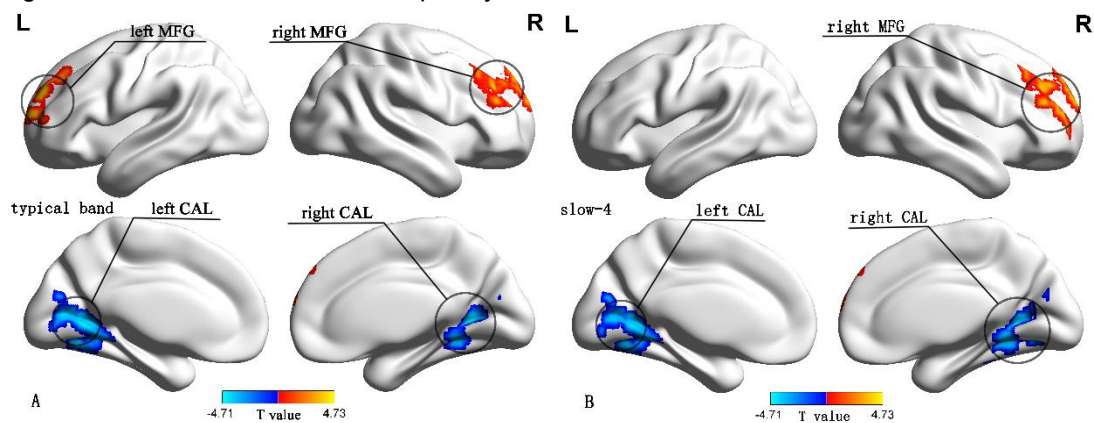


Table 1: The difference in ReHo value in brain regions between SLE and HC

Brain regions	Cluster size (Number of voxels)	Peak MNI coordinates			Peak intensity
		X	Y	Z	
Typical band (0.01–0.08Hz)					
Left CAL	383	-15	-60	6	-4.59
Right CAL	194	24	-54	6	-4.71
Left MFG	140	-24	54	27	4.60
Right MFG	421	36	48	27	4.73
Slow-4 (0.027-0.073Hz)					
Left CAL	360	-15	-60	6	-4.47
Right CAL	236	24	-54	3	-4.37
Right MFG	567	36	42	33	5.13
Slow-5 (0.01–0.027Hz)					
No significant brain regions					

MNI, Montreal Neurological Institute; CAL: calcarine fissure and surrounding cortex; MFG: middle frontal gyrus

