-way repeated measure ANOVA
(summer- autumn; expert)	Cerebellum volume (mm ³)	10	10	3.72 ± 0.11 (summer); 3.92 ± 0.14 (autumn)	0.44	0.359	Two tailed Paired t-test
S1H (summer- winter; expert)	Cerebellum volume (mm ³)	9	9	3.76 ± 0.12 (summer); 3.94 ± 0.11 (winter)	0.48	0.273	Two tailed Paired t-test
S1H (summer- spring; expert)	Cerebellum volume (mm ³)	8	8	3.81 ± 0.12 (summer); 3.87 ± 0.15 (spring)	0.34	0.679	Two tailed Paired t-test
S1H (expert)	Cerebellum volume (mm ³)	7	7	3.76 ± 0.14 (summer); 3.98 ± 0.19 (autumn); 3.90 ± 0.14 (winter); $3.76 \pm$ 0.11 (spring)	_	0.309	One-way repeated measure ANOVA
S1H (summer- autumn; automated)	Cerebellum volume (mm ³)	10	10	3.53 ± 0.10 (summer); 3.44 ± 0.08 (autumn)	0.40	0.239	Two tailed Paired t-test
S1H (summer- winter; automated)	Cerebellum volume (mm ³)	9	9	3.53 ± 0.12 (summer); 3.42 ± 0.09 (winter)	0.39	0.176	Two tailed Paired t-test
S1H (summer- spring; automated)	Cerebellum volume (mm ³)	8	8	3.57 ± 0.13 (summer); 3.58 ± 0.09 (spring)	0.23	0.850	Two tailed Paired t-test
S1H (automated)	Cerebellum volume (mm³)	7	7	3.51 ± 0.13 (summer); 3.42 ± 0.11 (autumn); 3.44 ± 0.11 (winter); 3.54 ± 0.09 (spring)	-	0.0504	One-way repeated measure ANOVA
S2E (summer- autumn)	Normalized Brain volume	10	10	$1.25 \pm 0.02 (summer); 1.19 \pm 1.02 (autumn)$	2.68	<0.001	Two tailed Paired t-test
S2E (summer- winter)	Normalized Brain volume	9	9	1.25 ± 0.02 (summer); 1.18 ± 0.02 (winter)	2.51	<0.001	Two tailed Paired t-test

					1.26 ± 0.06			
	S2E				(summer);			
	(summer-	Normalized			1.20 ± 0.04			Two tailed
	spring)	Brain volume	8	8	(spring)	1.79	< 0.001	Paired t-test
	1 6/				1.26 ± 0.06			
					(summer):			
					1.20 ± 0.05			
					1.20 ± 0.05			
					(autumn);			
					1.19 ± 0.05			One-way
		NT 11 1			(winter);			repeated
		Normalized	0	0	1.20 ± 0.04		0.001	measure
	S2E	Brain Volume	8	8	(spring)	-	< 0.001	ANOVA
								Two tailed
								Mann
								Whitney U
								test
		Cortex			615.8 ± 8.57			(Bonferroni
		Thickness			(summer); 569 \pm			corrected α
	S3C	(µm)	30	10	19.65 (winter)	0.80	0.0477	= 0.017)
					, , , , , , , , , , , , , , , , , , ,			Two tailed
								Mann
								Whitney U
								test
		Cortex			232.2 ± 14.85			(Bonferroni
		Thickness			(summer): 201.4			(Domentoin
	S2D	(um)	27	0	± 8.4 (winter)	0.72	0.0672	= 0.017
	33D	(μπ)	21	9	\pm 0.4 (winter)	0.75	0.0072	- 0.017)
	59 A							Z-test
	88A							(Bonterroni
	(L2,				44% (summer);			corrected α
	suppressed)	Cell responses	231	12	32% (winter)	-	0.0023	= 0.017)
								z-test
	S8A							(Bonferroni
	(L3,				34% (summer);			corrected α
	suppressed)	Cell responses	108	12	24% (winter)	-	0.038	= 0.017)
								z-test
	S8A							(Bonferroni
	(L4,				55% (summer);			corrected α
	suppressed)	Cell responses	69	12	24% (winter)	-	< 0.0001	= 0.017)
	S8A				, , , , , , , , , , , , , , , , , , ,			Í Í
	(All.				43% (summer):			
	suppressed)	Cell responses	420	12	28% (winter)	-	< 0.0001	z-test
	suppresseu)	e en responses		12	20/0 (((inter))		010001	z-test
	\$8B							(Bonferroni
	(I 2				40% (summer).			corrected a
	(L2,	Cell responses	100	12	$\frac{340}{3}$ (winter)		<0.0001	-0.017
	suppressed)	Cell responses	190	12	5470 (winter)	-	<0.0001	- 0.017)
	COD							Z-test
	50D (1.2				420/ ((Bomerrom
	(L3,	G 11			43% (summer);		0.0001	corrected α
	suppressed)	Cell responses	99	12	17% (winter)	-	<0.0001	= 0.01/)
								z-test
	S8B							(Bonferroni
	(L4,				65% (summer);			corrected α
	suppressed)	Cell responses	66	12	13% (winter)	-	< 0.0001	= 0.017)
	S8B							
	(All,				45% (summer);			z-test
	suppressed)	Cell responses	435	12	20% (winter)	-	< 0.0001	
					, í		1	Two tailed
								Unpaired t-
								test
					-1.19 ± 0.27			(Bonferroni
		Response rate			(summer) = 0.27			corrected a
	SOR	change (e ⁻²)	1248	12	± 0.16 (winter)	0.19	0.0017	= 0.0031
15		CHARGERS	1440	1.4	+ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$	17.17	1 11.1011 /	

Table S2. Location of nodes used to determine changes along the cortical axes in standard shrew space coordinates.

