Supplementary Table 1: Joint associations and relative excess risks due to interaction of being overweight or obese and a carrier of variant allele in several cytokine polymorphisms for lymphoid neoplasms.

|  **BMIa & SNP** | DLBCLb |   |   | FLb |   |   | CLL/SLLb |   |   | Lymphoid neoplasmsb |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|   | Case/Control | ORc | 95%CI | Case/Control | ORc | 95%CI | Case/Control | ORc | 95%CI | Case/Control | ORc | 95%CI |
| **TNF -308G→A (rs1800629)** |  |  |  |  |  |  |  |  |  |  |  |
| Normal, GG | 412/1591 | 1 | ref | 420/1591 | 1 | ref | 272/1112 | 1 | ref | 1547/1591 | 1 | ref |
| Normal, GA/AA | 238/684 | 1.27 | 1.07-1.52 | 147/684 | 0.78 | 0.70-0.86 | 124/468 | 1.02 | 0.70-1.50 | 715/684 | 1.03 | 0.90-1.18 |
| Overweight, GG | 372/1201 | 1.21 | 1.02-1.44 | 280/1201 | 0.94 | 0.81-1.08 | 240/948 | 0.89 | 0.72-1.09 | 1249/1201 | 1.01 | 0.87-1.16 |
| Overweight, GA/AA | 176/488 | 1.31 | 1.00-1.71 | 142/488 | 1.08 | 0.91-1.29 | 104/362 | 0.97 | 0.81-1.16 | 613/488 | 1.18 | 1.03-1.36 |
| Obese, GG | 167/530 | 1.25 | 1.00-1.56 | 127/530 | 0.95 | 0.75-1.19 | 82/465 | 0.76 | 0.68-0.85 | 523/530 | 0.98 | 0.86-1.11 |
| Obese, GA/AA | 99/199 | 1.93 | 1.27-2.94 | 55/199 | 1.06 | 0.83-1.34 | 43/170 | 0.92 | 0.63-1.35 | 288/199 | 1.40 | 1.03-1.91 |
| Study heterogeneityd |  χ2=59.9, p=0.02 |  |  χ2=23.7, p=0.93 |  |  χ2=33.6, p=0.30 |  |  χ2=55.4, p=0.05 |  |
|  | *RERIe* | *95%CI* | *RERIe* | *95%CI* | *RERIe* | *95%CI* | *RERIe* | *95%CI* |
| *OverweightxAG/GG* | *-0.18* | *-0.47,0.10* | *0.38* | *0.14,0.60* | *0.06* | *-0.25,0.34* | *0.14* | *-0.02,0.30* |
| *Obese x AG/GG* | *0.41* | *-0.05,0.84* | *0.36* | *0.02,0.68* | *0.14* | *-0.25,0.49* | *0.39* | *0.14,0.63* |
| *Test for interactionf* | *χ2=4.10, p=0.13* |  | *χ2=7.14, p=0.03* |  | *χ2=0.40, p=0.82* |  | *χ2=6.85, p=0.03* |  |
| **LTA 252A→G (rs909253)** |  |  |  |  |  |  |  |  |  |  |  |
| Normal, AA | 272/1052 | 1 | ref | 287/1052 | 1 | ref | 163/745 | 1 | ref | 1000/1052 | 1 | ref |
| Normal, AG/GG | 384/1284 | 1.14 | 0.94-1.39 | 288/1284 | 0.78 | 0.68-0.89 | 235/892 | 1.15 | 1.03-1.29 | 1297/1284 | 1.02 | 0.90-1.14 |
| Overweight, AA | 240/798 | 1.19 | 1.01-1.39 | 171/798 | 0.82 | 0.65-1.05 | 156/644 | 0.95 | 0.80-1.13 | 820/798 | 1.00 | 0.86-1.16 |
| Overweight,AG/GG | 332/949 | 1.30 | 0.96-1.75 | 253/949 | 0.98 | 0.86-1.12 | 197/721 | 1.03 | 0.78-1.36 | 1089/949 | 1.09 | 0.95-1.26 |
| Obese, AA | 108/351 | 1.25 | 0.91-1.70 | 86/351 | 0.95 | 0.72-1.27 | 52/312 | 0.80 | 0.60-1.07 | 341/351 | 0.98 | 0.83-1.15 |
| Obese, AG/GG | 161/384 | 1.66 | 1.33-2.08 | 93/384 | 0.87 | 0.70-1.08 | 75/328 | 0.99 | 0.79-1.25 | 474/384 | 1.21 | 1.08-1.35 |
| Study heterogeneityd |  χ2=56.6, p=0.01 |  |  χ2=26.8, p=0.84 |  |  χ2=17.0, p=0.88 |  |  χ2=42.4, p=0.18 |  |
|  | *RERIe* | *95%CI* | *RERIe* | *95%CI* | *RERIe* | *95%CI* | *RERIe* | *95%CI* |
| *OverweightxAG/GG* | *-0.03* | *-0.29,0.20* | *0.35* | *0.15,0.53* | *-0.08* | *-0.40,0.19* | *0.08* | *-0.06,0.22* |
| *Obese x AG/GG* | *0.27* | *-0.10,0.61* | *0.14* | *-0.16,0.40* | *0.04* | *-0.35,0.37* | *0.22* | *0.01,0.40* |
| *Test for interactionf* | *χ2=1.66, p=0.44* |  | *χ2=6.97, p=0.03* |  | *χ2=0.35, p=0.84* |  | *χ2=2.96, p=0.23* |  |

