

Basal ganglia and cerebellum contributions to vocal emotion processing as revealed by high-resolution fMRI

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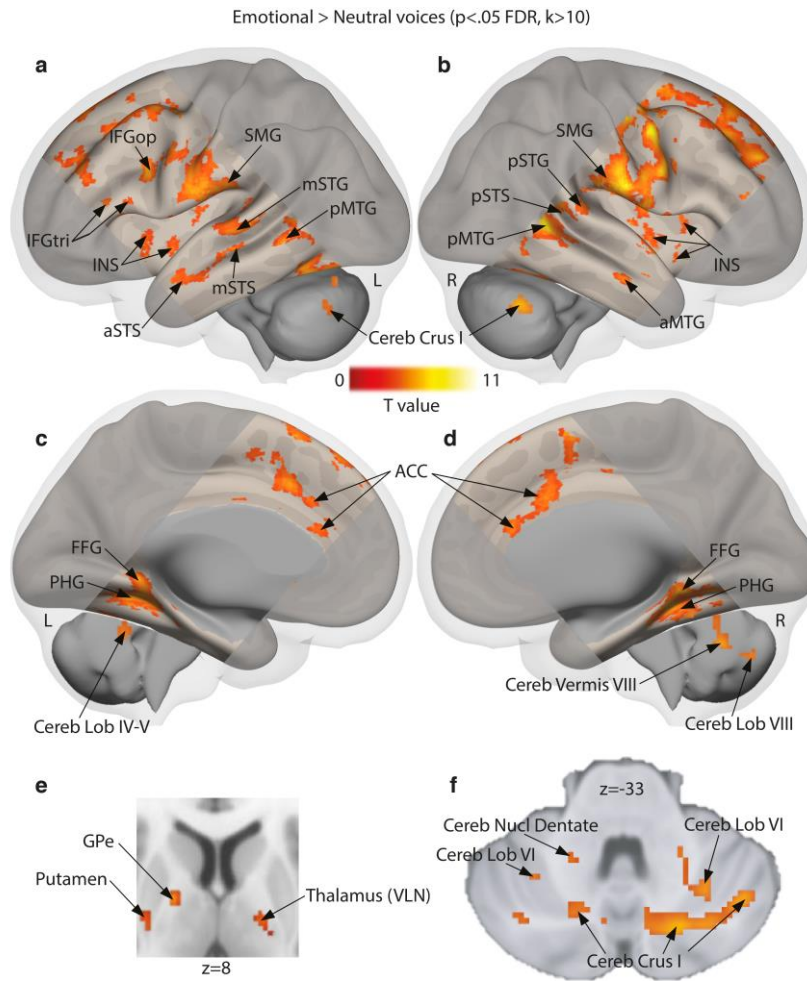


Fig.S1: Brain measures for implicitly processing angry and happy compared to neutral voices, corrected for multiple comparisons (whole brain voxelwise $p < .05$ FDR, $k > 10$ voxels). A-B Lateral activations rendered on a sagittal image highlighting middle and superior temporal regions. C-D Medial activations of the anterior cingulate cortex, parahippocampal cortex and cerebellum. E Subcortical activity in the thalamus and globus pallidus displayed on an axial slice. F Cerebellar activations displayed on an axial slice. White outline: sample-specific temporal voice areas, thresholded at whole brain voxelwise $p < .05$ FDR corrected at the voxel level. L: left; R: right; IFGop: inferior frontal gyrus pars opercularis; IFGtri: inferior frontal gyrus pars triangularis; STG: superior temporal gyrus; STS: superior temporal sulcus; MTG: middle temporal gyrus; STS: superior temporal sulcus; INS: insula; SMG: supramarginal gyrus; FG: frontal gyrus; FFG: fusiform gyrus; PHG: parahippocampal gyrus; ACC: anterior cingulate cortex; Cereb: cerebellum; Cereb Lob: cerebellum lobule; Cereb Nucl Dentate: dentate nucleus of the cerebellum; Thalamus VLN: ventral lateral nucleus of the thalamus; GPe: external globus pallidus; Cereb Crus: cerebellum crus of ansiform lobule. ‘a’ prefix: anterior part; ‘m’ prefix: mid part; ‘p’ prefix: posterior part.