Axes	LocationID	Node 1	Node 2	Node 3	Node 4
		(-2.47000,-0.72000,-	(-3.10000,-0.72000,-		
Radial	R1	1.77000)	1.77000)		
		(-2.19000,-0.72000,-	(-2.47000,-0.72000,-		
	R2	0.86000)	0.65000)		
		(-1.14000,-0.72000,-	(-1.42000,-		
	R3	0.30000)	0.72000,0.12000)		
		(1.10000,-0.72000,-	(1.31000,-		
	R4	0.30000)	0.72000,0.12000)		
		(2.22000,-0.72000,-	(2.43000,-0.72000,-		
	R5	0.86000)	0.65000)		
	D.((2.50000,-0.72000,-	(3.13000,-0.72000,-		
	R6	1.77000)	1.77000)		
	D7	(-2.19000,-0.44000,-	(-3.10000,-0.44000,-		
	K /	(1000)	(2,2,2,0,0,0,0,4,4,0,0,0,0,0,0,0,0,0,0,0,		
	DS	(-1.98000,-0.44000,-	(-2.33000,-0.44000,-		
	Ко	(1,0000,0,44000)	(1,21000)		
	RO	(-1.00000,-0.44000,-	(-1.21000, -0.12000)		
	it.)	(0.96000) = 0.44000 =	(1 17000 -		
	R10	0.37000)	0.44000.0.12000)		
	1110	(2.010000.44000	(2.360000.44000		
	R11	1.00000)	0.58000)		
		(2.29000,-0.44000,-	(3.13000,-0.44000,-		
	R12	1.77000)	1.77000)		
		(-2.26000,-0.02000,-	(-2.96000,-0.02000,-		
	R13	1.77000)	1.77000)		
		(-1.98000,-0.02000,-	(-2.26000,-0.02000,-		
	R14	0.79000)	0.58000)		
		(-1.14000,-0.02000,-	(-1.35000,-		
	R15	0.44000)	0.02000,0.05000)		
	D 1((1.03000,-0.02000,-	(1.31000,-		
	R16	(2.01000, 0.02000)	(2,2000,0.05000)		
	D17	(2.01000,-0.02000,-	(2.29000,-0.02000,-		
	KI/	(2,01000) = 0.02000 =	(2.99000) = 0.02000		
	R18	1 77000)	1 77000)		
	Rio	(-1.98000.0.40000	(-2.96000.0.40000		
	R19	1.77000)	1.77000)		
		(-1.98000,0.40000,-	(-2.19000,0.40000,-		
	R20	0.86000)	0.65000)		
		(-0.93000,0.40000,-	(-1.14000,0.40000,-		
	R21	0.51000)	0.02000)		
		(0.89000,0.40000,-	(1.10000,0.40000,-		
	R22	0.51000)	0.02000)		
		(1.87000,0.40000,-	(2.15000,0.40000,-		
	R23	0.86000)	0.65000)		
	5.2.4	(1.94000,0.40000,-	(2.92000,0.40000,-		
	R24	1.84000)	1.84000)		
		(-2 34400 -2 19000 -	(-1.77000.0.82000		
Longitudinal	L1	0 66400)	0.65000)		
Dolightuumur	21	(2.304002.19000	(1.73000.0.89000		
	L2	0.66400)	0.65000)		
		(-2.27400,-2.19000,-	(-1.49000,0.82000,-		
	L3	0.59400)	0.58000)		
		(2.22000,-2.19000,-	(1.10000,0.75000,-		
	L4	0.59400)	0.58000)		
		(-2.19000,-2.19000,-	(-0.23000,0.82000,-		
	L5	0.51000)	0.52400)		
		(2.22000,-2.19000,-	(0.20400,0.82000,-		
	L6	0.51000)	0.52400)		

	(-2.13400,-2.26000,-	(-0.23000,0.83400,-		
L7	0.45400)	0.45400)		
	(2.06600,-2.26000,-	(0.12000,0.83400,-		
L8	0.45400)	0.45400)		
	(-2.06400,-2.26000,-	(-0.24400,0.75000,-		
L9	0.38400)	0.38400)		
	(2.16400,-2.26000,-	(0.12000,0.75000,-		
L10	0.38400)	0.38400)		
	(-1.98000,-2.27400,-	(-0.14600,0.75000,-		
L11	0.31400)	0.31400)		
	(2.08000,-2.26000,-	(0.12000,0.75000,-		
L12	0.30000)	0.31400)		
	(-1.98000,-2.19000,-	(-0.23000,0.75000,-		
L13	0.23000)	0.24400)		
	(2.02400,-2.19000,-	(0.10600,0.75000,-		
L14	0.24400)	0.24400)		
	(-1.77000,-2.26000,-	(-0.23000,0.76400,-		
L15	0.16000)	0.17400)		
	(1.94000,-2.19000,-	(0.19000,0.76400,-		
L16	0.16000)	0.17400)		
	(-1.70000,-2.19000,-	(-0.23000,0.68000,-		
L17	0.09000)	0.10400)		
	(1.80000,-2.19000,-	(0.20400,0.68000,-		
L18	0.09000)	0.10400)		
	(-1.50400,-2.12000,-	(-0.23000,0.69400,-		
L19	0.03400)	0.03400)		
	(1.73000,-2.05000,-	(0.12000,0.69400,-		
L20	0.02000)	0.03400)		
		(-		
	(-1.42000,-	0.23000,0.62400,0.0360		
L21	2.12000,0.05000)	0)		
	(1.53400,-	(0.12000,0.61000,0.050		
L22	2.05000,0.03600)	00)		
		(-		
	(-1.35000,-	0.23000,0.54000,0.1200		
L23	2.05000,0.12000)	0)		
	(1.45000,-	(0.19000, 0.54000, 0.120		
L24	(1.45000,- 2.05000,0.12000)	(0.19000,0.54000,0.120 00)		
L24	(1.45000,- 2.05000,0.12000)	(0.19000,0.54000,0.120 00)		
L24	(1.45000,- 2.05000,0.12000) (-2.47000,-0.72000,-	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,-	(-1.14000,-0.72000,-	(-0.23000,-0.72000,-
L24 C1	(1.45000,- 2.05000,0.12000) (-2.47000,-0.72000,- 1.77000)	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000)	(-1.14000,-0.72000,- 0.30000)	(-0.23000,-0.72000,- 0.09000)
L24 C1	(1.45000,- 2.05000,0.12000) (-2.47000,-0.72000,- 1.77000) (-2.78500,-0.72000,-	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,-	(-1.14000,-0.72000,- 0.30000) (-1.28000,-0.72000,-	(-0.23000,-0.72000,- 0.09000) (-0.23000,-
L24 C1 C2	(1.45000,- 2.05000,0.12000) (-2.47000,-0.72000,- 1.77000) (-2.78500,-0.72000,- 1.77000)	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500)	(-1.14000,-0.72000,- 0.30000) (-1.28000,-0.72000,- 0.09000)	(-0.23000,-0.72000,- 0.09000) (-0.23000,- 0.72000,0.12000)
L24 C1 C2	(1.45000,- 2.05000,0.12000) (-2.47000,-0.72000,- 1.77000) (-2.78500,-0.72000,- 1.77000) (-3.10000,-0.72000,-	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500) (-2.47000,-0.72000,-	(-1.14000,-0.72000,- 0.30000) (-1.28000,-0.72000,- 0.09000) (-1.42000,-	(-0.23000,-0.72000,- 0.09000) (-0.23000,- 0.72000,0.12000) (-0.23000,-
L24 C1 C2 C3	(1.45000,- 2.05000,0.12000) (-2.47000,-0.72000,- 1.77000) (-2.78500,-0.72000,- 1.77000) (-3.10000,-0.72000,- 1.77000)	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500) (-2.47000,-0.72000,- 0.65000)	(-1.14000,-0.72000,- 0.30000) (-1.28000,-0.72000,- 0.09000) (-1.42000,- 0.72000,0.12000)	(-0.23000,-0.72000,- 0.09000) (-0.23000,- 0.72000,0.12000) (-0.23000,- 0.72000,0.33000)
