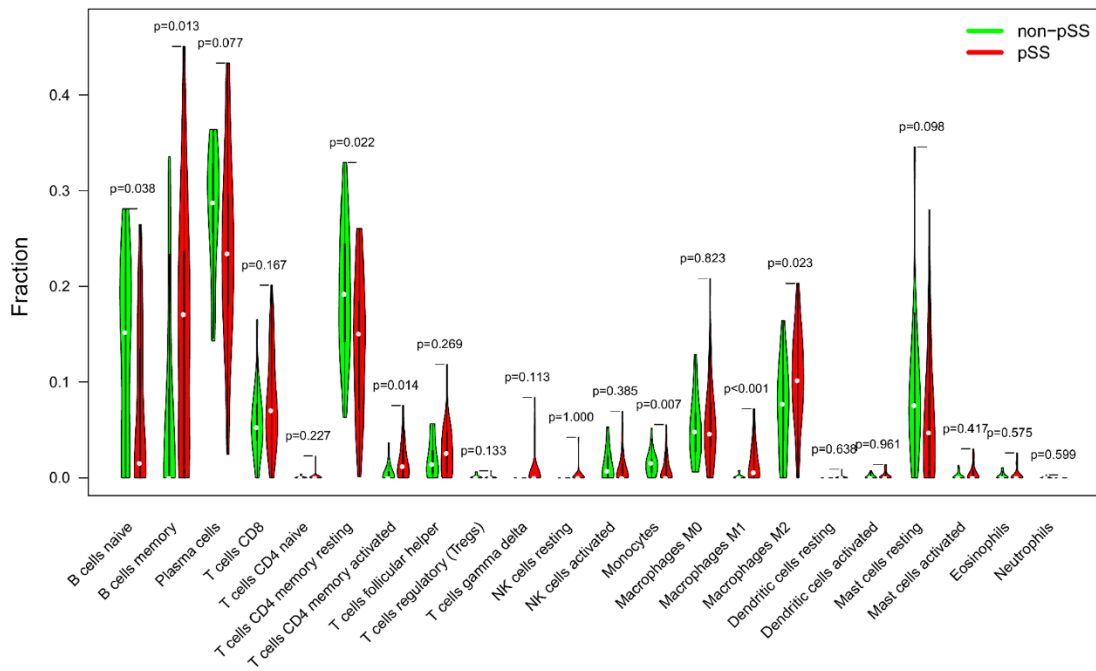
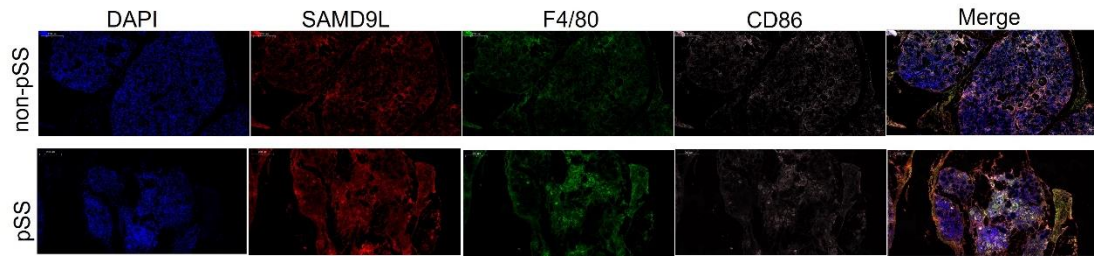


Supplementary Figure 1 Bar graph quantifies the relative proportions of 22 infiltrated immune cell types in LSGs.



Supplementary Figure 2 22 types of immune cells infiltrating the LSG tissue defined by the CIBERSORT algorithm



Supplementary Figure 3 The expression of SAMD9L and macrophages M1 marker in the minor salivary gland of pSS and non-pSS. Immunofluorescent (IF) staining of SAMD9L (red), macrophages M1 marker F4/80 (green) and CD86 (pink) in labial salivary gland. Nuclei were counterstained with DAPI (blue).