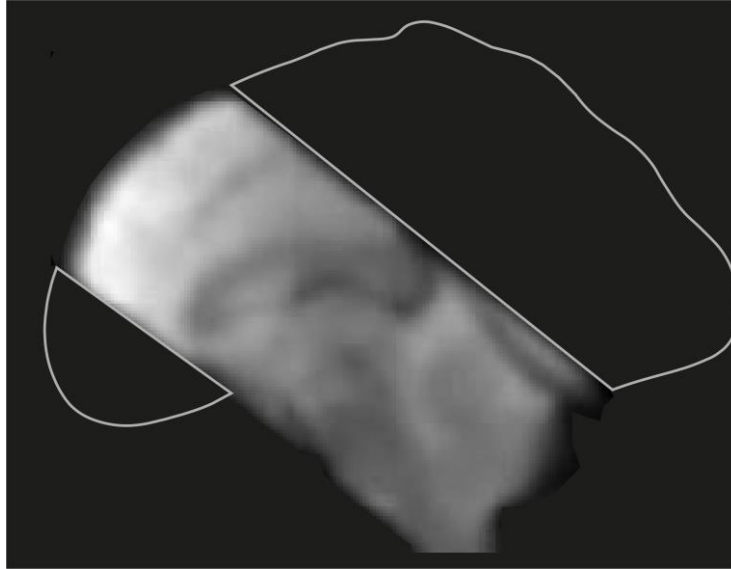


Fig.S2: Illustration of the truncated field of view of the high-resolution functional MRI scans acquired continuously during the one-back task.

Supplementary Table 1: Activations, cluster size and coordinates for normal voices>F0 flattened voices & voice mean energy contrast, whole brain voxelwise $p<.05$ FDR correction, $k>10$.

Region label	Hemisphere	<u>MNI coordinates</u>			T value	Cluster size (voxels)
		X	Y	Z		
STG, posterior	R	54	-34	12	14.27	7688
<i>Precentral gyrus</i>	R	60	8	26	13.35	
ITG, posterior	L	-46	-36	-16	9.43	198
<i>ITG, posterior</i>	L	-44	-54	-12	4.29	
<i>ITG, posterior</i>	L	-52	-44	-16	4.29	
Cereb Lob 6	R	20	-56	-16	7.93	356
<i>Fusiform gyrus</i>	R	34	-62	-20	6.82	
<i>Cereb Lob 6</i>	R	30	-60	-28	6.10	
Mid Frontal gyrus	R	36	26	20	7.23	994
<i>Mid Frontal gyrus</i>	R	24	28	36	7.12	
<i>Mid Frontal gyrus</i>	R	28	38	28	7.01	
STS, posterior	R	60	-46	4	7.12	37
MTG, anterior	R	66	-4	-16	6.90	60
Mid Frontal gyrus	L	-38	34	20	6.73	376
<i>IFG triangularis</i>	L	-52	30	12	5.09	
<i>Mid Frontal gyrus</i>	L	-32	38	24	5.05	
IFG opercularis	L	-50	10	8	6.45	53
<i>IFG opercularis</i>	L	-58	14	8	4.69	
Supp Motor tracts Area	R	10	6	58	5.87	34
Hippocampus, anterior	L	-26	-6	-24	5.37	31
Supp Motor tracts Area	L	-2	22	60	5.21	169
Cingulate cortex	R	10	14	42	5.18	43
Cereb Lob 8	R	20	-70	-44	5.11	64
Cereb Crus 2	R	8	-82	-36	5.05	24
Hippocampus, anterior	L	-12	-10	-22	4.92	38
Cereb Lob 8	L	-18	-58	-20	4.87	135
Cereb Nucl Dentate	R	14	-48	-28	4.75	14
STG, mid	R	66	-16	6	4.72	22
IFG, triangularis	L	-42	18	6	4.68	37
Sup Frontal gyrus, medial	R	12	50	34	4.61	42
Cereb Crus 1	L	-38	-80	-30	4.52	14
Putamen	L	-16	8	-12	4.43	19
Cereb Lob 8	L	-28	-58	-52	4.43	20
Cereb Vermis 4-5	L	-2	-58	-26	4.35	47
Sup Frontal gyrus	L	-14	36	48	4.25	50
ACC	R	6	16	28	4.23	26