L24 C1 C2 C3	(1.45000,- 2.05000,0.12000) (-2.47000,-0.72000,- 1.77000) (-2.78500,-0.72000,- 1.77000) (-3.10000,-0.72000,- 1.77000) (0.19000,-0.72000,-	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500) (-2.47000,-0.72000,- 0.65000) (1.10000,-0.72000,-	(-1.14000,-0.72000,- 0.30000) (-1.28000,-0.72000,- 0.09000) (-1.42000,- 0.72000,0.12000) (2.22000,-0.72000,-	(-0.23000,-0.72000,- 0.09000) (-0.23000,- 0.72000,0.12000) (-0.23000,- 0.72000,0.33000) (2.50000,-0.72000,-
L24 C1 C2 C3 C4	(1.45000,- 2.05000,0.12000) (-2.47000,-0.72000,- 1.77000) (-2.78500,-0.72000,- 1.77000) (-3.10000,-0.72000,- 1.77000) (0.19000,-0.72000,- 0.09000) (0.19000,-0.72000,- 0.09000)	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500) (-2.47000,-0.72000,- 0.65000) (1.10000,-0.72000,- 0.30000)	(-1.14000,-0.72000,- 0.30000) (-1.28000,-0.72000,- 0.09000) (-1.42000,- 0.72000,0.12000) (2.22000,-0.72000,- 0.86000)	(-0.23000,-0.72000,- 0.09000) (-0.23000,- 0.72000,0.12000) (-0.23000,- 0.72000,0.33000) (2.50000,-0.72000,- 1.77000)
L24 C1 C2 C3 C4	(1.45000,- 2.05000,0.12000) (-2.47000,-0.72000,- 1.77000) (-2.78500,-0.72000,- 1.77000) (-3.10000,-0.72000,- 1.77000) (0.19000,-0.72000,- 0.09000) (0.19000,- 0.720000)	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500) (-2.47000,-0.72000,- 0.65000) (1.10000,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.2000,-0.72000,-	(-1.14000,-0.72000,- 0.30000) (-1.28000,-0.72000,- 0.09000) (-1.42000,- 0.72000,0.12000) (2.22000,-0.72000,- 0.86000) (2.32500,-0.72000,-	(-0.23000,-0.72000,- 0.09000) (-0.23000,- 0.72000,0.12000) (-0.23000,- 0.72000,0.33000) (2.50000,-0.72000,- 1.77000) (2.81500,-0.72000,-
L24 C1 C2 C3 C4 C5	(1.45000,- 2.05000,0.12000) (-2.47000,-0.72000,- 1.77000) (-2.78500,-0.72000,- 1.77000) (-3.10000,-0.72000,- 1.77000) (0.19000,-0.72000,- 0.09000) (0.19000,- 0.72000,0.12000) (0.19000,-	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500) (-2.47000,-0.72000,- 0.65000) (1.10000,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.09000) (1.20500,-0.72000,-	(-1.14000,-0.72000,- 0.30000) (-1.28000,-0.72000,- 0.09000) (-1.42000,- 0.72000,0.12000) (2.22000,-0.72000,- 0.86000) (2.32500,-0.72000,- 0.75500)	(-0.23000,-0.72000,- 0.09000) (-0.23000,- 0.72000,0.12000) (-0.23000,- 0.72000,0.33000) (2.50000,-0.72000,- 1.77000) (2.81500,-0.72000,- 1.77000)
L24 C1 C2 C3 C4 C5	(1.45000,- 2.05000,0.12000) (-2.47000,-0.72000,- 1.77000) (-2.78500,-0.72000,- 1.77000) (-3.10000,-0.72000,- 1.77000) (0.19000,-0.72000,- 0.09000) (0.19000,- 0.72000,0.12000) (0.19000,- 0.72000,0.2000)	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500) (-2.47000,-0.72000,- 0.65000) (1.10000,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.09000) (1.31000,- 0.72000,0.12000)	(-1.14000,-0.72000,- 0.30000) (-1.28000,-0.72000,- 0.09000) (-1.42000,- 0.72000,0.12000) (2.22000,-0.72000,- 0.86000) (2.32500,-0.72000,- 0.75500) (2.43000,-0.72000,- 0.65000,-	(-0.23000,-0.72000,- 0.09000) (-0.23000,- 0.72000,0.12000) (-0.23000,- 0.72000,0.33000) (2.50000,-0.72000,- 1.77000) (2.81500,-0.72000,- 1.77000) (3.13000,-0.72000,-
L24 C1 C2 C3 C4 C5 C6	(1.45000,- 2.05000,0.12000) (-2.47000,-0.72000,- 1.77000) (-2.78500,-0.72000,- 1.77000) (-3.10000,-0.72000,- 1.77000) (0.19000,-0.72000,- 0.09000) (0.19000,- 0.72000,0.12000) (0.19000,- 0.72000,0.33000) (2.19000,0 0.01000)	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500) (-2.47000,-0.72000,- 0.65000) (1.10000,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.09000) (1.31000,- 0.72000,0.12000) (1.20500,-0.2000)	(-1.14000,-0.72000,- 0.30000) (-1.28000,-0.72000,- 0.09000) (-1.42000,- 0.72000,0.12000) (2.22000,-0.72000,- 0.86000) (2.32500,-0.72000,- 0.75500) (2.43000,-0.72000,- 0.65000)	(-0.23000,-0.72000,- 0.09000) (-0.23000,- 0.72000,0.12000) (-0.23000,- 0.72000,0.33000) (2.50000,-0.72000,- 1.77000) (2.81500,-0.72000,- 1.77000) (3.13000,-0.72000,- 1.77000)
L24 C1 C2 C3 C4 C5 C6	(1.45000,- 2.05000,0.12000) (-2.47000,-0.72000,- 1.77000) (-2.78500,-0.72000,- 1.77000) (-3.10000,-0.72000,- 1.77000) (0.19000,-0.72000,- 0.09000) (0.19000,- 0.72000,0.12000) (0.19000,- 0.72000,0.33000) (-2.19000,-0.44000,- 1.77000	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500) (-2.47000,-0.72000,- 0.65000) (1.10000,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.09000) (1.31000,- 0.72000,0.12000) (-1.98000,-0.44000,- 0.90000,-	(-1.14000,-0.72000,- 0.30000) (-1.28000,-0.72000,- 0.09000) (-1.42000,- 0.72000,0.12000) (2.22000,-0.72000,- 0.86000) (2.32500,-0.72000,- 0.75500) (2.43000,-0.72000,- 0.65000) (-1.00000,-0.44000,- 0.27000)	(-0.23000,-0.72000,- 0.09000) (-0.23000,- 0.72000,0.12000) (-0.23000,- 0.72000,0.33000) (2.50000,-0.72000,- 1.77000) (2.81500,-0.72000,- 1.77000) (3.13000,-0.72000,- 1.77000) (-0.16000,-0.44000,- 0.27000),-