Figure 1 ReHo in three different frequency bands



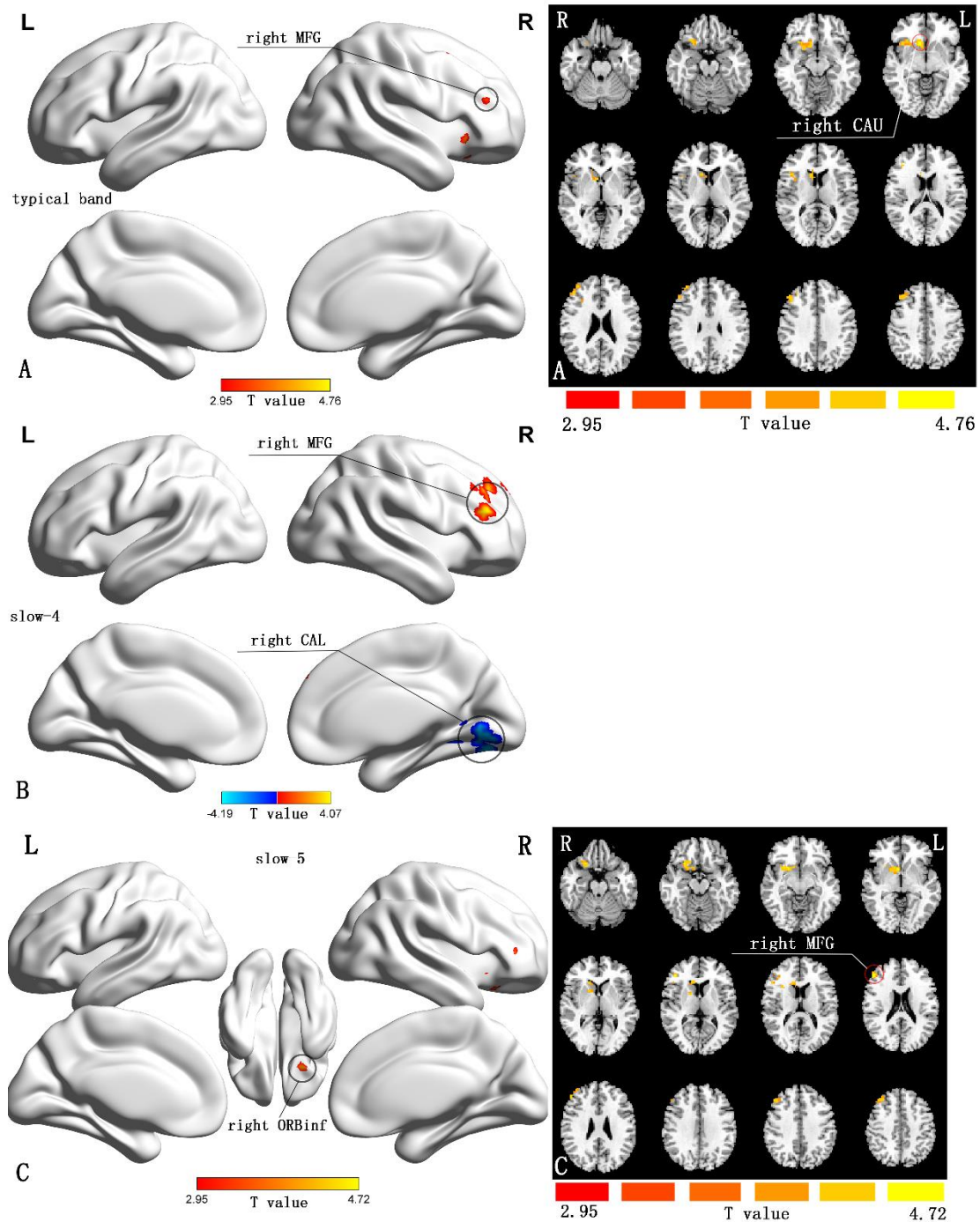
T-statistic ReHo maps of non-NPSLE patients versus healthy controls (HCs) in slow-5 (voxel $p < 0.005$, cluster $p < 0.05$, GRF corrected). Two-sample t-test showed abnormal ReHo in bilateral middle frontal gyrus and bilateral calcarine fissure and surrounding cortex in typical band and slow-4. Hot colors indicate increased ReHo in patients compared with HCs; Cold colors indicate decreased ReHo in patients compared with HCs.

Table 2: The difference in fALFF value in brain regions between SLE and HC

Brain regions	Cluster size (Number of voxels)	Peak MNI coordinates			Peak intensity
		X	Y	Z	
Typical band (0.01–0.08Hz)					
Right CAU	222	9	24	-6	4.57
Right MFG	214	48	6	54	4.76
Slow-4 (0.027-0.073Hz)					
Right CAL	164	30	-57	3	-4.19
Right MFG	169	36	42	33	4.07
Slow-5 (0.01–0.027Hz)					
Right ORBinf	238	27	24	-18	4.52
Right MFG	203	48	42	21	4.72

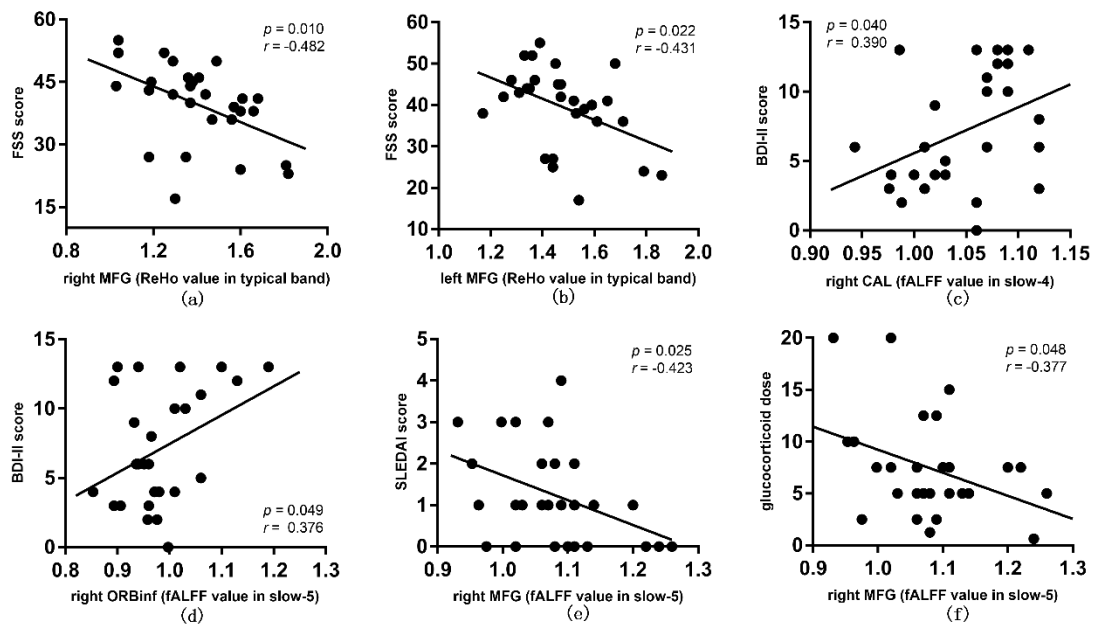
MNI, Montreal Neurological Institute; CAU: caudate nucleus; CAL: calcarine fissure and surrounding cortex; MFG: middle frontal gyrus; ORBinf: inferior frontal gyrus, orbital part