Sup Frontal gyrus, medial L		-8	48	34	4.22	38
ACC	R	2	34	20	4.05	39
Thalamus	L	-18	-18	12	4.02	37
Globus Pallidus	R	18	-4	10	2.96	11

L: left; R: right; MNI: Montreal neurological institute; STG: superior temporal gyrus; ITG: inferior temporal gyrus; Cereb Lob: cerebellum lobule; Mid: middle; STS: superior temporal sulcus; MTG: middle temporal gyrus; IFG: inferior frontal gyrus; Supp Motor tracts Area: supplementary motor tracts area; Cereb Crus: cerebellum crus of ansiform lobule; Cereb Nucl Dentate: dentate nucleus of the cerebellum; Sup: superior; Cereb: cerebellum; ACC: anterior cingulate cortex.

Supplementary Table 2: Activations, cluster size and coordinates for F0 flattened voices>normal voices & voice mean energy contrast, whole brain voxelwise $p<.05$ FDR correction, $k>10$.

Region label	Hemisphere	<u>MNI coordinates</u>			T value	Cluster size (voxels)
		X	Y	Z		
STG, anterior	L	-62	-6	4	19.03	12010
IFG triangularis	R	58	22	6	16.42	
STG, posterior	L	-40	-24	2	15.51	
IFG opercularis	L	-60	6	14	13.99	
IFG opercularis	R	64	6	14	11.92	
STG, mid	L	-48	-18	2	11.91	
MTG, anterior	R	60	-10	-12	11.88	
Precentral gyrus	L	-62	4	20	11.38	
STS, mid	R	60	-20	-6	11.09	
MTG, anterior	R	58	-6	-14	10.55	
Supp Motor tracts Area	R	8	14	52	14.98	2525
Sup Frontal gyrus, medial	R	4	40	54	9.07	
Cereb Crus 2	R	16	-78	-40	9.04	109
Cereb Lob 6	R	18	-72	-24	7.90	123
ITG, posterior	R	46	-60	-12	7.76	267
Cereb Lob 7b	L	-30	-70	-48	7.06	148
Cereb Lob 8	R	34	-62	-54	6.65	102
Cereb Crus 2	L	-14	-82	-40	6.51	232
Cereb Crus 1	L	-20	-76	-24	4.70	
Cereb Lob 6	L	-34	-66	-26	6.28	96
Cereb Vermis 9	L	0	-60	-38	6.23	504
Cereb Lob 9	R	12	-46	-48	6.22	
Cereb Lob 9	R	14	-62	-46	4.82	
Cereb Crus 1	L	-40	-52	-40	6.13	20
Cereb Lob 4-5	L	-6	-48	-14	5.20	52
ITG, posterior	L	-52	-62	-10	4.51	27
IFG triangularis	L	-50	36	26	4.28	26
Cereb Crus 1	L	-46	-62	-30	3.76	13

L: left; R: right; MNI: Montreal neurological institute; STG: superior temporal gyrus; IFG: inferior frontal gyrus; MTG: middle temporal gyrus; Supp Motor tracts Area: supplementary motor tracts area; Sup: superior; Cereb Crus: cerebellum crus of ansiform lobule; Cereb Lob: cerebellum lobule; Cereb: cerebellum;; ITG: inferior temporal gyrus.

Supplementary Table 3: Activations, cluster size and coordinates for voice mean energy> normal & F0 flattened voices contrast, whole brain voxelwise $p<.05$ FDR correction, $k>10$.