L24 C1 C2 C3 C4 C5 C6 C7	(1.45000,- 2.05000,0.12000) (-2.47000,-0.72000,- 1.77000) (-2.78500,-0.72000,- 1.77000) (-3.10000,-0.72000,- 1.77000) (0.19000,-0.72000,- 0.09000) (0.19000,- 0.72000,0.12000) (0.19000,- 0.72000,0.33000) (-2.19000,-0.44000,- 1.77000) (2.64500,0.44000,-	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500) (-2.47000,-0.72000,- 0.65000) (1.10000,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.09000) (1.31000,- 0.72000,0.12000) (-1.98000,-0.44000,- 0.86000) (2.15500,0.44000,-	(-1.14000,-0.72000,-0.30000) (-1.28000,-0.72000,-0.90000) (-1.42000,-0.72000,-0.72000,-0.72000,-0.72000) (2.22000,-0.72000,-0.86000) (2.32500,-0.72000,-0.75500) (2.43000,-0.72000,-0.55000) (-1.00000,-0.44000,-0.37000) (-1.00000,-0.44000,-0.37000)	(-0.23000,-0.72000,- 0.09000) (-0.23000,- 0.72000,0.12000) (-0.23000,- 0.72000,0.33000) (2.50000,-0.72000,- 1.77000) (2.81500,-0.72000,- 1.77000) (3.13000,-0.72000,- 1.77000) (-0.16000,-0.44000,- 0.37000)
L24 C1 C2 C3 C4 C5 C6 C7	(1.45000,- 2.05000,0.12000) (-2.47000,-0.72000,- 1.77000) (-2.78500,-0.72000,- 1.77000) (-3.10000,-0.72000,- 1.77000) (0.19000,- 0.72000,0.12000) (0.19000,- 0.72000,0.12000) (0.19000,- 0.72000,0.33000) (-2.19000,-0.44000,- 1.77000) (-2.64500,-0.44000,- 1.77000)	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500) (-2.47000,-0.72000,- 0.65000) (1.10000,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.09000) (1.31000,- 0.72000,0.12000) (-1.98000,-0.44000,- 0.86000) (-2.15500,-0.44000,- 0.72000,0.14000,-	(-1.14000,-0.72000,- 0.30000) (-1.28000,-0.72000,- 0.09000) (-1.42000,- 0.72000,0.12000) (2.22000,-0.72000,- 0.86000) (2.32500,-0.72000,- 0.75500) (2.43000,-0.72000,- 0.65000) (-1.00000,-0.44000,- 0.37000) (-1.10500,-0.44000,- 0.12500)	(-0.23000,-0.72000,- 0.09000) (-0.23000,- 0.72000,0.12000) (-0.23000,- 0.72000,0.33000) (2.5000,-0.72000,- 1.77000) (2.81500,-0.72000,- 1.77000) (3.13000,-0.72000,- 1.77000) (-0.16000,-0.44000,- 0.37000) (-0.16000,-0.44000,-
L24 C1 C2 C3 C4 C5 C6 C7 C8	(1.45000,- 2.05000,0.12000) (-2.47000,-0.72000,- 1.77000) (-2.78500,-0.72000,- 1.77000) (-3.10000,-0.72000,- 1.77000) (0.19000,-0.72000,- 0.72000,0.12000) (0.19000,- 0.72000,0.33000) (-2.19000,-0.44000,- 1.77000) (-2.64500,-0.44000,- 1.77000) (-2.14000,-	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500) (-2.47000,-0.72000,- 0.65000) (1.10000,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.09000) (1.31000,- 0.72000,0.12000) (-1.98000,-0.44000,- 0.86000) (-2.15500,-0.44000,- 0.72000)	(-1.14000,-0.72000,- 0.30000) (-1.28000,-0.72000,- 0.09000) (-1.42000,- 0.72000,0.12000) (2.22000,-0.72000,- 0.86000) (2.32500,-0.72000,- 0.75500) (2.43000,-0.72000,- 0.65000) (-1.00000,-0.44000,- 0.37000) (-1.10500,-0.44000,- 0.12500)	(-0.23000,-0.72000,- 0.09000) (-0.23000,- 0.72000,0.12000) (-0.23000,- 0.72000,0.33000) (2.50000,-0.72000,- 1.77000) (3.13000,-0.72000,- 1.77000) (-0.16000,-0.44000,- 0.37000) (-0.16000,-0.44000,- 0.05500)
L24 C1 C2 C3 C4 C5 C6 C7 C8	(1.45000,- 2.05000,0.12000) (-2.47000,-0.72000,- 1.77000) (-2.78500,-0.72000,- 1.77000) (-3.10000,-0.72000,- 1.77000) (0.19000,- 0.72000,0.12000) (0.19000,- 0.72000,0.33000) (-2.19000,-0.44000,- 1.77000) (-2.64500,-0.44000,- 1.77000) (-3.10000,- 0.44000,- 1.77000)	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500) (-2.47000,-0.72000,- 0.65000) (1.10000,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.30000) (1.31000,- 0.72000,0.12000) (-1.98000,-0.44000,- 0.86000) (-2.15500,-0.44000,- 0.72000) (-2.33000,-0.44000,- 0.50000)	(-1.14000,-0.72000,- 0.30000) (-1.28000,-0.72000,- 0.09000) (-1.42000,- 0.72000,0.12000) (2.22000,-0.72000,- 0.86000) (2.32500,-0.72000,- 0.75500) (2.43000,-0.72000,- 0.65000) (-1.00000,-0.44000,- 0.37000) (-1.10500,-0.44000,- 0.12500) (-1.210000,- 0.40000,- 0.2000)	(-0.23000,-0.72000,- 0.09000) (-0.23000,- 0.72000,0.12000) (-0.23000,- 0.72000,0.33000) (2.50000,-0.72000,- 1.77000) (2.81500,-0.72000,- 1.77000) (3.13000,-0.72000,- 1.77000) (-0.16000,-0.44000,- 0.37000) (-0.16000,-0.44000,- 0.05500) (-0.16000,- 0.40000,-
L24 C1 C2 C3 C4 C5 C6 C7 C8 C9	(1.45000,- 2.05000,0.12000) (-2.47000,-0.72000,- 1.77000) (-2.78500,-0.72000,- 1.77000) (-3.10000,-0.72000,- 1.77000) (0.19000,- 0.72000,0.12000) (0.19000,- 0.72000,0.33000) (-2.19000,-0.44000,- 1.77000) (-2.64500,-0.44000,- 1.77000) (-3.10000,-0.44000,- 1.77000) (-3.10000,-0.44000,- 1.77000)	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500) (-2.47000,-0.72000,- 0.65000) (1.10000,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.30000) (1.31000,- 0.72000,0.12000) (-1.98000,-0.44000,- 0.86000) (-2.15500,-0.44000,- 0.72000) (-2.33000,-0.44000,- 0.58000)	(-1.14000,-0.72000,- 0.30000) (-1.28000,-0.72000,- 0.09000) (-1.42000,- 0.72000,0.12000) (2.22000,-0.72000,- 0.86000) (2.32500,-0.72000,- 0.75500) (2.43000,-0.72000,- 0.65000) (-1.00000,-0.44000,- 0.37000) (-1.10500,-0.44000,- 0.12500) (-1.21000,- 0.44000,0.12000)	(-0.23000,-0.72000,- 0.09000) (-0.23000,- 0.72000,0.12000) (-0.23000,- 0.72000,0.33000) (2.50000,-0.72000,- 1.77000) (2.81500,-0.72000,- 1.77000) (-0.16000,-0.44000,- 0.37000) (-0.16000,-0.44000,- 0.05500) (-0.16000,- 0.44000,26000) (22000, 2.44000,-