Supplementary Table 1 Baseline characteristics of pSS and healthy controls who agreed to provide serum samples

	Total	HC	pSS
Patients (n)	36	18	18
Female (n [%])	36[100]	18[100]	18[100]
Age (years)	49.8±11.0	49.6±12.9	50.0±8.7
ESSDAI ≥5	-	-	12[66.67]

Abbreviations: EULAR Sjögren's syndrome disease activity index.

Supplementary Table 2 Clinical and pathologic characteristics of patients in GSE173808 datasets.

Characteristic	Total	Non-pSS	pSS
Patients(n)	51	18	33
Age(years)	51.59±13.20	50.90±12.18	51.96±13.40
Female(n)	50	17	33
	<=4	16	19
ESSDAI(n)	5-13	1	9
	>=14	1	5
SSA+(n)	51	1	26
	<1	17	7
Focus Score	1-1.9	1	13
	2-2.9	0	7
	>=3	0	6
LSG CD45 ⁺ cells(%)	16.41(7.28-27.63)	8.25(3.36-14.84)	21.81(15.41-34.68)
Rheumatoid Factor+(n)	51	0	22
ICOS	5.75(4.65-7.47)	4.65(4.51-5.52)	7.18(5.53-7.83)
EPSTI1	9.50(8.79-10.84)	8.79(8.50-9.23)	10.79(9.16-11.10)
SAMD9L	11.34(10.76-12.12)	10.77(10.32-11.07)	12.01(11.14-12.42)

Supplementary Table 3 Top 10 DEGs and their inter-group differences in LSG focus score, SSA, RF, and ESSDAI values

Gene	LSG focus score	SSA	RF	ESSDAI	SigNum
ICOS	<0.0001	0.0004	<0.0001	0.0395	4
EPSTI1	0.0003	<0.0001	<0.0001	0.0375	4
SAMD9L	0.0005	<0.0001	<0.0001	0.0413	4
CXCL10	<0.0001	<0.0001	<0.0001	0.1294	3
TFEC	<0.0001	<0.0001	<0.0001	0.1809	3
GBP1	0.0005	<0.0001	<0.0001	0.1401	3
SAMD9	0.0016	<0.0001	<0.0001	0.0940	3
PARP9	0.0167	<0.0001	<0.0001	0.0952	3
TRIM22	0.0002	<0.0001	<0.0001	0.1474	3
PARP12	0.0129	0.0001	<0.0001	0.1302	3

Abbreviations: SSA, anti-SSA antibodies; RF, rheumatoid factor; ESSDAI, EULAR SS disease activity index; SigNum, number of items with statistical significance.

Supplementary Table 4 AUC test table of predictor variables (combined variables) from our clinical data

Variable 1	Variable 1	Statistic	<i>P</i> -value
SAMD9L+RF	SAMD9L	2.078	0.038
SAMD9L+RF	SSA	0.625	0.532
SAMD9L+RF	RF	1.365	0.172
SAMD9L	SSA	-0.125	0.900
SAMD9L	RF	0.380	0.704
SSA	RF	0.555	0.579

DeLong's test showed that in predicting non-pSS and pSS outcomes, the diagnostic performance of SAMD9L+RF was better than that of SAMD9L, and the result was statistically significant ($P = 0.038$); the diagnostic performance of SAMD9L+RF was better than that of SSA, and the result was not statistically significant ($P = 0.532$); the diagnostic performance of SAMD9L+RF was better than that of RF, and the result was not statistically significant ($P = 0.172$); the diagnostic performance of SAMD9L was worse than that of SSA, and the result was not statistically significant ($P = 0.900$); the

diagnostic performance of SAMD9L was superior to RF, the results were not statistically significant ($P = 0.704$); SSA had better diagnostic performance than RF, and the results were not statistically significant ($P = 0.579$).