Region label	Hemisphere	MNI coordinates			T value	Cluster size (voxels)
		X	Y	Z		
MTG, posterior	L	-68	-36	-6	13.54	23425
<i>Supramarginal gyrus</i>	R	56	-2	42	12.24	
<i>STS, posterior</i>	L	-46	-42	2	10.93	
<i>MTG, posterior</i>	R	54	-34	-8	10.70	
<i>Putamen</i>	R	28	-10	10	10.07	
<i>STS, posterior</i>	R	70	-34	4	10.05	
<i>MTG, posterior</i>	R	68	-38	4	10.04	
<i>MTG, posterior</i>	R	66	-42	6	9.98	
<i>Rolandic operculum</i>	R	48	-2	12	9.25	
<i>Cereb Crus 1</i>	R	20	-70	-36	8.59	
<i>Cereb Crus 1</i>	L	-14	-68	-30	8.37	
<i>Cereb Crus 1</i>	L	-22	-72	-30	8.34	
IFG opercularis	L	-60	12	28	7.45	516
Precentral gyrus	L	-58	2	34	7.19	
STG, anterior	L	-52	4	-6	6.73	66
IFG opercularis	R	50	12	26	6.22	65
IFG triangularis	L	-44	28	10	6.06	45
Brainstem POTPT	L	-14	-26	-14	5.15	33
STG, mid	R	52	-4	-10	4.25	34
IFG triangularis	R	54	28	26	4.16	33
MTG, mid	R	68	-12	-20	3.85	13
Globus pallidus	R	20	2	-4	3.21	14
Putamen	R	22	4	12	2.72	10

L: left; R: right; MNI: Montreal neurological institute; MTG: middle temporal gyrus; STS: superior temporal sulcus; Cereb Crus: cerebellum crus of ansiform lobule; IFG: inferior frontal gyrus; STG: superior temporal gyrus; Brainstem POTPT: major brainstem motor tracts pathway of the parieto-occipito-temporo-pontine tract.

Supplementary Table 4: Activations, cluster size and coordinates for angry > neutral voices contrast, wholebrain voxel-wise $p < .05$ FDR correction, $k > 10$.

Region label	Hemisphere	MNI coordinates			T value	Cluster size (voxels)
		X	Y	Z		
Precentral gyrus	R	60	8	26	12.77	11526
<i>Postcentral gyrus</i>	<i>R</i>	<i>-58</i>	<i>-14</i>	<i>18</i>	<i>10.91</i>	
<i>Precentral gyrus</i>	<i>R</i>	<i>52</i>	<i>2</i>	<i>46</i>	<i>10.88</i>	
STG, posterior	R	54	-34	12	9.75	84
STS, posterior	L	-64	-48	6	9.04	110
ITG, posterior	L	-46	-36	-16	8.71	85
Amygdala	L	-26	-6	-24	6.99	84
Supp Motor Area	R	8	6	58	6.36	47
Mid Frontal gyrus	L	-28	26	42	6.07	211
Mid Frontal gyrus	L	-40	36	22	5.70	309
Sup Frontal gyrus	L	-12	36	48	5.58	112
Cereb Nucl Fastigial	R	6	-56	-28	5.54	133
ACC	R	8	16	28	5.49	117
Globus Pallidus	R	18	-4	8	5.48	105
Cereb Crus 2	R	10	-84	-36	5.29	11
Globus Pallidus	L	-18	0	-4	5.07	44
Temporal pole	L	-58	10	-8	5.02	31
ACC	R	8	30	18	4.92	45
IFG triangularis	L	-50	28	10	4.72	14
Cereb Lob 8	L	-28	-58	-52	4.59	29
Supramarginal gyrus	L	-66	-22	28	4.59	13
IFG opercularis	L	-58	16	10	4.33	24
Sup Frontal gyrus	R	14	48	34	4.26	32
IFG triangularis	L	-42	20	8	4.17	36
Cereb Crus 2	L	-40	-74	-44	4.14	10
Putamen	L	-14	10	-10	4.09	27
Cereb Vermis 1-2	L	0	-42	-24	3.97	20
Cereb Lob 6	L	-30	-54	-38	3.96	26
Sup Frontal gyrus, medial	L	-8	48	36	3.91	33
ACC	L	-12	26	28	3.75	12
Cereb Crus 1	L	-40	-76	-26	3.74	18
STG, mid	L	-54	-10	-4	3.59	12
MTG, anterior	L	-62	-8	-18	3.28	20

L: left; R: right; MNI: Montreal neurological institute; STG: superior temporal gyrus; STS: superior temporal sulcus; ITG: inferior temporal gyrus; Supp Motor Area: supplementary motor area; Mid: middle; Sup: superior; Cereb Nucl Fastigial: fastigial nucleus of the cerebellum; ACC: anterior cingulate cortex; Cereb Crus: cerebellum crus of ansiform lobule; IFG: inferior frontal gyrus; Cereb Lob: cerebellum lobule; Cereb: cerebellum; MTG: middle temporal gyrus.