L24 C1 C2 C3 C4 C5 C6 C7 C8 C9	(1.45000,- 2.05000,0.12000) (-2.47000,-0.72000,- 1.77000) (-2.78500,-0.72000,- 1.77000) (0.310000,-0.72000,- 1.77000) (0.19000,- 0.72000,0.12000) (0.19000,- 0.72000,0.33000) (-2.19000,-0.44000,- 1.77000) (-2.64500,-0.44000,- 1.77000) (0.19000,-0.44000,- 1.77000) (0.19000,-0.44000,- 0.72000,-0.44000,- 0.72000) (0.19000,-0.44000,- 0.72000)	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500) (-2.47000,-0.72000,- 0.65000) (1.10000,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.72000,0.12000) (-1.98000,-0.44000,- 0.86000) (-2.33000,-0.44000,- 0.58000) (0.96000,-0.44000,- 0.27000,-	(-1.14000,-0.72000,- 0.30000) (-1.28000,-0.72000,- 0.09000) (-1.42000,- 0.72000,0.12000) (2.22000,-0.72000,- 0.86000) (2.32500,-0.72000,- 0.75500) (2.43000,-0.72000,- 0.65000) (-1.00000,-0.44000,- 0.12500) (-1.21000,- 0.44000,0.12000) (2.01000,-0.44000,- 1.0000,-0.44000,- 0.44000,-0.44000,-	(-0.23000,-0.72000,- 0.09000) (-0.23000,- 0.72000,0.12000) (-0.23000,- 0.72000,0.33000) (2.50000,-0.72000,- 1.77000) (2.81500,-0.72000,- 1.77000) (-0.16000,-0.44000,- 0.37000) (-0.16000,-0.44000,- 0.05500) (-0.16000,- 0.44000,0.26000) (2.29000,-0.44000,- 1.77000,-
L24 C1 C2 C3 C4 C5 C6 C7 C8 C9 C10	(1.45000,- 2.05000,0.12000) (-2.47000,-0.72000,- 1.77000) (-2.78500,-0.72000,- 1.77000) (-3.10000,-0.72000,- 1.77000) (0.19000,- 0.72000,0.12000) (0.19000,- 0.72000,0.12000) (0.19000,- 0.72000,0.33000) (-2.19000,-0.44000,- 1.77000) (-3.10000,-0.44000,- 1.77000) (0.19000,-0.44000,- 1.77000) (0.19000,-0.44000,- 0.37000) (0.19000,0.44000,- 0.37000)	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500) (-2.47000,-0.72000,- 0.65000) (1.10000,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.72000,0.12000) (-1.98000,-0.44000,- 0.72000) (-2.33000,-0.44000,- 0.58000) (0.96000,-0.44000,- 0.58000) (1.96000,-0.44000,- 0.58000)	(-1.14000,-0.72000,- 0.30000) (-1.28000,-0.72000,- 0.09000) (-1.42000,- 0.72000,0.12000) (2.22000,-0.72000,- 0.86000) (2.32500,-0.72000,- 0.75500) (2.43000,-0.72000,- 0.65000) (-1.00000,-0.44000,- 0.12500) (-1.21000,- 0.44000,0.12000) (2.01000,-0.44000,- 1.00000) (2.19500,0.44000,- 1.00000)	(-0.23000, -0.72000, -0.09000) (-0.23000, -0.72000, 0.12000) (-0.23000, -0.72000, 0.12000) (2.50000, -0.72000, -1.77000) (2.81500, -0.72000, -1.77000) (3.13000, -0.72000, -1.77000) (-0.16000, -0.44000, -0.37000) (-0.16000, -0.44000, -0.05500) (-0.16000, -0.44000, -0.05500) (-0.16000, -0.44000, -0.05500) (-0.16000, -0.44000, -1.77000) (2.29000, -0.44000, -1.77000)
L24 C1 C2 C3 C4 C5 C6 C7 C8 C9 C10	(1.45000,- 2.05000,0.12000) (-2.47000,-0.72000,- 1.77000) (-2.78500,-0.72000,- 1.77000) (-3.10000,-0.72000,- 1.77000) (0.19000,-0.72000,- 0.09000) (0.19000,- 0.72000,0.12000) (0.19000,- 0.72000,0.12000) (-2.19000,-0.44000,- 1.77000) (-3.10000,-0.44000,- 1.77000) (0.19000,-0.44000,- 0.37000) (0.19000,-0.44000,- 0.37000) (0.19000,-0.44000,- 0.37000)	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500) (-2.47000,-0.72000,- 0.65000) (1.10000,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.72000,0.12000) (-1.98000,-0.44000,- 0.72000) (-2.33000,-0.44000,- 0.72000) (0.96000,-0.44000,- 0.58000) (0.96000,-0.44000,- 0.37000) (1.06500,-0.44000,- 0.2500,-0.44000,- 0.25000)	(-1.14000, -0.72000, -0.30000) (-1.28000, -0.72000, -0.09000) (-1.42000, -0.72000, -0.72000, -0.72000, -0.72000, -0.72000, -0.75500) (2.32500, -0.72000, -0.75500) (2.43000, -0.72000, -0.75500) (-1.00000, -0.44000, -0.37000) (-1.10500, -0.44000, -0.12500) (-1.21000, -0.044000, -0.12500) (-1.21000, -0.044000, -1.00000) (2.18500, -0.44000, -0.2000) (2.18500, -0.44000, -0.2000)	(-0.23000, -0.72000, -0.09000) (-0.23000, -0.72000, 0.12000) (-0.23000, -0.72000, 0.12000) (-0.23000, -0.72000, -1.77000) (2.81500, -0.72000, -1.77000) (3.13000, -0.72000, -1.77000) (-0.16000, -0.44000, -0.37000) (-0.16000, -0.44000, -0.05500) (-0.16000, -0.44000, -0.05500) (-0.16000, -0.44000, -1.77000) (2.29000, -0.44000, -1.77000) (2.71000, -0.44000, -1.77000)
L24 C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11	(1.45000,- 2.05000,0.12000) (-2.47000,-0.72000,- 1.77000) (-2.78500,-0.72000,- 1.77000) (-3.10000,-0.72000,- 1.77000) (0.19000,-0.72000,- 0.09000) (0.19000,- 0.72000,0.12000) (0.19000,- 0.72000,0.12000) (-2.19000,-0.44000,- 1.77000) (-3.10000,-0.44000,- 1.77000) (0.19000,-0.44000,- 0.37000) (0.19000,-0.44000,- 0.37000) (0.19000,-0.44000,- 0.35500) (0.19000,-0.44000,-	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500) (-2.47000,-0.72000,- 0.65000) (1.10000,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.30000) (1.31000,- 0.72000,0.12000) (-2.15500,-0.44000,- 0.72000) (-2.33000,-0.44000,- 0.72000) (-2.33000,-0.44000,- 0.58000) (0.96000,-0.44000,- 0.58000) (1.06500,-0.44000,- 0.37000) (1.06500,-0.44000,- 0.12500)	(-1.14000, -0.72000, -0.30000) (-1.28000, -0.72000, -0.09000) (-1.42000, -0.72000, -0.72000, -0.72000, -0.72000, -0.72000, -0.75500) (2.32500, -0.72000, -0.75500) (2.43000, -0.72000, -0.75500) (-1.00000, -0.44000, -0.37000) (-1.0500, -0.44000, -0.12500) (-1.21000, -0.044000, -0.12500) (-1.21000, -0.044000, -1.00000) (2.18500, -0.44000, -0.79000) (2.2000, -0.44000, -0.79000)	(-0.23000,-0.72000,- 0.09000) (-0.23000,- 0.72000,0.12000) (-0.23000,- 0.72000,0.33000) (2.50000,-0.72000,- 1.77000) (2.81500,-0.72000,- 1.77000) (-0.16000,-0.72000,- 1.77000) (-0.16000,-0.44000,- 0.05500) (-0.16000,- 0.44000,0.26000) (2.29000,-0.44000,- 1.77000) (2.71000,-0.44000,- 1.77000) (2.12000,0.44000,-
