Supplemental Table 1. Codes from the PheWAS of RNP positive vs. RNP negative SLE subjects adjusted for age and race.

PheWAS codes	Phenotype present (≥ 2 or more instances of the PheWAS code)[a]	Phenotype absent (0 instances of the PheWAS code)[a]	Adjusted Odds Ratio for age and race (95% Confidence Interval)	p[b]
Codes favoring RNP positive subjects				
Chronic kidney disease, Stage I or II	44	434	**RNP positive:** 2.51 (1.25 – 5.01) **RNP negative:** 1.00 (ref)	0.009
Peripheral vascular disease	57	609	2.18 (1.16 – 4.10)	0.02
Disorder of skin and subcutaneous tissue	21	609	3.15 (1.18 – 8.39)	0.02
Rash and other nonspecific skin eruption	92	481	1.79 (1.08 – 2.97)	0.02
Inflammatory arthritis	107	406	1.69 (1.03 – 2.78)	0.04
Codes favoring RNP negative subjects				
Neurological disorders	56	549	0.37 (0.17 – 0.81)	0.01
Acute sinusitis	50	478	0.29 (0.11 – 0.78)	0.01
Myalgia and myositis unspecified	179	424	0.58 (0.36 – 0.93)	0.02
Nausea and vomiting	107	492	0.54 (0.31 – 0.92)	0.02
Nonspecific chest pain	208	387	0.60 (0.39 – 0.93)	0.02
Vitamin	119	426	0.52	0.02

deficiency			(0.30 – 0.92)	
Overweight	78	538	0.49 (0.26 – 0.93)	0.03
Asthma	48	546	0.38 (0.16 – 0.91)	0.03
Depression	107	445	0.56 (0.32 – 0.99)	0.05
Nonspecific findings on examination of blood	57	489	0.40 (0.16 – 0.99)	0.05

[a]Phenotype present indicates subjects who had the code listed on at least 2 instances vs. phenotype absent indicates subjects who did not have the code or related codes. Subjects with 1 instance of a code are excluded, so the total number of subjects for each PheWAS code does not add up to the 1097 SLE subjects. There are 425 subjects with a missing RNP.

[b]Codes listed met a Bonferroni $p < 0.05$.

Supplemental Table 2. Codes from the PheWAS of RNP positive vs. RNP negative SLE subjects adjusted for age, race, and dsDNA.

PheWAS codes	Phenotype present (≥ 2 or more instances of the PheWAS code)[a]	Phenotype absent (0 instances of the PheWAS code)[a]	Adjusted Odds Ratio for age, race, and dsDNA (95% Confidence Interval)	p[b]
Codes favoring RNP positive subjects				
Rheumatoid arthritis and other inflammatory polyarthropathies	102	383	**RNP positive:** 1.92 (1.14 – 3.22) **RNP negative:** 1.00 (ref)	0.01
Chronic kidney disease, stage I or II	43	407	2.38 (1.15 – 4.91)	0.02
Rash and other nonspecific skin eruption	89	452	1.76 (1.04 – 2.98)	0.03
Peripheral vascular disease	50	483	2.07 (1.04 – 4.14)	0.04
Other specified cardiac dysrhythmias	27	462	2.57 (1.05 – 6.30)	0.04
Codes favoring RNP negative subjects				
Acute sinusitis	50	450	0.30 (0.11 – 0.82)	0.02
Vitamin deficiency	114	401	0.50 (0.28 – 0.91)	0.02
Neurological disorders	53	519	0.40 (0.18 – 0.90)	0.03
Myalgia and myositis unspecified	171	400	0.60 (0.37 – 0.97)	0.04
Depression	101	427	0.52 (0.28 – 0.96)	0.04

Vitamin D deficiency	93	401	0.53 (0.28 – 0.99)	0.05
Nausea and vomiting	102	464	0.57 (0.33 – 0.98)	0.05

[a]Phenotype present indicates subjects who had the code listed on at least 2 instances vs. phenotype absent indicates subjects who did not have the code or related codes. Subjects with 1 instance of a code are excluded, so the total number of subjects for each PheWAS code does not add up to the 1097 SLE subjects. There are 425 subjects with a missing RNP.

[b]Codes listed met a Bonferroni $p < 0.05$.

Supplemental Table 3. Codes from the PheWAS of Smith positive vs. negative SLE subjects adjusted for age and race.

