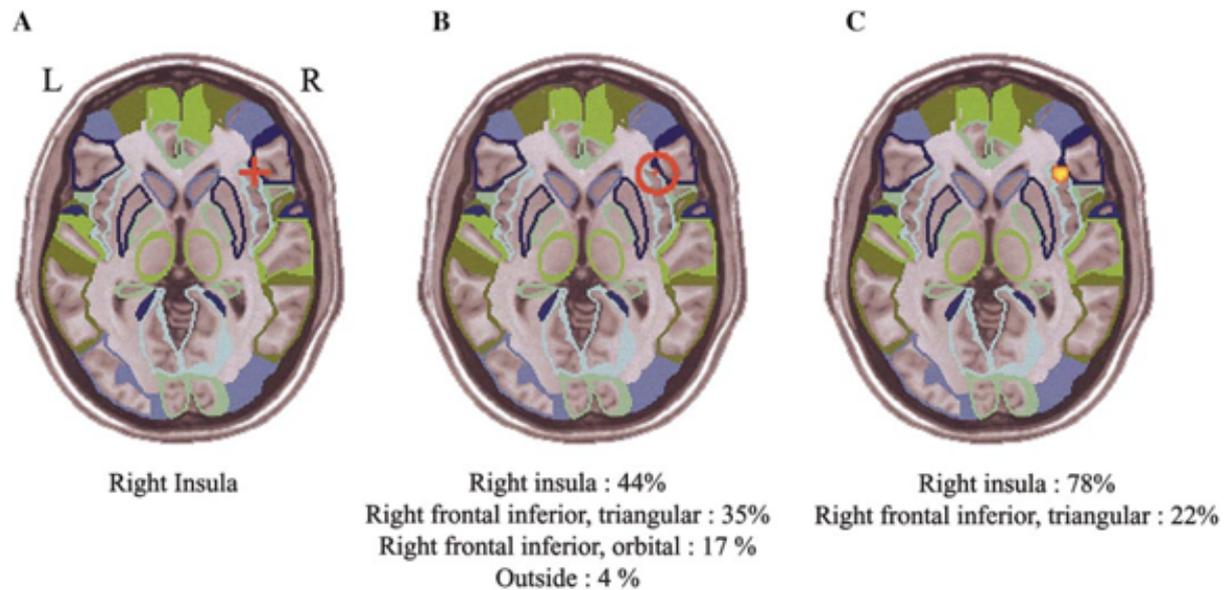
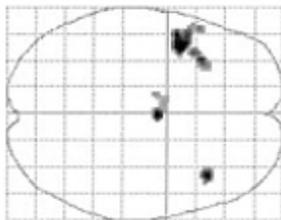


Overview

An automated anatomical parcellation of the spatially normalized single-subject high-resolution T1 volume provided by the Montreal Neurological Institute (MNI) (D. L. Collins et al., 1998, *Trans. Med. Imag.* 17, 463–468, [PubMed](#)) was performed. Using this parcellation method, three procedures to perform the automated anatomical labeling of functional studies are proposed: (1) labeling of an extremum defined by a set of coordinates, (2) percentage of voxels belonging to each of the AVOI intersected by a sphere centered by a set of coordinates, and (3) percentage of voxels belonging to each of the AVOI intersected by an activated cluster. An interface with the Statistical Parametric Mapping package is provided as a freeware to researchers of the neuroimaging community.



The outline of the parcellation was overlaid on the MNI single-subject z 5 0 mm axial slice. **(A)** Local maxima labeling: the red cross indicates the location of the local maximum. **(B)** Extended local maxima labeling: percentage of overlap between a 10-mm sphere radius centered on the local maximum and the AVOI parcellation. **(C)** Cluster labeling: percentage of overlap between the activation cluster and the AVOI parcellation.



Statistics: volume summary (p values corrected for entire volume)

cluster level			voxel level				x,y,z (mm)	
$p_{corrected}$	k_E	$p_{uncorrected}$	$p_{corrected}$	T	(Z)	$p_{uncorrected}$		
0.000	131	0.000	0.046	8.67	(5.21)	0.000	-42	8 22
			0.118	7.87	(4.97)	0.000	-50	6 22
0.000	39	0.000	0.078	8.22	(5.07)	0.000	2	-6 4
0.000	32	0.000	0.113	7.91	(4.98)	0.000	40	26 0
0.000	80	0.000	0.187	7.48	(4.84)	0.000	-34	22 2

B Labels: volume summary (labels for entire volume)

x,y,z mm	label	mm dist				
-42 8 22	Frontal_Inf_Oper_L	0.00				
-50 6 22	Precentral_L	0.00				
2 -6 4	Thalamus_R	2.83	Thalamus_L	5.66	Caudate_R	11.66
40 26 0	Insula_R	0.00				
-34 22 2	Insula_L	0.00				

C Labels: volume summary (labels and percentages for the entire volume)

Local Maximum Radius : 10.0mm

x,y,z mm	label	%
-42 8 22	Frontal_Inf_Oper_L	54.37
	Precentral_L	18.64
	Frontal_Inf_Tri_L	12.04
	OUTSIDE	7.57
	Rolandic_Oper_L	6.41
-50 6 22	Insula_L	0.97
	Precentral_L	46.41
	Frontal_Inf_Oper_L	43.88
	Rolandic_Oper_L	5.63
	Frontal_Inf_Tri_L	3.30
2 -6 4	Postcentral_L	0.58
	OUTSIDE	0.19
	OUTSIDE	68.54
	Thalamus_R	19.81
	Thalamus_L	11.65
40 26 0	Insula_R	43.88
	Frontal_Inf_Tri_R	34.37
	Frontal_Inf_Orb_R	17.28
	OUTSIDE	4.08
	Frontal_Inf_Oper_R	0.39
-34 22 2	Insula_L	61.75
	Frontal_Inf_Tri_L	26.60
	OUTSIDE	6.21
	Frontal_Inf_Orb_L	5.44

D Labels : volume summary (labels and percentages per cluster)

x,y,z mm	label	%
-42 8 22	Frontal_Inf_Oper_L	64.89
	Frontal_Inf_Tri_L	19.85
	Precentral_L	14.50
	OUTSIDE	0.76
2 -6 4	OUTSIDE	97.44
	Thalamus_L	2.56
40 26 0	Insula_R	78.12
	Frontal_Inf_Tri_R	21.88
-34 22 2	Insula_L	100.00

Illustration of the automated anatomical labeling SPM interface. (A) Maximum intensity projection and corresponding result table as provided by the SPM result section. (B) Output of the local maxima labeling. (C) Output of the extended local maxima labeling. (D) Output of the cluster labeling procedure.