L24 C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12	(1.45000, - 2.05000, 0.12000) (-2.47000, -0.72000, - 1.77000) (-2.78500, -0.72000, - 1.77000) (-3.10000, -0.72000, - 1.77000) (0.19000, -0.72000, - 0.09000) (0.19000, - 0.72000, 0.12000) (0.19000, - 0.72000, 0.3000) (-2.19000, -0.44000, - 1.77000) (-3.10000, -0.44000, - 1.77000) (0.19000, -0.44000, - 1.77000) (0.19000, -0.44000, - 0.37000) (0.19000, -0.44000, - 0.35500) (0.19000, -0.00)	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500) (-2.47000,-0.72000,- 0.65000) (1.10000,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.30000) (1.31000,- 0.72000,0.12000) (-2.15500,-0.44000,- 0.72000) (-2.33000,-0.44000,- 0.58000) (0.96000,-0.44000,- 0.58000) (0.96000,-0.44000,- 0.57000) (1.06500,-0.44000,- 0.37000) (1.06500,-0.44000,- 0.12500) (1.17000,- 0.44000,0.12000)	(-1.14000, -0.72000, -0.30000) (-1.28000, -0.72000, -0.9000) (-1.42000, -0.72000, -0.72000, -0.72000, -0.72000, -0.72000, -0.72000, -0.75500) (2.32500, -0.72000, -0.75500) (2.43000, -0.72000, -0.75500) (2.43000, -0.72000, -0.65000) (-1.00000, -0.44000, -0.37000) (-1.10500, -0.44000, -0.12500) (-1.21000, -0.44000, -1.00000) (2.18500, -0.44000, -1.00000) (2.36000, -0.44000, -0.79000) (2.58000)	(-0.23000, -0.72000, -0.09000) (-0.23000, -0.72000, 0.12000) (-0.23000, -0.72000, -1.77000) (2.50000, -0.72000, -1.77000) (2.81500, -0.72000, -1.77000) (3.13000, -0.72000, -1.77000) (-0.16000, -0.44000, -0.37000) (-0.16000, -0.44000, -0.05500) (-0.16000, -0.44000, -1.77000) (2.71000, -0.44000, -1.77000) (3.13000, -0.44000, -1.77000) (3.13000, -0.44000, -1.77000) (3.13000, -0.44000, -1.77000)
L24 C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12	(1.45000, - 2.05000, 0.12000) (-2.47000, -0.72000, - 1.77000) (-2.78500, -0.72000, - 1.77000) (0.19000, -0.72000, - 0.7000, -0.72000, - 0.72000, 0.12000) (0.19000, - 0.72000, 0.33000) (-2.19000, -0.44000, - 1.77000) (-2.64500, -0.44000, - 1.77000) (-3.10000, -0.44000, - 1.77000) (0.19000, -0.44000, - 1.77000) (0.19000, -0.44000, - 0.37000) (0.19000, -0.44000, - 0.37000) (0.19000, -0.44000, - 0.35500) (0.19000, -0.000)	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500) (-2.47000,-0.72000,- 0.65000) (1.10000,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.30000) (1.31000,- 0.72000,0.12000) (-2.15500,-0.44000,- 0.72000) (-2.15500,-0.44000,- 0.58000) (0.96000,-0.44000,- 0.58000) (0.96000,-0.44000,- 0.58000) (1.06500,-0.44000,- 0.12500) (1.17000,- 0.44000,0.2000)	(-1.14000, -0.72000, -0.30000) (-1.28000, -0.72000, -0.9000) (-1.42000, -0.72000, -0.72000, -0.72000, -0.72000, -0.72000, -0.72000, -0.86000) (2.32500, -0.72000, -0.75500) (2.43000, -0.72000, -0.65000) (-1.00000, -0.44000, -0.37000) (-1.10500, -0.44000, -0.12500) (-1.21000, -0.044000, -0.12500) (2.18500, -0.44000, -1.00000) (2.18500, -0.44000, -0.79000) (2.36000, -0.44000, -0.79000) (2.36000, -0.44000, -0.79000) (2.36000, -0.44000, -0.79000)	(-0.23000, -0.72000, -0.09000) (-0.23000, -0.72000, 0.12000) (-0.23000, -0.72000, -1.77000) (2.50000, -0.72000, -1.77000) (2.81500, -0.72000, -1.77000) (3.13000, -0.72000, -1.77000) (-0.16000, -0.44000, -0.37000) (-0.16000, -0.44000, -0.05500) (-0.16000, -0.44000, -0.05500) (2.29000, -0.44000, -1.77000) (2.71000, -0.44000, -1.77000) (3.13000, -0.44000, -1.77000) (3.13000, -0.44000, -1.77000) (0.022000, -0.022000)
L24 C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 C12	(1.45000, - 2.05000, 0.12000) (-2.47000, -0.72000, - 1.77000) (-2.78500, -0.72000, - 1.77000) (0.19000, -0.72000, - 1.77000) (0.19000, - 0.72000, 0.12000) (0.19000, - 0.72000, 0.33000) (-2.19000, -0.44000, - 1.77000) (-2.64500, -0.44000, - 1.77000) (-3.10000, -0.44000, - 1.77000) (0.19000, -0.44000, - 0.37000) (0.19000, -0.44000, - 0.37000) (0.19000, -0.44000, - 0.35500) (0.19000, -0.44000, - 0.05500) (0.19000, -0.02000, - 1.77000)	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500) (-2.47000,-0.72000,- 0.65000) (1.10000,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.30000) (1.31000,- 0.72000,0.12000) (-1.98000,-0.44000,- 0.72000) (-2.15500,-0.44000,- 0.72000) (-2.15500,-0.44000,- 0.58000) (0.96000,-0.44000,- 0.37000) (1.06500,-0.44000,- 0.37000) (1.17000,- 0.44000,-12000) (-1.98000,-0.02000,- 0.70000)	(-1.14000,-0.72000,- 0.30000) (-1.28000,-0.72000,- 0.09000) (-1.42000,- 0.72000,0.12000) (2.22000,-0.72000,- 0.86000) (2.32500,-0.72000,- 0.75500) (2.43000,-0.72000,- 0.65000) (-1.00000,-0.44000,- 0.37000) (-1.10500,-0.44000,- 0.44000,-12000) (2.18500,-0.44000,- 1.00000) (2.36000,-0.44000,- 0.58000) (-1.14000,-0.02000,- 0.44000,-0.02000,-	(-0.23000, -0.72000, -0.09000) (-0.23000, -0.72000, -12000) (-0.23000, -0.72000, -12000) (-0.23000, -0.72000, -1.77000) (2.81500, -0.72000, -1.77000) (3.13000, -0.72000, -1.77000) (-0.16000, -0.44000, -0.37000) (-0.16000, -0.44000, -0.05500) (-0.16000, -0.44000, -1.77000) (2.71000, -0.44000, -1.77000) (3.13000, -0.44000, -1.77000) (3.13000, -0.44000, -1.77000) (-0.23000, -0.02000, -0.2000, -0.02000, -0.02000)
