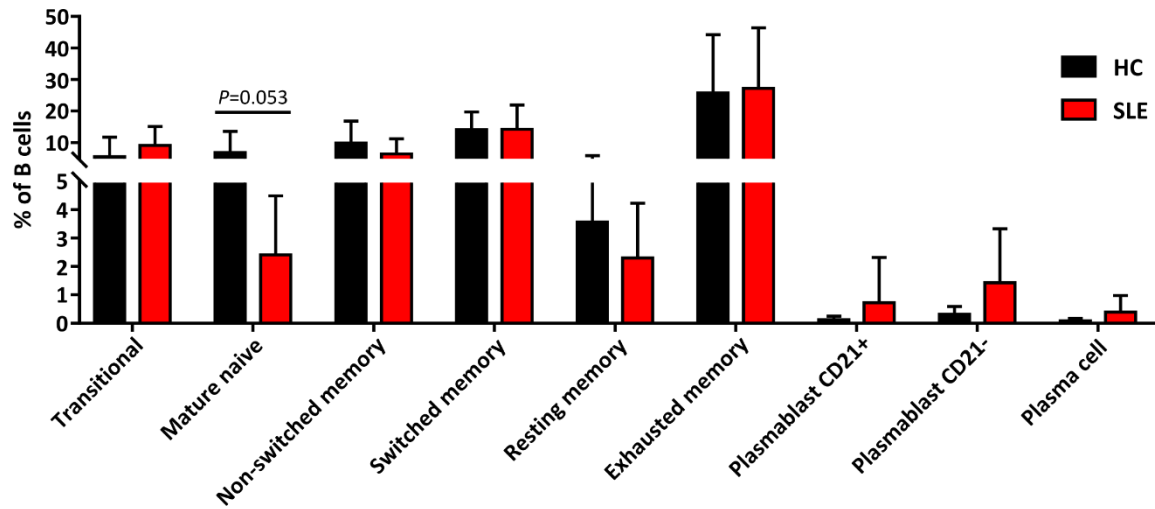


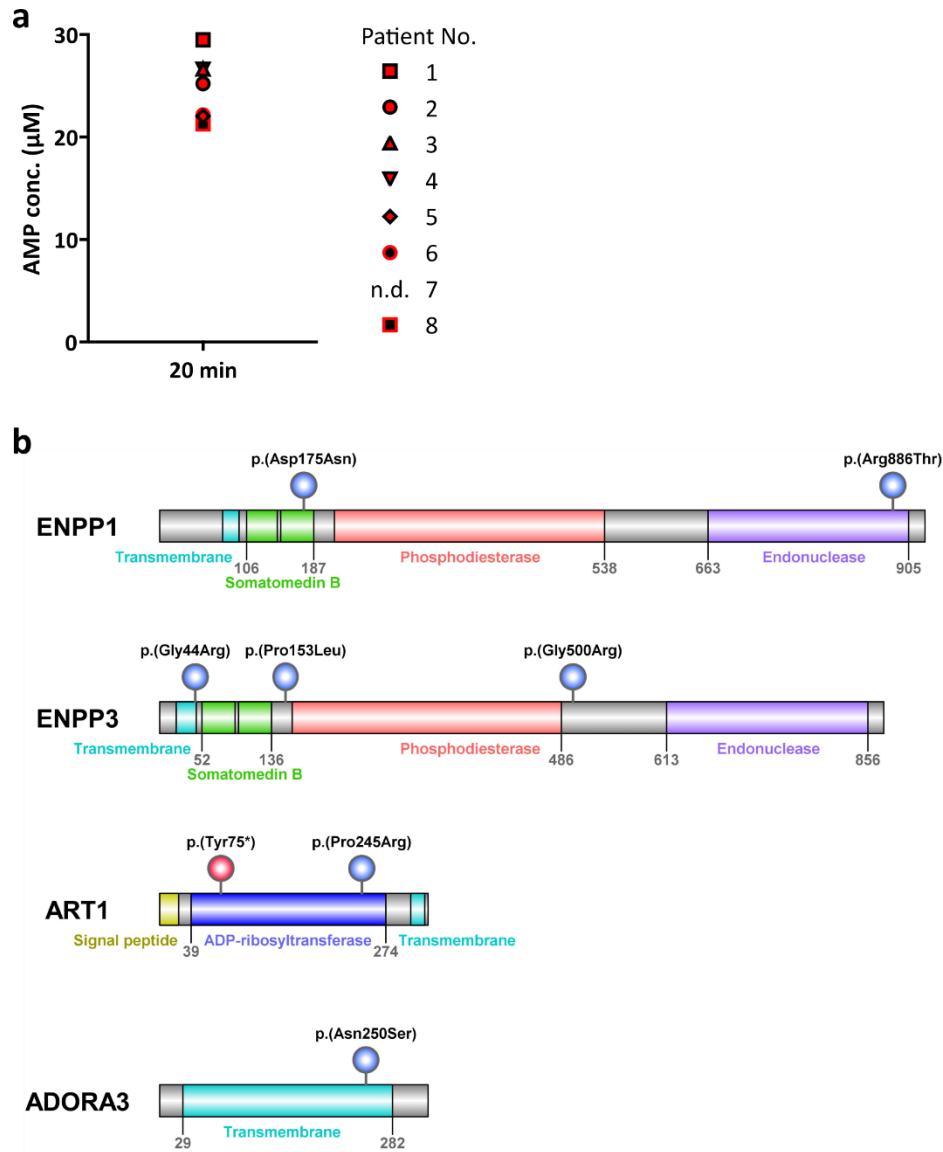
Supplementary Figure 1 Mean fluorescence intensities of CD73 and CD38 on peripheral blood leukocytes.