Supplementary Table 5: Activations, cluster size and coordinates for happy > neutral voices contrast, wholebrain voxel-wise $p < .05$ FDR correction, $k > 10$.

Region label	Hemisphere	MNI coordinates			T value	Cluster size (voxels)
		X	Y	Z		
Precentral gyrus	R	54	-2	42	12.03	23099
<i>STS, posterior</i>	<i>R</i>	62	-44	4	10.57	
<i>Rolandic operculum</i>	<i>R</i>	50	-18	20	9.89	
Postcentral gyrus	L	-64	-12	20	7.05	594
<i>Postcentral gyrus</i>	<i>L</i>	-66	-20	28	6.96	
<i>Mid Frontal gyrus</i>	<i>L</i>	-58	10	32	6.35	
STG, anterior	L	-52	4	-6	6.39	59
STS, anterior	R	66	-12	-4	5.85	119
<i>STS, anterior</i>	<i>R</i>	66	-4	-10	5.39	
Sup Frontal gyrus	R	4	28	66	5.13	133
Mid Frontal gyrus	L	-38	38	28	4.99	60
STG, anterior	R	52	-4	-8	4.89	77
<i>Temporal pole</i>	<i>R</i>	60	8	-4	3.87	
IFG opercularis	L	-56	18	14	3.67	17
IFG triangularis	R	32	26	26	3.56	22
IFG opercularis	L	-44	20	32	3.39	13

L: left; R: right; MNI: Montreal neurological institute; STS: superior temporal sulcus; Mid: middle; STG: superior temporal gyrus; Sup: superior; IFG: inferior frontal gyrus.

Supplementary Table 6: Activations, cluster size and coordinates for angry & happy> neutral voices contrast, wholebrain voxel-wise $p<.05$ FDR correction, $k>10$.

Region label	Hemisphere	MNI coordinates			T value	Cluster size (voxels)
		X	Y	Z		
STS, posterior	R	62	-44	2	11.32	18286
<i>Rolandic operculum</i>	<i>R</i>	<i>50</i>	<i>-18</i>	<i>20</i>	<i>10.07</i>	
<i>Mid Frontal gyrus</i>	<i>R</i>	<i>44</i>	<i>0</i>	<i>54</i>	<i>9.89</i>	
Sup Frontal gyrus	L	-10	38	48	6.36	148
Mid Frontal gyrus	L	-28	36	16	6.11	348
STS, mid	L	-62	-32	-2	6.01	337
<i>STS, mid</i>	<i>L</i>	<i>-66</i>	<i>-22</i>	<i>-4</i>	<i>5.72</i>	
<i>MTG, mid</i>	<i>L</i>	<i>-66</i>	<i>-46</i>	<i>-6</i>	<i>4.95</i>	
Cereb Lob 9	L	-12	-56	-50	4.78	19
Insula	L	-40	-4	-8	4.33	18
Sup Temporal pole	L	-58	10	-8	4.18	40
Mid Frontal gyrus	L	-26	10	48	4.12	32
IFG triangularis	L	-50	28	10	4.10	68
IFG triangularis	R	46	22	14	4.06	24
Globus Pallidus	L	-18	0	0	3.86	18
IFG triangularis	L	-58	18	10	3.62	13
Sup Frontal gyrus, medial L		-8	50	38	3.34	18

L: left; R: right; MNI: Montreal neurological institute; STS: superior temporal sulcus; Mid: middle; Sup: superior; MTG: middle temporal gyrus; Cereb Lob: cerebellum lobule; IFG: inferior frontal gyrus.

Supplementary Table 7: Activations, cluster size and coordinates for angry > neutral synthesized energy voices contrast, wholebrain voxel-wise $p < .05$ FDR correction, $k > 10$.