L24 C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 C13	(1.45000, - 2.05000, 0.12000) (-2.47000, -0.72000, - 1.77000) (-2.78500, -0.72000, - 1.77000) (0.19000, -0.72000, - 1.77000) (0.19000, - 0.72000, 0.12000) (0.19000, - 0.72000, 0.33000) (-2.19000, -0.44000, - 1.77000) (-2.64500, -0.44000, - 1.77000) (-3.10000, -0.44000, - 1.77000) (0.19000, -0.44000, - 0.37000) (0.19000, -0.44000, - 0.37000) (0.19000, -0.44000, - 0.35500) (0.19000, -0.44000, - 0.05500) (0.19000, -0.44000, - 0.05500) (0.19000, -0.44000, - 0.44000, -0.2000, - 1.77000) (-2.26000, -0.02000, - 1.77000)	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500) (-2.47000,-0.72000,- 0.65000) (1.10000,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.30000) (1.20500,-0.44000,- 0.72000) (-2.15500,-0.44000,- 0.72000) (-2.33000,-0.44000,- 0.72000) (-2.33000,-0.44000,- 0.37000) (1.06500,-0.44000,- 0.37000) (1.10500) (1.17000,- 0.44000,-12000) (-1.98000,-0.22000,- 0.79000) (-2.12000,0.02000,-	(-1.14000,-0.72000,- 0.30000) (-1.28000,-0.72000,- 0.09000) (-1.42000,- 0.72000,0.12000) (2.22000,-0.72000,- 0.86000) (2.32500,-0.72000,- 0.75500) (2.43000,-0.72000,- 0.65000) (-1.00000,-0.44000,- 0.37000) (-1.10500,-0.44000,- 0.12500) (-1.21000,- 0.44000,-1.2000) (2.18500,-0.44000,- 1.00000) (2.36000,-0.44000,- 0.79000) (2.36000,-0.44000,- 0.58000) (-1.14000,-0.02000,- 0.44000)	(-0.23000, -0.72000, -0.09000) (-0.23000, -0.72000, 0.72000, 0.12000) (-0.23000, -0.72000, 0.72000, 0.72000, 0.72000, 0.72000, 0.72000, -1.77000) (2.81500, -0.72000, -1.77000) (3.13000, -0.72000, -1.77000) (-0.16000, -0.44000, -0.37000) (-0.16000, -0.44000, -0.37000) (-0.16000, -0.44000, -0.35500) (-0.16000, -0.44000, -1.77000) (2.71000, -0.44000, -1.77000) (3.13000, -0.44000, -1.77000) (3.13000, -0.44000, -1.77000) (-0.23000, -0.02000, -0.30000)
L24 C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 C13 C14	(1.45000, - 2.05000, 0.12000) (-2.47000, -0.72000, - 1.77000) (-2.78500, -0.72000, - 1.77000) (-3.10000, -0.72000, - 1.77000) (0.19000, -0.72000, - 0.72000, 0.12000) (0.19000, - 0.72000, 0.33000) (-2.19000, -0.44000, - 1.77000) (-2.64500, -0.44000, - 1.77000) (-3.10000, -0.44000, - 1.77000) (0.19000, -0.44000, - 0.37000) (0.19000, -0.44000, - 0.37000) (0.19000, -0.44000, - 0.5500) (0.19000, -0.44000, - 0.5500) (0.19000, -0.44000, - 1.77000) (-2.66000, -0.02000, - 1.77000) (-2.61000, -0.02000, - 1.77000)	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500) (-2.47000,-0.72000,- 0.65000) (1.10000,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.72000,- 0.44000,- 0.86000) (-2.15500,-0.44000,- 0.72000) (-2.33000,-0.44000,- 0.72000) (-2.33000,-0.44000,- 0.58000) (0.96000,-0.44000,- 0.37000) (1.06500,-0.44000,- 0.12500) (1.17000,- 0.44000,0.12000) (-1.98000,-0.02000,- 0.79000) (-2.12000,-0.02000,- 0.9000,-0.02000,- 0.9000,-0.02000,- 0.9000,-0.02000,-	(-1.14000,-0.72000,- 0.30000) (-1.28000,-0.72000,- 0.09000) (-1.42000,- 0.72000,0.12000) (2.22000,-0.72000,- 0.86000) (2.32500,-0.72000,- 0.75500) (2.43000,-0.72000,- 0.65000) (-1.00000,-0.44000,- 0.37000) (-1.10500,-0.44000,- 0.12500) (-1.21000,- 0.44000,-12000) (2.18500,-0.44000,- 1.00000) (2.36000,-0.44000,- 0.79000) (2.36000,-0.44000,- 0.58000) (-1.14000,-0.02000,- 0.44000) (-1.24500,-0.02000,- 0.12500)	(-0.23000, -0.72000, -0.09000) (-0.23000, -0.72000, 0.12000) (-0.23000, -0.72000, 0.12000) (2.50000, -0.72000, -1.77000) (2.81500, -0.72000, -1.77000) (3.13000, -0.72000, -1.77000) (-0.16000, -0.44000, -0.37000) (-0.16000, -0.44000, -0.05500) (-0.16000, -0.44000, -0.05500) (-0.16000, -0.44000, -1.77000) (2.71000, -0.44000, -1.77000) (3.13000, -0.44000, -1.77000) (3.13000, -0.44000, -1.77000) (-0.23000, -0.02000, -0.30000) (-0.23000, -0.02000,
L24 C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 C13 C14	(1.45000, - 2.05000, 0.12000) (-2.47000, -0.72000, - 1.77000) (-2.78500, -0.72000, - 1.77000) (-3.10000, -0.72000, - 1.77000) (0.19000, - 0.72000, 0.12000) (0.19000, - 0.72000, 0.33000) (-2.19000, -0.44000, - 1.77000) (-2.64500, -0.44000, - 1.77000) (-3.10000, -0.44000, - 1.77000) (0.19000, -0.44000, - 0.37000) (0.19000, -0.44000, - 0.37000) (0.19000, -0.44000, - 0.35500) (0.19000, -0.44000, - 0.5500) (0.19000, -0.44000, - 0.5500) (0.19000, -0.44000, - 0.5500) (0.19000, -0.44000, - 0.44000, 0.26000) (-2.26000, -0.02000, - 1.77000) (-2.61000, -0.02000, - 1.77000)	(0.19000, 0.54000, 0.120 (0.19000, -0.72000, - 0.86000) (-2.33000, -0.72000, - 0.75500) (-2.47000, -0.72000, - 0.65000) (1.10000, -0.72000, - 0.30000) (1.20500, -0.72000, - 