PheWAS codes	Phenotype present (≥ 2 or more instances of the PheWAS code)[a]	Phenotype absent (0 instances of the PheWAS code)[a]	Adjusted Odds Ratio for age and race (95% Confidence Interval)	p[b]
Codes favoring Smith positive subjects				
Ascites (non-malignant)	21	514	**Smith positive:** 4.18 (1.64 – 10.69) **Smith negative:** 1.00 (ref)	0.003
Disorder of skin and subcutaneous tissue	21	623	3.73 (1.40 – 9.94)	0.009
Rash and other nonspecific skin eruption	93	490	1.97 (1.15 – 3.36)	0.01
Nephritis and nephropathy in diseases classified elsewhere	87	441	1.97 (1.14 – 3.43)	0.02
Chemotherapy	26	600	2.86 (1.21 – 6.75)	0.02
Cardiac dysrhythmias	105	498	1.92 (1.12 – 3.29)	0.02
Hyperpotassemia	35	474	2.48 (1.16 – 5.30)	0.02
Chronic glomerulonephritis	28	441	2.62 (1.13 – 6.07)	0.02
Nephritis and nephropathy without mention of glomerulonephritis	94	441	1.86 (1.08 – 3.20)	0.03
Arrhythmia	21	498	3.13 (1.15 – 8.54)	0.03
Other diseases of	99	502	1.81	0.03

lung			(1.07 – 3.06)	
Nephritis; nephrosis; renal sclerosis	115	441	1.74 (1.05 – 2.90)	0.03
Hypotension	33	569	2.40 (1.07 – 5.35)	0.03
Other specified cardiac dysrhythmias	31	498	2.50 (1.07 – 5.89)	0.04
Diseases of white blood cells	60	492	1.92 (1.02 – 3.64)	0.04
Congestive heart failure	49	507	2.08 (1.01 – 4.28)	0.05
Codes favoring Smith negative subjects				
Vitamin deficiency	120	436	0.43 (0.21 – 0.86)	0.02

[a]Phenotype present indicates subjects who had the code listed on at least 2 instances vs. phenotype absent indicates subjects who did not have the code or related codes. Subjects with 1 instance of a code are excluded, so the total number of subjects for each PheWAS code does not add up to the 1097 SLE subjects. There are 410 subjects with a missing Smith.

[b]Codes listed met a Bonferroni $p < 0.05$.

Supplemental Table 4. Codes from the PheWAS of Smith positive vs. negative SLE subjects adjusted for age, race, and dsDNA.

PheWAS codes	Phenotype present (≥ 2 or more instances of the PheWAS code)[a]	Phenotype absent (0 instances of the PheWAS code)[a]	Adjusted Odds Ratio for age, race, and dsDNA (95% Confidence Interval)	p[b]
Codes favoring Smith positive subjects				
Cardiac dysrhythmias	98	474	**Smith positive:** 2.14 (1.23 – 3.73) **Smith negative:** 1.00 (ref)	0.007
Rash and other nonspecific skin eruption	90	462	2.06 (1.19 – 3.57)	0.01
Other specified cardiac dysrhythmias	28	474	3.05 (1.25 - 7.44)	0.01
Ascites (non-malignant)	20	489	3.40 (1.27 - 9.09)	0.01
Arrhythmia (cardiac) NOS	20	474	3.49 (1.24 – 9.85)	0.02
Chemotherapy	26	566	2.83 (1.18 – 6.77)	0.02
Atrial fibrillation	24	474	3.45 (1.21 – 9.83)	0.02
Hyperpotassemia	34	450	2.45 (1.12 – 5.37)	0.03
Rheumatoid arthritis and other inflammatory polyarthropathies	107	391	1.88 (1.08 – 3.28)	0.03
Atrial fibrillation and flutter	25	474	3.13 (1.09 – 8.36)	0.03
Congestive heart failure	46	484	2.24 (1.06 – 4.74)	0.03
Diseases of white	57	464	2.04	0.04

blood cells			(1.05 – 3.97)	
Other diseases of lung	93	477	1.79 (1.03 – 3.10)	0.04
Disorder of skin and subcutaneous tissue	20	590	2.95 (1.05 – 8.31)	0.04
Elevated white blood cell count	25	464	2.67 (1.04 – 6.85)	0.04
Hypotension	31	541	2.37 (1.02 – 5.51)	0.05
Codes favoring Smith negative subjects				
Vitamin deficiency	115	412	0.42 (0.21 – 0.86)	0.02

[a]Phenotype present indicates subjects who had the code listed on at least 2 instances vs. phenotype absent indicates subjects who did not have the code or related codes. Subjects with 1 instance of a code are excluded, so the total number of subjects for each PheWAS code does not add up to the 1097 SLE subjects. There are 410 subjects with a missing Smith.

[b]Codes listed met a Bonferroni $p < 0.05$.

Supplemental Table 5. Codes from the PheWAS of SSA positive vs. negative SLE subjects.

