

Supplementary Table S4. Results from Cox proportional hazards regression, with any or severe flare from week 24 through week 76 as the outcome and relative to baseline B cell % change through week 8, 24 or 24 adjusted for change from baseline through week 8 as the exposure in the pooled BLISS study population.

	HR	95% CI	P value	HR	95% CI	P value
	Any flare			Severe flare		
Baseline through week 8						
CD19 ⁺ CD20 ⁺	1.01	0.89–1.16	0.857	0.92	0.69–1.25	0.604
Belimumab use	0.78	0.64–0.94	0.009	0.67	0.46–0.99	0.046
Interaction	1.01	0.75–1.37	0.943	0.93	0.49–1.78	0.833
CD19 ⁺ CD20 ⁺ CD27 ⁺	1.00	0.94–1.06	0.989	0.90	0.77–1.06	0.212
Belimumab use	0.78	0.64–0.96	0.020	0.77	0.50–1.18	0.224
Interaction	1.01	0.85–1.20	0.917	1.14	0.74–1.77	0.545
CD19 ⁺ CD20 ⁺ CD69 ⁺	1.01	0.98–1.04	0.703	0.99	0.92–1.07	0.847
Belimumab use	0.76	0.63–0.92	0.005	0.65	0.44–0.97	0.033
Interaction	1.01	0.95–1.08	0.727	1.02	0.89–1.18	0.773
CD19 ⁺ CD20 ⁺ CD27 ⁻	1.01	0.86–1.18	0.924	0.89	0.62–1.27	0.528
Belimumab use	0.78	0.64–0.95	0.012	0.66	0.45–0.97	0.036
Interaction	0.94	0.66–1.33	0.708	0.91	0.43–1.93	0.808
CD19 ⁺ CD20 ⁺ CD138 ⁺	1.01	0.97–1.05	0.526	0.95	0.86–1.05	0.338
Belimumab use	0.78	0.65–0.95	0.011	0.67	0.45–0.99	0.045
Interaction	0.98	0.90–1.07	0.665	1.03	0.84–1.27	0.743
CD19 ⁺ CD20 ⁺ CD138 ⁺	1.05	0.99–1.10	0.079	1.11	1.01–1.22	0.024
Belimumab use	0.79	0.65–0.95	0.014	0.69	0.47–1.03	0.066
Interaction	1.02	0.91–1.14	0.708	1.05	0.86–1.28	0.614
CD19 ⁺ CD20 ⁺ CD27 ^{brt}	1.03	0.98–1.09	0.248	1.08	0.98–1.20	0.119
Belimumab use	0.77	0.63–0.93	0.006	0.66	0.45–0.97	0.036
Interaction	0.94	0.83–1.06	0.303	0.96	0.77–1.18	0.674
CD19 ⁺ CD27 ^{brt} CD38 ^{brt}	1.01	0.97–1.06	0.622	1.03	0.94–1.14	0.493
Belimumab use	0.79	0.65–0.95	0.014	0.70	0.47–1.03	0.069
Interaction	0.97	0.88–1.06	0.487	1.05	0.86–1.28	0.625
Baseline through week 24						
CD19 ⁺ CD20 ⁺	1.05	0.79–1.38	0.741	1.40	0.85–2.30	0.190
Belimumab use	0.83	0.68–1.01	0.058	0.69	0.46–1.02	0.064
Interaction	0.99	0.72–1.36	0.952	0.70	0.38–1.30	0.261
CD19 ⁺ CD20 ⁺ CD27 ⁺	1.14	0.95–1.38	0.168	1.39	1.05–1.84	0.022
Belimumab use	0.83	0.67–1.03	0.092	0.73	0.47–1.15	0.173
Interaction	0.89	0.73–1.09	0.254	0.72	0.52–0.99	0.044
CD19 ⁺ CD20 ⁺ CD69 ⁺	0.99	0.93–1.05	0.692	1.01	0.90–1.12	0.899
Belimumab use	0.80	0.66–0.97	0.026	0.67	0.45–1.00	0.047
Interaction	1.02	0.95–1.10	0.525	1.01	0.88–1.17	0.876
CD19 ⁺ CD20 ⁺ CD27 ⁻	1.01	0.75–1.37	0.924	1.27	0.71–2.26	0.416
Belimumab use	0.83	0.67–1.02	0.077	0.65	0.42–1.02	0.059
Interaction	0.99	0.69–1.44	0.970	0.71	0.33–1.53	0.384
CD19 ⁺ CD20 ⁺ CD138 ⁺	0.98	0.92–1.04	0.478	1.02	0.90–1.14	0.801
Belimumab use	0.81	0.66–0.98	0.035	0.67	0.45–0.99	0.045
Interaction	1.04	0.96–1.13	0.357	0.94	0.79–1.13	0.520
CD19 ⁺ CD20 ⁺ CD138 ⁺	0.98	0.90–1.08	0.725	1.05	0.90–1.22	0.558
Belimumab use	0.82	0.67–1.00	0.047	0.69	0.46–1.02	0.059
Interaction	1.01	0.91–1.13	0.828	0.92	0.74–1.15	0.469
CD19 ⁺ CD20 ⁺ CD27 ^{brt}	0.99	0.90–1.09	0.883	1.15	1.00–1.33	0.051
Belimumab use	0.81	0.66–0.99	0.038	0.70	0.46–1.05	0.085
Interaction	1.02	0.91–1.14	0.725	0.93	0.77–1.13	0.461
CD19 ⁺ CD27 ^{brt} CD38 ^{brt}	0.97	0.89–1.05	0.434	1.03	0.89–1.20	0.661
Belimumab use	0.80	0.65–0.98	0.033	0.63	0.42–0.96	0.033
Interaction	1.07	0.97–1.18	0.175	1.12	0.93–1.34	0.223
Baseline through week 24 adj. for baseline through week 8						
CD19 ⁺ CD20 ⁺	1.09	0.81–1.48	0.553	1.81	1.08–3.05	0.024
Belimumab use	0.79	0.65–0.97	0.024	0.73	0.48–1.10	0.130
Interaction	0.98	0.70–1.36	0.883	0.70	0.38–1.30	0.255
CD19 ⁺ CD20 ⁺ CD27 ⁺	1.17	0.96–1.42	0.125	1.58	1.18–2.11	0.002
Belimumab use	0.80	0.64–1.01	0.055	0.83	0.52–1.33	0.440
Interaction	0.89	0.73–1.10	0.280	0.73	0.53–1.01	0.054
CD19 ⁺ CD20 ⁺ CD69 ⁺	0.99	0.93–1.05	0.748	1.02	0.91–1.15	0.703
Belimumab use	0.76	0.62–0.93	0.008	0.64	0.42–0.96	0.030
Interaction	1.01	0.94–1.09	0.726	1.01	0.88–1.17	0.872
CD19 ⁺ CD20 ⁺ CD27 ⁻	1.06	0.76–1.48	0.725	1.74	0.93–3.28	0.084
Belimumab use	0.79	0.64–0.98	0.036	0.69	0.44–1.09	0.109
Interaction	0.97	0.66–1.43	0.887	0.71	0.32–1.55	0.387
CD19 ⁺ CD20 ⁺ CD138 ⁺	0.96	0.90–1.03	0.284	1.04	0.91–1.19	0.583
Belimumab use	0.77	0.63–0.94	0.009	0.67	0.45–1.01	0.055
Interaction	1.03	0.95–1.12	0.446	0.94	0.78–1.13	0.528
CD19 ⁺ CD20 ⁺ CD138 ⁺	0.95	0.87–1.05	0.315	0.98	0.83–1.16	0.788