0.30000) (1.20500, -0.72000, - 0.72000, -0.12000) (-1.98000, -0.44000, - 0.72000) (-2.15500, -0.44000, - 0.72000) (-2.33000, -0.44000, - 0.58000) (0.96000, -0.44000, - 0.58000) (1.06500, -0.44000, - 0.12500) (1.17000, - 0.44000, -12000) (-1.98000, -0.02000, - 0.79000) (-2.12000, -0.02000, - 0.6500) (-2.12000, -0.02000, - 0.6500)	(-1.14000,-0.72000,- 0.30000) (-1.28000,-0.72000,- 0.09000) (-1.42000,- 0.72000,0.12000) (2.22000,-0.72000,- 0.86000) (2.32500,-0.72000,- 0.75500) (2.43000,-0.72000,- 0.65000) (-1.0000,-0.44000,- 0.37000) (-1.10500,-0.44000,- 0.12500) (-1.21000,- 0.44000,0.12000) (2.01000,-0.44000,- 1.00000) (2.18500,-0.44000,- 0.79000) (2.36000,-0.44000,- 0.58000) (-1.14000,-0.02000,- 0.44000) (-1.24500,-0.0200,- 0.19500)	(-0.23000, -0.72000, -0.09000) (-0.23000, -0.72000, 0.12000) (-0.23000, -0.72000, 0.12000) (2.50000, -0.72000, -1.77000) (2.81500, -0.72000, -1.77000) (3.13000, -0.72000, -1.77000) (-0.16000, -0.44000, -0.37000) (-0.16000, -0.44000, -0.37000) (-0.16000, -0.44000, -0.35500) (-0.16000, -0.44000, -1.77000) (2.71000, -0.44000, -1.77000) (2.71000, -0.44000, -1.77000) (3.13000, -0.44000, -1.77000) (-0.23000, -0.44000, -0.30000) (-0.23000, -0.02000, -0.30000) (-0.23000, -0.02000, -0.05500)
L24 C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 C13 C14 C15	(1.45000, - 2.05000, 0.12000) (-2.47000, -0.72000, - 1.77000) (-2.78500, -0.72000, - 1.77000) (0.19000, -0.72000, - 1.77000) (0.19000, - 0.72000, 0.12000) (0.19000, - 0.72000, 0.33000) (-2.19000, -0.44000, - 1.77000) (-2.64500, -0.44000, - 1.77000) (0.19000, -0.44000, - 1.77000) (0.19000, -0.44000, - 1.77000) (0.19000, -0.44000, - 0.37000) (0.19000, -0.44000, - 0.35500) (0.19000, -0.44000, - 0.44000, -26000) (-2.26000, -0.02000, - 1.77000) (-2.61000, -0.02000, - 1.77000) (-2.96000, -0.02000, - 1.77000)	(0.19000,0.54000,0.120 00) (-2.19000,-0.72000,- 0.86000) (-2.33000,-0.72000,- 0.75500) (-2.47000,-0.72000,- 0.65000) (1.10000,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.30000) (1.20500,-0.72000,- 0.72000) (-1.98000,-0.44000,- 0.72000) (-2.15500,-0.44000,- 0.72000) (-2.33000,-0.44000,- 0.58000) (1.06500,-0.44000,- 0.12500) (1.17000,- 0.44000,0.12000) (-1.98000,-0.02000,- 0.79000) (-2.12000,-0.02000,- 0.68500) (-2.26000,-0.02000,- 0.59000)	(-1.14000,-0.72000,-0.30000) (-1.28000,-0.72000,-0.09000) (-1.42000,-0.72000,-0.72000,-0.72000,-0.72000,-0.72000,-0.7500) (2.32500,-0.72000,-0.75500) (2.43000,-0.72000,-0.75500) (2.43000,-0.72000,-0.65000) (-1.00000,-0.44000,-0.37000) (-1.10500,-0.44000,-0.12500) (-1.21000,-0.44000,-0.12500) (2.18500,-0.44000,-1.00000) (2.18500,-0.44000,-0.79000) (2.36000,-0.44000,-0.58000) (-1.14000,-0.02000,-0.58000) (-1.24500,-0.02000,-0.19500) (-1.35000,-0.4000,-0.02000,-0.19500)	(-0.23000, -0.72000, -0.09000) (-0.23000, -0.72000, 0.12000) (-0.23000, -0.72000, 0.12000) (2.50000, -0.72000, -1.77000) (2.81500, -0.72000, -1.77000) (2.81500, -0.72000, -1.77000) (-0.16000, -0.44000, -0.37000) (-0.16000, -0.44000, -0.37000) (-0.16000, -0.44000, -0.35500) (-0.16000, -0.44000, -1.77000) (2.29000, -0.44000, -1.77000) (2.13000, -0.44000, -1.77000) (3.13000, -0.44000, -1.77000) (-0.23000, -0.02000, -0.30000) (-0.23000, -0.02000, -0.35500) (-0.23000, -0.02000, -0.05500)

Cortical Surface

	(0.12000,-0.02000,-	(1.03000,-0.02000,-	(2.01000,-0.02000,-	(2.01000,-0.02000,-
C16	0.30000)	0.44000)	0.86000)	1.77000)
	(0.12000,-0.02000,-	(1.17000,-0.02000,-	(2.15000,-0.02000,-	(2.50000,-0.02000,-
C17	0.05500)	0.19500)	0.72000)	1.77000)
	(0.12000,-	(1.31000,-	(2.29000,-0.02000,-	(2.99000,-0.02000,-
C18	0.02000,0.19000)	0.02000,0.05000)	0.58000)	1.77000)
	(-1.98000,0.40000,-	(-1.98000,0.40000,-	(-0.93000,0.40000,-	(-0.16000,0.40000,-
C19	1.77000)	0.86000)	0.51000)	0.51000)
	(-2.47000,0.40000,-	(-2.08500,0.40000,-	(-1.03500,0.40000,-	(-0.16000,0.40000,-
C20	1.77000)	0.75500)	0.26500)	0.19500)
	(-2.96000,0.40000,-	(-2.19000,0.40000,-	(-1.14000,0.40000,-	(-
C21	1.77000)	0.65000)	0.02000)	0.16000,0.40000,0.12000)
	(0.12000,0.40000,-	(0.89000,0.40000,-	(1.87000,0.40000,-	(1.94000,0.40000,-
C22	0.51000)	0.51000)	0.86000)	1.84000)
	(0.12000,0.40000,-	(0.99500,0.40000,-	(2.01000,0.40000,-	(2.43000,0.40000,-
C23	0.19500)	0.26500)	0.75500)	1.84000)
	(0.12000,0.40000,0.12	(1.10000,0.40000,-	(2.15000,0.40000,-	(2.92000,0.40000,-
C24	000)	0.02000)	0.65000)	1.84000)

Table S3. Primary antibody list.

Antigen	Host	Dilution	Source	Catalog number
Foxp2	Rabbit	1:500	SIGMA	HPA000382
Biotinylated Wisteria	-	1:1000	VECTOR	B-1355
Floribunda Lectin				
NeuN	Rabbit	1:1000	Servicebio	GB11138
Parvalbumin	Mouse	1:5000	Swant	PV235
PCP4	monoclonal Rabbit	1:500	Sigma	HPA005792

Table S4. Primers used to amplify DNA fragments.

Gene	Species	Primer set	template
name			
Er81	Suncus Etruscus	Fw-TACAGGAAACATGGCTTGCAGAAGCTCAGGTACC Re-TTCGTTGATGTGACGTTCCATGTCTGTCTTCAGTAGTGG	cDNA
Rorb	Suncus Etruscus	Fw-AGCAGCAGCATCAGTAATGGGCTAAGCAACC Re-AGACGGTGGCACAGTCAGGATTAAAGAGCTCC	cDNA
Sulf2	Suncus Etruscus	Fw-ATGTGCCACCCGGCTGGAAGG Re-TTGGAGAGTGCCCTGGACCCAGGG	cDNA