Region label	Hemisphere	MNI coordinates			T value	Cluster size (voxels)
		X	Y	Z		
Precentral gyrus	R	60	8	26	7.99	226
Postcentral gyrus	L	-56	-12	18	7.57	397
MTG, posterior	R	60	-46	4	6.03	34
Insula	R	44	-10	4	5.81	216
STG, anterior	R	56	-6	-4	5.23	
STG, posterior	R	54	-34	12	5.58	25
STS, posterior	L	-62	-48	6	5.43	20
Hypothalamus	R	2	-4	-10	5.20	53
Amygdala	L	-26	-6	-24	5.12	28
MTG, anterior	R	66	-4	-16	4.89	24
Parahippocampal gyrus	R	26	-38	-16	4.72	151
Substantia nigra	L	-8	-28	-6	4.71	12
Parahippocampal gyrus	L	-24	-34	-4	4.04	17
Thalamus, LPN	L	-20	-16	10	3.65	10
Caudate head	R	4	10	-6	3.43	15
Putamen	L	-16	8	-8	3.40	10

L: left; R: right; MNI: Montreal neurological institute; MTG: middle temporal gyrus; STG: superior temporal gyrus; STS: superior temporal sulcus; LPN: lateral posterior nucleus.

Supplementary Table 8: Activations, cluster size and coordinates for happy > neutral synthesized energy voices contrast, $p < .05$ voxel-wise FDR correction, $k > 10$.

Region label	Hemisphere	MNI coordinates			T value	Cluster size (voxels)
		X	Y	Z		
Precentral gyrus	R	56	-2	42	7.96	229
STS, posterior	R	62	-44	4	6.82	486
STS, posterior	L	-64	-32	-4	6.30	377
Mid frontal gyrus	R	32	28	48	5.76	663
Putamen	R	28	-10	8	5.47	232
Parahippocampal gyrus	L	-22	-44	-4	5.19	454
IFG triangularis	L	-44	26	8	4.57	55
ACC	L	-4	12	38	4.45	153
Putamen	L	-28	-18	10	4.41	33
Amygdala	L	-26	-8	-22	4.20	63
Thalamus, VPLN	L	-18	-14	6	3.45	10
Caudate head	L	-8	20	0	3.35	10

L: left; R: right; MNI: Montreal neurological institute; STS: superior temporal sulcus; Mid: middle; IFG: inferior frontal gyrus; ACC: anterior cingulate cortex; VPLN: ventral posterior lateral nucleus.

Supplementary Table 9: Seed-to-seed functional connectivity (gPPI) for angry > neutral normal > f0 & energy synthesized voices contrast, $p < .05$ seed-level FDR correction, two-tailed.

Seed region label	Target region label	T value	pFDR
pSTG l	FO r	7.26	0.0006
GPe l	Cereb Lob X r	4.69	0.0470
STT l	POTPT r	5.71	0.0073
STT l	STT r	5.30	0.0077

FO: frontal operculum; GPe: external globus pallidus; pSTG: posterior superior temporal gyrus; STT: spinothalamic tract of the brainstem; POTPT: parieto-occipito-temporo-pontine tract of the brainstem; Cereb Lob: cerebellum lobule; l: left; r: right.

Supplementary Table 10: Seed-to-seed functional connectivity (gPPI) for happy > neutral normal > f0 & energy synthesized voices contrast, $p < .05$ seed-level FDR correction, two-tailed.

Seed region label	Target region label	T value	pFDR value
PaCC r	SubCC	-4.73	0.0442
pMTG l	COC r	4.70	0.0374
pMTG l	pSTG r	-4.45	0.0374
aSTG r	GPI r	4.70	0.0466
LL r	CST r	8.22	0.0001

PaCC: paracingulate cortex; SubCC: subcalcarine cortex; GPI: internal globus pallidus; COC: central operculum cortex; aSTG: anterior superior temporal gyrus; pSTG: posterior superior temporal gyrus; pMTG: posterior middle temporal gyrus; CST: corticospinal tract of the brainstem; LL: lateral lemniscus of the brainstem.; l: left; r: right.

