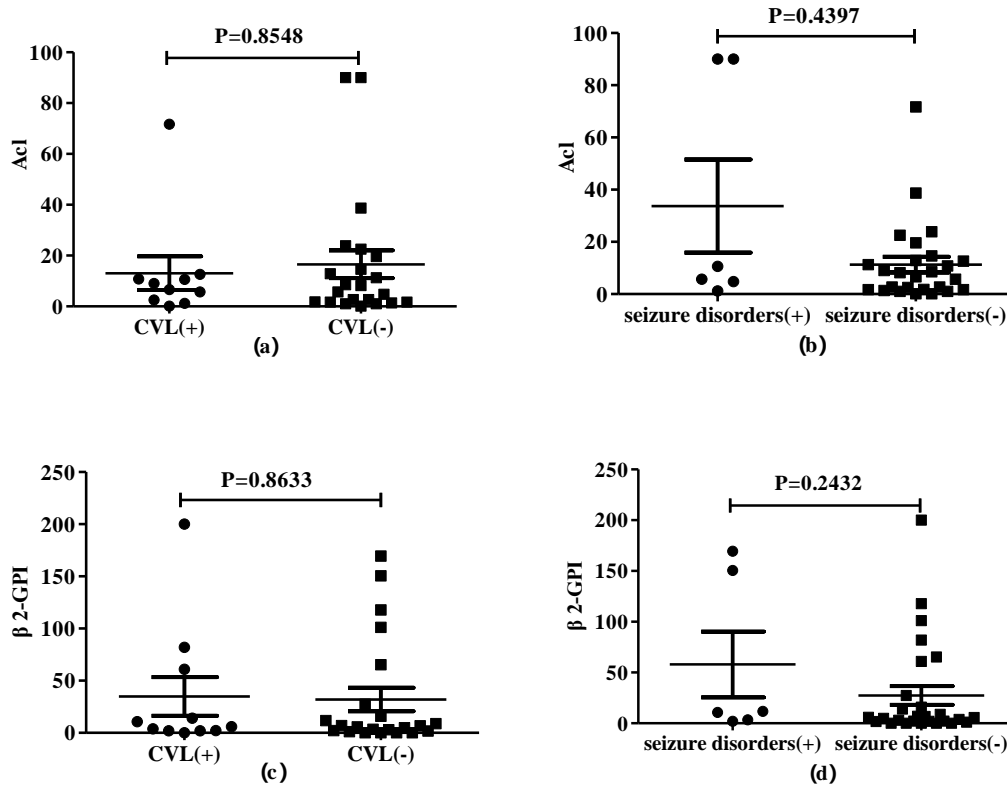
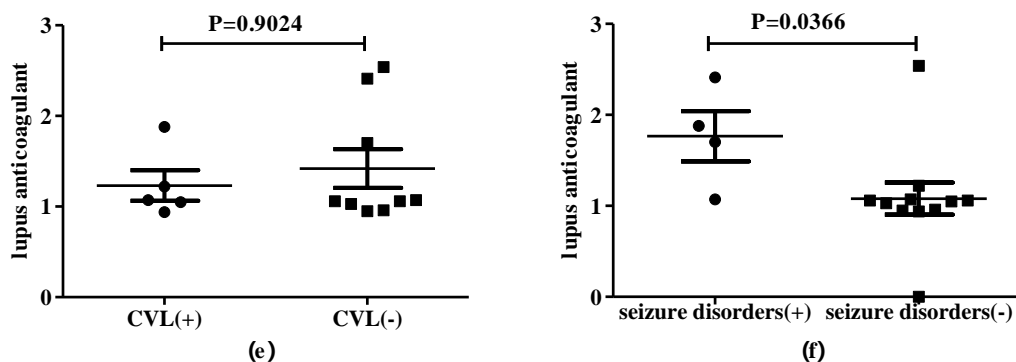


Supplementary Figure 1: (a) Levels of anti-GAPDH in NPSLE patients with different SLICC-ACR damage index scores. (b) Comparison of SLICC-ACR scores in the NPSLE patients with elevated and normal levels of serum anti-GAPDH antibodies. SLICC-ACR: Systemic Lupus International Collaborating Clinics/American College of Rheumatology.





Supplementary Figure 2: Correlation of serum antiphospholipid antibodies of NPSLE patients with cerebrovascular lesions and seizure disorders. (a) correlation of serum anti-cardiolipin antibodies (Acl) of NPSLE patients with cerebrovascular lesions. (b) correlation of serum anti-cardiolipin antibodies (Acl) of NPSLE patients with seizure disorders. (c) correlation of serum anti- β 2 glycoprotein I antibodies of NPSLE patients with cerebrovascular lesions. (d) correlation of serum anti- β 2 glycoprotein I antibodies of NPSLE patients with seizure disorders. (e) correlation of serum lupus anticoagulant of NPSLE patients with cerebrovascular lesions. (f) correlation of serum lupus anticoagulant of NPSLE patients with seizure disorders.

CVL: cerebrovascular lesions; β 2-GPI : anti- β 2 glycoprotein I antibodies.

Supplementary Table 1: Correlation of serum anti-GAPDH antibodies with clinical and laboratory features of in NPSLE patients.