Figure 2 fALFF in three different frequency bands



T-statistic fALFF maps of non-NPSLE patients versus healthy controls (HCs) in slow-5 (voxel $p < 0.005$, cluster $p < 0.05$, GRF corrected). Two-example t-test showed abnormal fALFF in right middle frontal gyrus, right caudate nucleus, right calcarine fissure and surrounding cortex and right inferior frontal gyrus, orbital part in three different frequency bands. Hot colors indicate increased fALFF in patients compared with HCs; Cold colors indicate decreased fALFF in patients compared with HCs.

Figure 3. correlation analysis



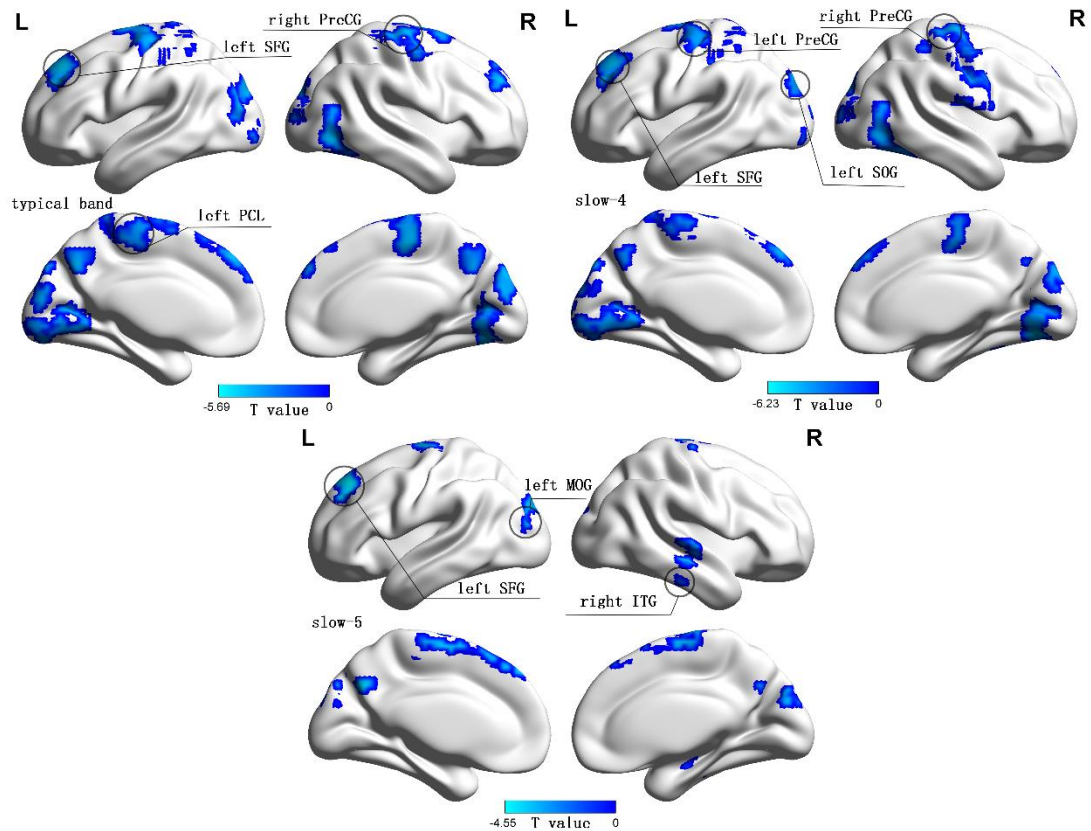
The correlation analysis revealed significantly negative correlations between the fatigue severity scale and ReHo values in bilateral MFG in typical band. The Beck Depression Inventory II showed significantly positive correlations with fALFF values in right CAL in slow-4 and right ORBinf in slow-5. Significantly negative correlation was found between SLEDAI score and fALFF values in right MFG in slow-5. Moreover, the glucocorticoid dose was negatively correlated with fALFF values in right MFG in slow-5.

