| Peptide Sequence                          | Number of amino-acids |
|------------------------------------------|-----------------------|
| **huMHC II_Mix 1**                        |                       |
| 22 AMQSGPKPLFRMRSSLVGPT41                | 20                    |
| 25 SGPKPLFRMRSSLVGPTQSF44                | 20                    |
| 28 KPLFRMRSSLVGPTQSFMMR37                | 20                    |
| **huMHC II_Mix 2**                        |                       |
| 31 FRRMSSLVGPTQSFMMRESK50                | 20                    |
| 34 MSSLVGPTQSFMMRESKTLG53                | 20                    |
| 37 LVGPTQSFMMRESKTLGAVQ56                | 20                    |
| **huMHC II_Mix 3**                        |                       |
| 40 PTQSFMMRESKTLGAVQIMN59                | 20                    |
| 43 SFFMRESKTLGAVQIMNG60                  | 18                    |
| **huMHC II_Mix 4**                        |                       |
| 58 MNGLFHIALGGGLLMPAG72                 | 18                    |
| 91 GIMYIISGSLLAATEKNS108                | 18                    |
| **huMHC II_Mix 5**                        |                       |
| 112 LVKGKMIMNSLSLFAAISGM131              | 20                    |
| 115 GKMIMNSLSLFAAISGMILS134              | 20                    |
| 118 IMNSLSLFAAISGMILSIMD137              | 20                    |
| 121 SLSLFAAISGMILSIMDI138                | 18                    |
| **huMHC II_Mix 6**                        |                       |
| 133 LSIMDILNKISHFLKMESL152               | 20                    |
| 136 MDILNKISHFLKMESLNF155                | 20                    |
| 139 LNIKISHFLKMESLNFIRA158               | 20                    |
| **huMHC II_Mix 7**                        |                       |
| 142 KISHFLKMESLNFIRAHTPY161              | 20                    |
| 145 HFLKMESLNFIRAHTPYINI164              | 20                    |
| **huMHC II_Mix 8**                        |                       |
| 148 KMESLNFIRAHTPYINIYNC167              | 20                    |
| 151 SLNFIRAHTPYINIYNCEPA170              | 20                    |
| **huMHC II_Mix 9**                        |                       |
| 175 KNSPSTQYCYSIQSLFLG192                | 18                    |
| 214 NEWKRTCSRPSNIV228                   | 15                    |
**Supplementary Table 2. IFN-γ responses to CD20-derived human MHC-restricted peptides in cells from healthy donors (PBMCs, \(n=26\); splenocytes, \(n=7\)) and FL patients (PBMCs) \((n=9)\)**