PheWAS codes	Phenotype present (≥ 2 or more instances of the PheWAS code)[a]	Phenotype absent (0 instances of the PheWAS code)[a]	Adjusted Odds Ratio for age and race (95% Confidence Interval)	p[b]
Codes favoring SSA negative subjects				
Disorders of lipoid metabolism	124	580	**Smith negative:** 0.44 (0.27 – 0.74) **Smith positive:** 1.00 (ref)	0.002
Cough	126	395	0.48 (0.29 – 0.79)	0.004
Diabetes mellitus	68	635	0.37 (0.19 – 0.74)	0.005
Vitamin D deficiency	104	497	0.47 (0.28 – 0.79)	0.005
Hyperlipidemia	112	580	0.48 (0.29 – 0.81)	0.006
Spondylosis and allied disorders	41	629	0.27 (0.10 – 0.71)	0.008
Cervicalgia	61	630	0.38 (0.18 – 0.78)	0.009
Vitamin deficiency	125	497	0.56 (0.35 – 0.89)	0.02
Gout and other crystal arthropathies	26	714	0.16 (0.04 – 0.72)	0.02
Substance addiction and disorders	26	648	0.18 (0.04 – 0.78)	0.02
Lump or mass in breast	26	641	0.25 (0.07 – 0.83)	0.02
Gout	24	714	0.19 (0.04 – 0.83)	0.03
Neurological disorders	56	630	0.46 (0.23 – 0.93)	0.03
Chronic airway obstruction	34	625	0.33 (0.12 – 0.90)	0.03

Chemotherapy	25	665	0.26 (0.08 – 0.89)	0.03
Osteoarthrosis NOS	67	533	0.47 (0.23 – 0.94)	0.03
Other disorders of synovium, tendon, and bursa	49	530	0.44 (0.21 – 0.94)	0.03
Other immunological findings	136	422	0.62 (0.39 – 0.96)	0.03
Mood disorders	119	514	0.61 (0.38 – 0.97)	0.04
Mixed hyperlipidemia	53	580	0.48 (0.23 – 0.97)	0.04
Abnormal findings on mammogram or breast exam	56	641	0.49 (0.25 – 0.98)	0.04
Depression	111	514	0.61 (0.37 – 0.99)	0.05
Spondylosis without myelopathy	21	629	0.22 (0.05 – 0.97)	0.05
Irregular menstrual cycle	26	561	0.33 (0.11 – 0.99)	0.05
Obstructive sleep apnea	29	597	0.34 (0.11 – 0.99)	0.05
Osteoarthrosis	162	533	0.61 (0.38 – 0.99)	0.05
Osteoarthrosis, generalized	85	533	0.52 (0.27 – 0.99)	0.05

[a]Phenotype present indicates subjects who had the code listed on at least 2 instances vs. phenotype absent indicates subjects who did not have the code or related codes. Subjects with 1 instance of a code are excluded, so the total number of subjects for each PheWAS code does not add up to the 1097 SLE subjects. There are 339 subjects with missing SSA.

[b]Codes listed met a Bonferroni $p < 0.05$.

Supplemental Table 6. Significant codes from the PheWAS of SSB positive vs. negative SLE subjects.

PheWAS codes	Phenotype present (≥ 2 or more instances of the PheWAS code)[a]	Phenotype absent (0 instances of the PheWAS code)[a]	Adjusted Odds Ratio for race (95% Confidence Interval)	p[b]
Codes favoring SSB positive subjects				
Pericarditis	46	638	**SSB positive:** 2.24 (1.16 – 4.35) **SSB negative:** 1.00 (ref)	0.02
Visual disturbances	25	670	2.70 (1.16 – 6.30)	0.02
Pleurisy; pleural effusion	77	562	1.84 (1.05 – 3.23)	0.01
Codes favoring SSB negative subjects				
Vitamin D deficiency	102	487	0.38 (0.18 – 0.78)	0.008
Vitamin deficiency	124	487	0.47 (0.25 – 0.86)	0.02
Sleep disorders	80	584	0.42 (0.19 – 0.94)	0.03
Allergic rhinitis	69	537	0.41 (0.17 – 0.98)	0.04
Superficial cellulitis and abscess	57	606	0.38 (0.15 – 0.99)	0.05

[a]Phenotype present indicates subjects who had the code listed on at least 2 instances vs. phenotype absent indicates subjects who did not have the code or related codes. Subjects with 1 instance of a code are excluded, so the total number of subjects for each PheWAS code does not add up to the 1097 SLE subjects. There are 409 subjects with missing SSB.

[b]Codes listed met a Bonferroni $p < 0.05$.