a Mean fluorescence intensity (MFI) of CD73 on CD73⁺ cells among peripheral blood leukocyte populations from healthy controls (HC) and SLE patients (SLE) analysed by flow cytometry. **b** MFI of CD38 on CD38⁺ cells among peripheral blood leukocyte populations. (HC $n=5$, SLE $n=4$ donors). * $P<0.05$ [Multiple t tests].



Supplementary Figure 2 Distribution of B cell subsets.

Relative distribution of B cell subsets in HC and SLE peripheral blood analysed by flow cytometry (HC $n=15$, SLE $n=23$ donors). Means \pm SD. $P>0.05$ [Multiple t tests].



Supplementary Figure 3 AMP metabolism of SLE B cells applied to DNA sequencing and location of identified sequence variants in affected proteins.

a AMP concentrations in the supernatant of SLE B cells, which were applied to DNA sequencing, after 20 min incubation with 20 μM AMP as measured by HPLC. n.d. not determined. **b** Location of the via DNA sequencing of SLE B cells identified amino acid shifts in the affected proteins. Protein domain locations were taken from Pfam (<http://pfam.xfam.org/>). Red: protein truncating variant; blue: missense variant.

Supplementary Table 1 Characteristics of the SLE patient pool used in this study.

Patient characteristics [units, normal range]	mean	(SD)
number of patients [n]	68	
age [yrs]	45.8	(13.7)
sex (n)	female	59
	male	9
disease duration [yrs]	17.1	(10.1)
SLE Disease Activity Index 2000 (SLEDAI-2K)	3.0	(3.0)
SLE Questionnaire for Population Studies (SLAQ)	6.0	(5.5)
BMI [kg/m ²]	24.6	(4.0)
CRP [mg/dl, < 0.5]	0.3	(0.3)
LDH [U/l, < 247]	217.5	(58.5)
AST [U/l, < 31]	26.6	(9.1)
ALT [U/l, < 35]	22.6	(10.4)
hemoglobin [mg/dl, 11.9 – 14.6]	13.2	(1.6)
leukocytes [x1000/ μ l, 4.5 – 12.7]	6.4	(2.3)
C3 [mg/dl, 90 - 180]	100.1	(26.2)
C4 [mg/dl, 10 - 40]	16.9	(8.7)
IgG [mg/dl, 700 - 1600]	1232.0	(314.7)
IgA [mg/dl, 70 - 500]	234.6	(100.9)
IgM [mg/dl, 40 - 280]	123.9	(131.5)
anti-dsDNA antibodies [IU/ml, < 80]	230.4	(219.0)
creatinin [mg/dl, < 0.9]	0.8	(0.2)
GFR [ml/min, 90 - 140]	91.3	(20.1)
<u>Urin analysis:</u>		
-erythrocytes [/ μ l, < 23]	17.0	(11.2)
-leukocytes [/ μ l, < 20]	33.0	(48.8)
-protein [mg/gCreatinin, < 150]	146.4	(194.6)