| Samples      | Pool 22-43\textsuperscript{a} (SFU/10\textsuperscript{5} cells) | Pool 58-121\textsuperscript{a} (SFU/10\textsuperscript{5} cells) | Pool 133-151\textsuperscript{a} (SFU/10\textsuperscript{5} cells) |
|--------------|---------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|
| PBMC HD1     | 0                                                             | 0                                                             | 0                                                             |
| PBMC HD2     | 0                                                             | 0                                                             | 0                                                             |
| PBMC HD3     | 0                                                             | 0                                                             | 0                                                             |
| PBMC HD4     | 0                                                             | 53                                                            | 4                                                             |
| PBMC HD5     | 3                                                             | 53                                                            | 11                                                            |
| PBMC HD6     | 3                                                             | 28                                                            | 43                                                            |
| PBMC HD7     | 7                                                             | 7                                                             | 13                                                            |
| PBMC HD8     | 131                                                           | 56                                                            | 93                                                            |
| PBMC HD9     | 0                                                             | 0                                                             | 0                                                             |
| PBMC HD10    | 0                                                             | 23                                                            | 6                                                             |
| PBMC HD11    | 6                                                             | 85                                                            | 32                                                            |
| PBMC HD12    | 309                                                           | 352                                                           | 309                                                           |
| PBMC HD13    | 397                                                           | 346                                                           | 361                                                           |
| PBMC HD14    | 147                                                           | 109                                                           | 126                                                           |
| PBMC HD15    | 229                                                           | 223                                                           | 255                                                           |
| PBMC HD16    | 0                                                             | 0                                                             | 0                                                             |
| PBMC HD17    | 0                                                             | 0                                                             | 0                                                             |
| PBMC HD18    | 0                                                             | 0                                                             | 0                                                             |
| PBMC HD19    | 0                                                             | 0                                                             | 0                                                             |
| PBMC HD20    | 0                                                             | 2                                                             | 0                                                             |
| PBMC HD21    | 3                                                             | 5                                                             | 49                                                            |
| PBMC HD22    | 129                                                           | 67                                                            | 230                                                           |
| PBMC HD23    | 2                                                             | 5                                                             | 2                                                             |
| PBMC HD24    | 0                                                             | 37                                                            | 230                                                           |
| PBMC HD25    | 0                                                             | 0                                                             | 131                                                           |
| PBMC HD26    | 0                                                             | 0                                                             | 0                                                             |
| Splenocytes 1| 0                                                             | 212                                                           | 60                                                            |
| Splenocytes 2| 0                                                             | 9                                                             | 22                                                            |
| Splenocytes 3| 0                                                             | 7                                                             | 22                                                            |
| Splenocytes 4| 0                                                             | 0                                                             | 0                                                             |
| Splenocytes 5| 1                                                             | 16                                                            | 60                                                            |
| Splenocytes 6| 0                                                             | 71                                                            | 147                                                           |
| Splenocytes 7| 53                                                            | 0                                                             | 120                                                           |
IFN-γ production in response to human CD20-derived peptide mixture was analyzed by ELISPOT assays as described in the Materials and Methods section. Numbers represent the mean value of triplicates. The positive threshold was set at ≥ 10 spot forming units (SFU) per $10^5$ cells as previously described [30]. HD: healthy donors.

| PBMC FL1 | 18 | 103 | 581 |
|----------|----|-----|-----|
| PBMC FL2 | 4  | 2   | 11  |
| PBMC FL3 | 20 | 12  | 19  |
| PBMC FL4 | 0  | 0   | 0   |
| PBMC FL5 | 0  | 12  | 0   |
| PBMC FL6 | 4  | 44  | 4   |
| PBMC FL7 | 0  | 2   | 0   |
| PBMC FL8 | 0  | 0   | 0   |
| PBMC FL9 | 211| 16  | 302 |
Supplementary Figure 1. Frequency of non-responders or responders to one or several pools of MHC II-restricted CD20-derived peptides among healthy individuals or FL patients. Pie charts indicate the percentages of IFN-γ responses by PBMC from healthy donors (PBMC HD, n=26) (a), by splenocytes from donors (splenocytes HD, n=7) (b) or by PBMCs from follicular lymphoma patients (PBMC FL, n=9) (c) to one (in green), two (in orange), or three (in red) pools of CD20-derived peptides. The percentages of non-responders are indicated in blue.
Supplementary Figure 2. Comparison of IFN-γ responses to the different pools of MHC II-restricted CD20-derived peptides (Pool 22-43, Pool 58-121, Pool 133-151) in PBMCs from healthy donors (PBMC HD, n=26, black bars) or from follicular lymphoma patients (PBMC FL, n=9, grey bars), and in splenocytes from healthy individuals (splenocytes HD, n=7, white bars). IFN-γ production was measured by ELISPOT assays as described in the materials and methods section. Results were expressed as mean value of spot-forming units (SFU) per $10^5$ cells. Nonparametric unpaired Mann-Whitney tests were used for statistical analysis. ns: not significant.
Supplementary Figure 3. Representative images of ELISPOT wells depicting IFN-γ responses by PBMCs from one FL patient (FL9) (a) and one HD (HD5) (b) and their blockade by an anti-HLA-DR, -DP, -DQ antibody. Numbers below images indicate the number of SFU/10^5 cells obtained in the corresponding well.

NS: non-stimulated cells.