Belimumab use	0.79	0.64–0.96	0.019	0.71	0.47–1.07	0.099
Interaction	1.02	0.91–1.14	0.784	0.90	0.71–1.13	0.349
CD19⁺CD20⁻CD27^{brt}	0.97	0.88–1.07	0.553	1.15	0.99–1.33	0.068
Belimumab use	0.77	0.63–0.94	0.011	0.71	0.46–1.08	0.106
Interaction	1.01	0.90–1.13	0.887	0.88	0.72–1.08	0.228
CD19⁺CD27^{brt}CD38^{brt}	0.96	0.87–1.05	0.328	1.06	0.90–1.25	0.473
Belimumab use	0.76	0.62–0.94	0.010	0.63	0.41–0.97	0.037
Interaction	1.07	0.96–1.18	0.219	1.10	0.92–1.32	0.310

Data are presented as the hazard ratio (HR), 95% confidence interval (CI) and P value. Percentage changes above the 97.5th percentile of the respective distribution were treated as outliers and were set to the value corresponding to the 97.5th percentile. Adjusted models included relative to baseline percentage changes for each one of the investigated B cell subsets, age, sex, ancestry, SLE disease duration, belimumab use, the interaction between belimumab use and cell changes, azathioprine use, mycophenolate mofetil or sodium use, methotrexate use, other immunosuppressant use (cyclosporine, oral cyclophosphamide, leflunomide, mizoribine or thalidomide) and BLISS study. One set of models with any flare from week 24 through week 76 as the outcome additionally included B cell subset percentage changes from baseline through week 8 among covariates. Significant P values are in bold.