Supplementary Table 11: Regions of interest included in the functional and/or effective connectivity analyses, all within the field of view of the acquired MRI volumes.

aal.IC r (Insular Cortex Right)	aal.toITG l (Inferior Temporal Gyrus, temporooccipital part Left)
aal.IC l (Insular Cortex Left)	aal.PostCG r (Postcentral Gyrus Right)
aal.SFG r (Superior Frontal Gyrus Right)	aal.PostCG l (Postcentral Gyrus Left)
aal.SFG l (Superior Frontal Gyrus Left)	aal.aSMG r (Supramarginal Gyrus, anterior division Right)
aal.MidFG r (Middle Frontal Gyrus Right)	aal.aSMG l (Supramarginal Gyrus, anterior division Left)
aal.MidFG l (Middle Frontal Gyrus Left)	aal.pSMG r (Supramarginal Gyrus, posterior division Right)
aal.PreCG r (Precentral Gyrus Right)	aal.pSMG l (Supramarginal Gyrus, posterior division Left)
aal.PreCG l (Precentral Gyrus Left)	aal.AG r (Angular Gyrus Right)
aal.aSTG r (Superior Temporal Gyrus, anterior division Right)	aal.AG l (Angular Gyrus Left)
aal.aSTG l (Superior Temporal Gyrus, anterior division Left)	aal.SMA r (Juxtapositional Lobule Cortex - formerly Supplementary Motor Cortex- Right)
aal.pSTG r (Superior Temporal Gyrus, posterior division Right)	aal.SMA l (Juxtapositional Lobule Cortex - formerly Supplementary Motor Cortex- Left)
aal.pSTG l (Superior Temporal Gyrus, posterior division Left)	aal.SubCalC (Subcallosal Cortex)
aal.aMTG r (Middle Temporal Gyrus, anterior division Right)	aal.PaCiG r (Paracingulate Gyrus Right)
aal.aMTG l (Middle Temporal Gyrus, anterior division Left)	aal.PaCiG l (Paracingulate Gyrus Left)
aal.pMTG r (Middle Temporal Gyrus, posterior division Right)	aal.PC (Cingulate Gyrus, posterior division)
aal.pMTG l (Middle Temporal Gyrus, posterior division Left)	aal.aPaHC r (Parahippocampal Gyrus, anterior division Right)
aal.toMTG r (Middle Temporal Gyrus, temporooccipital part Right)	aal.aPaHC l (Parahippocampal Gyrus, anterior division Left)
aal.toMTG l (Middle Temporal Gyrus, temporooccipital part Left)	aal.pPaHC r (Parahippocampal Gyrus, posterior division Right)
aal.aITG r (Inferior Temporal Gyrus, anterior division Right)	aal.pPaHC l (Parahippocampal Gyrus, posterior division Left)
aal.aITG l (Inferior Temporal Gyrus, anterior division Left)	aal.aTFusC r (Temporal Fusiform Cortex, anterior division Right)
aal.pITG r (Inferior Temporal Gyrus, posterior division Right)	aal.aTFusC l (Temporal Fusiform Cortex, anterior division Left)
aal.pITG l (Inferior Temporal Gyrus, posterior division Left)	aal.pTFusC r (Temporal Fusiform Cortex, posterior division Right)
aal.toITG r (Inferior Temporal Gyrus, temporooccipital part Right)	aal.pTFusC l (Temporal Fusiform Cortex, posterior division Left)