Table 3: The difference in dReHo value in brain regions between SLE and HC (length of window size: 75 TR; step of window size: 20 TR)

Brain regions	Cluster size (Number of voxels)	Peak MNI coordinates			Peak intensity
		X	Y	Z	
Typical band (0.01–0.08Hz)					
Left SFG	504	-21	39	45	-4.77
Left PCL	775	-9	-33	63	-4.47
Right PreCG	230	27	-18	66	-4.62
Slow-4 (0.027-0.073Hz)					
Right PreCG	479	27	-18	69	-4.73
Left SOG	303	-18	-87	36	-4.46
Left SFG	462	-27	39	48	-4.98
Left PreCG	515	-39	-24	66	-4.18
Slow-5 (0.01–0.027Hz)					
Right ITG	135	51	-24	-21	-4.27
Left MOG	238	-33	-81	15	-4.31
Left SFG	521	-24	42	48	-4.55

MNI, Montreal Neurological Institute; SFG: superior frontal gyrus; PCL: paracentral lobule; PreCG: precentral gyrus; SOG: superior occipital gyrus; ITG: inferior temporal gyrus

Figure 4 dReHo in three different frequency bands



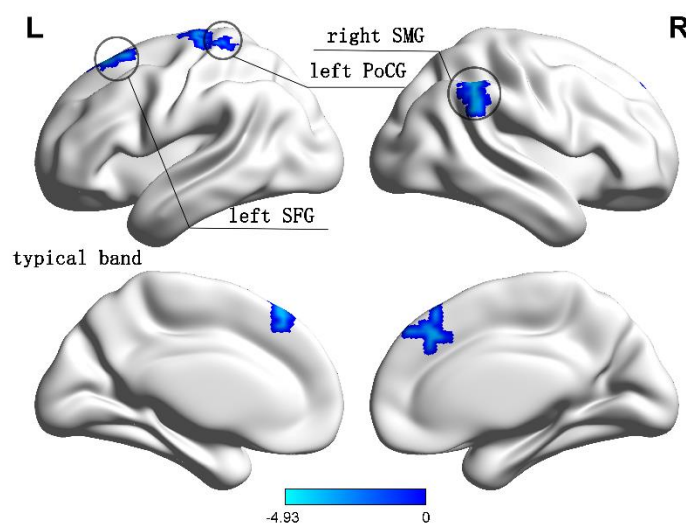
T-statistic dReHo maps of non-NPSLE patients versus healthy controls (HCs) (voxel $p < 0.005$, cluster $p < 0.05$, GRF corrected). A: dReHo map of non-NPSLE patients versus healthy controls in typical band; B: dReHo map of non-NPSLE patients versus healthy controls in slow-4. C: dReHo map of non-NPSLE patients versus healthy controls in slow-4. Hot colors indicate increased dReHo in patients compared with HCs; Cold colors indicate decreased dReHo in patients compared with HCs. R: right hemisphere; L: left hemisphere; SFG: superior frontal gyrus; PCL: paracentral lobule; PreCG: precentral gyrus; SOG: superior occipital gyrus; ITG: inferior temporal gyrus

Table 4: The difference in dfALFF value in brain regions between SLE and HC (length of window size: 75 TR; step of window size: 20 TR)

Brain regions	Cluster size (Number of voxels)	Peak MNI coordinates			Peak intensity
		X	Y	Z	
Typical band (0.01–0.08Hz)					
Right SMG	122	54	-42	39	-4.63
Left SFG	151	-15	30	60	-4.93
Left PoCG	98	-33	-36	72	-3.88
Slow-4 (0.027-0.073Hz)					
No significant brain regions					
Slow-5 (0.01–0.027Hz)					
No significant brain regions					

MNI, Montreal Neurological Institute; SFG: superior frontal gyrus; SMG: supramarginal gyrus; PoCG: postcentral gyrus

Figure 5 dfALFF in three different frequency bands



T-statistic dfALFF maps of non-NPSLE patients versus healthy controls (HCs) typical band (voxel $p < 0.005$, cluster $p < 0.05$, GRF corrected). Hot colors indicate increased dfALFF in patients compared with HCs; Cold colors indicate decreased dfALFF in patients compared with HCs. R: right hemisphere; L: left hemisphere; SFG: superior frontal gyrus; SMG: supramarginal gyrus; PoCG: postcentral gyrus