Clinical manifestations and laboratory features	anti-GAPDH	
	Spearman r	P
Age	0.112	0.524
WBC	-0.039	0.825
HB	-0.163	0.349
PLT	-0.144	0.410
IgG	0.077	0.666
IgA	0.119	0.502
IgM	0.306	0.078
Anti-dsDNA	0.106	0.549
anti-Sm	-0.143	0.420
Anti-SSA	0.040	0.821
Anti-SSB	-0.322	0.063
C3	0.228	0.194
C4	0.025	0.887
ESR	0.323	0.066
CRP	0.222	0.207
RF	-0.164	0.355
Acl	-0.022	0.903
Lupus anticoagulant	-0.043	0.879
β 2-GI	0.157	0.382
24h proteinuria	-0.171	0.348
SLEDAI-2K	0.247	0.153

Intracranial pressure	0.567	0.004
Chloride in CSF	0.040	0.829
Glucose in CSF	-0.047	0.799
Protein in CSF	-0.152	0.410

WBC: white blood cell; HB: hemoglobin; PLT: platelet count; IgG: Immunoglobulin G; IgA: Immunoglobulin A; IgM: Immunoglobulin M; Anti-dsDNA: Anti-double stranded DNA antibodies; Acl: anti-cardiolipin; anti-Sm: anti-Smith; Anti-SSA: anti-SSA antibody; Anti-SSB: anti-SSB antibody; C3: component3; C4: component 4; ESR: Erythrocyte sedimentation rate; CRP: C-reaction protein; RF: rheumatoid factor; β 2-GPI: anti- β 2 glycoprotein I Abs; SLEDAI-2K: Systemic Lupus Erythematosus Disease Activity Index 2000; CSF: cerebrospinal fluid.

Supplementary Table 2: Clinical and laboratory characteristics of NPSLE patients with the elevated and normal levels of serum anti-GAPDH antibodies.

Clinical and laboratory parameters	anti-GAPDH		t/u/ χ^2	P
	<55.09 (n=11)	\geq 55.09 (n=24)		
NPSLE manifestations				
Headache	5/11(45.45%)	16/24(66.67%)	1.414	0.234
CVL	1/11(9.09%)	11/24(45.83%)	4.520	0.034
Seizure disorders	4/11(36.36%)	2/24(8.3%)	4.172	0.041
Cognitive dysfunction	2/11(18.18%)	4/24(16.67%)	0.012	0.912
Acute confusional state	0	2/24(8.3%)	-	-
Demyelinating syndrome	1/11(9.09%)	1/24(4.17%)	-	0.536
Autonomic disorder	1/11(9.09%)	2/24(8.3%)	-	1.000
Psychosis	0	2/24(8.3%)	-	-
Mood disorder	0	1/24(4.17%)	-	-
Mononeuropathy, single/multiplex	1/11(9.09%) 0	0 2/24(8.3%)	- -	- -
Neuropathy, cranial				
LN	6/11(54.55%)	13/24(54.17%)	0	0.983
D-Dimer	5/10(50.0%)	15/24(62.5%)	0.455	0.500
IgA	2.995 \pm 1.609	2.791 \pm 1.481	-0.364	0.718
IgG	17.72 \pm 7.883	17.87 \pm 4.693	0.065	0.948
IgM	0.584(0.483,1.340)	0.92(0.665,1.36)	-1.436	0.151
C3	0.50 \pm 0.15	0.62 \pm 0.31	1.567	0.127
C4	0.11 \pm 0.05	0.11(0.06,0.01)	-0.460	0.645
CRP	3.46(1.35,11.5)	7.80(3.18,19.5)	-0.834	0.404
ESR	31.89 \pm 26.48	53.83 \pm 28.18	2.023	0.052

Acl	4.80(1.70,22.50)	8.50(2.10,13.75)	-0.437	0.662
Anti-dsDNA	18.5(0.00,168.6)	93.4(24.6,236.8)	-1.844	0.065
ANUA	69.62(8.88,108.7)	77.03(10.65,179.7)	-0.958	0.338
ANA≥1:320	9/10(90.00%)	16/24(66.67%)	1.975	0.160
24h-Urine protein	0.76(0.165,1.338)	0.385(0.125,1.198)	-0.732	0.464
SLEDAI-2K≥10	23.00±7.39	25.58±7.99	0.877	0.387

CVL: cerebrovascular lesions; LN: lupus nephritis; IgA: Immunoglobulin A; IgG: Immunoglobulin G; IgM: Immunoglobulin M; C3: component3; C4: component 4; CRP: C-reaction protein; ESR: Erythrocyte sedimentation rate; Acl: anti-cardiolipin; Anti-dsDNA: Anti-double stranded DNA antibodies; ANUA: Anti-nucleosome antibodies; ANA: Anti-nuclear antibodies; SLEDAI-2K: Systemic Lupus Erythematosus Disease Activity Index 2000.

Supplementary Table 3: characteristics of NPSLE and cerebrovascular lesions and seizure disorders in anti-phospholipid antibodies positive and negative patients.

	anti-phospholipid antibodies(+)	anti-phospholipid antibodies(-)	χ^2	P
NPSLE	15/33 (45.45%)	20/82 (24.39%)	1.541	0.215
CVL	5/15 (33.33%)	5/18 (27.78%)	-	1.000
Seizure disorders	4/15 (26.67%)	2/18 (11.11%)	-	0.375

CVL: cerebrovascular lesions

Supplementary Table 4: characteristics of NPSLE and cerebrovascular lesions and seizure disorders in Acl antibodies positive and negative patients.

	Acl (+)	Acl (-)	χ^2	P
NPSLE	11/29 (37.93%)	21/91 (23.08%)	2.481	0.115
CVL	3/11 (27.27%)	7/21 (33.33%)	-	1.000
Seizure disorders	3/11 (27.27%)	3/21 (14.29%)	-	0.390

CVL: cerebrovascular lesions; Acl: anti-cardiolipin antibodies.