aal.FO r (Frontal Operculum Cortex Right)	Cerebellum.1 Left_I_IV
aal.FO l (Frontal Operculum Cortex Left)	Cerebellum.2 Right_I_IV
aal.CO r (Central Opercular Cortex Right)	Cerebellum.3 Left_V
aal.CO l (Central Opercular Cortex Left)	Cerebellum.4 Right_V
aal.PO r (Parietal Operculum Cortex Right)	Cerebellum.5 Left_VI
aal.PO l (Parietal Operculum Cortex Left)	Cerebellum.6 Vermis_VI
aal.PP r (Planum Polare Right)	Cerebellum.7 Right_VI
aal.PP l (Planum Polare Left)	Cerebellum.8 Left_CrusI
aal.HG r (Heschl's Gyrus Right)	Cerebellum.9 Vermis_CrusI
aal.HG l (Heschl's Gyrus Left)	Cerebellum.10 Right_CrusI
aal.PT r (Planum Temporale Right)	Cerebellum.11 Left_CrusII
aal.PT l (Planum Temporale Left)	Cerebellum.12 Vermis_CrusII
BG.1 left red nucleus	Cerebellum.13 Right_CrusII
BG.2 right red nucleus	Cerebellum.14 Left_VIIb
BG.3 left substantia nigra	Cerebellum.15 Vermis_VIIb
BG.4 right substantia nigra	Cerebellum.16 Right_VIIb
BG.5 left subthalamic nucleus	Cerebellum.17 Left_VIIIa
BG.6 right subthalamic nucleus	Cerebellum.18 Vermis_VIIIa
BG.7 left caudate	Cerebellum.19 Right_VIIIa
BG.8 right caudate	Cerebellum.20 Left_VIIIb
BG.9 left putamen	Cerebellum.21 Vermis_VIIIb
BG.10 right putamen	Cerebellum.22 Right_VIIIb
BG.11 left external globus pallidus	Cerebellum.23 Left_IX
BG.12 right external globus pallidus	Cerebellum.24 Vermis_IX
BG.13 left internal globus pallidus	Cerebellum.25 Right_IX
BG.14 right internal globus pallidus	Cerebellum.26 Left_X
BG.15 left thalamus	Cerebellum.27 Vermis_X
BG.16 right thalamus	Cerebellum.28 Right_X
BG.17 left hippocampus	Cerebellum.29 Left_Dentate nucleus
BG.18 right hippocampus	Cerebellum.30 Right_Dentate nucleus
BG.19 left nucleus accumbens	Cerebellum.31 Left_Interposed nucleus
BG.20 right nucleus accumbens	Cerebellum.32 Right_Interposed nucleus
BG.21 left amygdala	Cerebellum.33 Left_Fastigial nucleus
BG.22 right amygdala	Cerebellum.34 Right_Fastigial nucleus

Brainstem.CST Left (Corticospinal; motor)

Brainstem.CST Right (Corticospinal; motor)

Brainstem.FPT Left (Fronto-pontine; motor)

Brainstem.FPT Right (Fronto-pontine; motor)

Brainstem.ICPMC Left (Inferior Cerebellar ; cerebellar peduncles)

Brainstem.ICPMC Right (Inferior Cerebellar ; cerebellar peduncles)

Brainstem.ICPVC Left (Inferior Cerebellar; cerebellar peduncles)

Brainstem.ICPVC Right (Inferior Cerebellar; cerebellar peduncles)

Brainstem.LL Left (Lateral lemniscus; sensory tracts)

Brainstem.LL Right (Lateral lemniscus; sensory tracts)

Brainstem.MCP (Middle Cerebellar; cerebellar peduncles)

Brainstem.ML Left (Medial lemniscus; sensory tracts)

Brainstem.ML Right (Medial lemniscus; sensory tracts)

Brainstem.POTPT Left (Parieto-occipito-temporal; motor tracts)

Brainstem.POTPT Right (Parieto-occipito-temporal; motor tracts)

Brainstem.SCPCR Left (Superior Cerebellar; cerebellar peduncles)

Brainstem.SCPCR Right (Superior Cerebellar; cerebellar peduncles)

Brainstem.SCPCT Left (Superior Cerebellar; cerebellar peduncles)

Brainstem.SCPCT Right (Superior Cerebellar; cerebellar peduncles)

Brainstem.SCPSC Left (Superior Cerebellar; cerebellar peduncles)

Brainstem.SCPSC Right (Superior Cerebellar; cerebellar peduncles)

Brainstem.STT Left (Spinothalamic; sensory tracts)

Brainstem.STT (Spinothalamic; sensory tracts)

‘aal.’: Automated Anatomical Labelling atlas (NROI=58); ‘BG.’: Basal Ganglia atlas (NROI=22); ‘Cerebellum.’: Cerebellum atlas (NROI=34); ‘Brainstem.’: Brainstem atlas (NROI=23). For references, see Methods section.