Supplementary Table 1: Joint associations and relative excess risks due to interaction of being overweight or obese and a carrier of variant allele in several cytokine polymorphisms for lymphoid neoplasms. Continued/…

|  **BMIa & SNP** | DLBCLb |   |   | FLb |   |   | CLL/SLLb |   |   | Lymphoid neoplasmsb |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|   | Case/Control | ORc | 95%CI | Case/Control | ORc | 95%CI | Case/Control | ORc | 95%CI | Case/Control | ORc | 95%CI |
| **IL10 −3575T→A (rs1800890)** |  |  |  |  |  |  |  |  |  |  |  |
| Normal, TT | 190/754 | 1 | ref | 147/754 | 1 | ref | 96/496 | 1 | ref | 594/754 | 1 | ref |
| Normal, TA/AA | 470/1652 | 1.09 | 0.90-1.33 | 418/1652 | 1.29 | 1.20-1.40 | 303/1221 | 0.98 | 0.81-1.18 | 1687/1652 | 1.16 | 1.04-1.30 |
| Overweight, TT | 156/557 | 1.12 | 0.90-1.41 | 126/557 | 1.23 | 0.94-1.62 | 95/429 | 0.97 | 0.66-1.42 | 535/557 | 1.13 | 0.92-1.39 |
| Overweight, TA/AA | 419/1265 | 1.27 | 0.91-1.76 | 287/1265 | 1.24 | 1.03-1.48 | 252/1020 | 0.85 | 0.65-1.11 | 1347/1265 | 1.14 | 0.90-1.44 |
| Obese, TT | 84/248 | 1.41 | 1.07-1.85 | 51/248 | 1.10 | 0.78-1.56 | 40/211 | 0.89 | 0.63-1.26 | 246/248 | 1.16 | 0.92-1.46 |
| Obese, TA/AA | 183/525 | 1.35 | 0.94-1.94 | 125/525 | 1.25 | 0.88-1.76 | 87/467 | 0.75 | 0.61-0.92 | 561/525 | 1.16 | 0.86-1.56 |
| Study heterogeneityd |  χ2=46.7, p=0.09 |  |  χ2=34.7, p=0.48 |  | χ2=19.4, p=0.78 |  |  χ2=54.2, p=0.02 |  |
|  | *RERIe* | *95%CI* | *RERIe* | *95%CI* | *RERIe* | *95%CI* | *RERIe* | *95%CI* |
| *OverweightxTA/TT* | *0.05* | *-0.23,0.28* | *-0.28* | *-0.65,0.02* | *-0.10* | *-0.47,0.18* | *-0.15* | *-0.35,0.02* |
| *Obese x TA/TT* | *-0.15* | *-0.57,0.20* | *-0.20* | *-0.68,0.18* | *-0.12* | *-0.57,0.22* | *-0.17* | *-0.43,0.06* |
| *Test for interactionf* | χ2*=0.64, p=0.73* |  | χ2*=2.24, p=0.33* |  | χ2*=0.41, p=0.81* |  | χ2*=2.58, p=0.28* |  |
| **IL10 −1082A→G (rs1800896)** |  |  |  |  |  |  |  |  |  |  |  |
| Normal, AA | 108/469 | 1 | ref | 85/469 | 1 | ref | 39/280 | 1 | ref | 325/469 | 1 | ref |
| Normal, AG/GG | 296/1099 | 1.11 | 0.93-1.32 | 277/1069 | 1.27 | 1.06-1.52 | 93/598 | 1.13 | 0.61-2.10 | 890/1099 | 1.15 | 1.00-1.33 |
| Overweight, AA | 82/322 | 1.11 | 0.83-1.48 | 78/322 | 1.37 | 1.12-1.67 | 43/228 | 1.11 | 0.43-2.82 | 275/322 | 1.16 | 0.94-1.42 |
| Overweight, AG/GG | 261/829 | 1.36 | 1.10-1.68 | 195/829 | 1.28 | 1.07-1.53 | 97/550 | 1.01 | 0.62-1.65 | 765/829 | 1.25 | 1.06-1.47 |
| Obese, AA | 50/153 | 1.46 | 1.12-1.89 | 36/153 | 1.32 | 0.75-2.32 | 19/123 | 0.88 | 0.35-2.23 | 144/153 | 1.23 | 0.93-1.63 |
| Obese, AG/GG | 145/411 | 1.51 | 1.22-1.89 | 106/411 | 1.36 | 1.08-1.71 | 46/346 | 0.80 | 0.59-1.08 | 422/411 | 1.29 | 1.11-1.50 |
| Study heterogeneityd | χ2=20.0 p=0.75 |  |  χ2=20.0 p=0.74 |  |  χ2=20.1 p=0.17 |  |  χ2=24.1 p=0.52 |  |
|  | *RERIe* | *95%CI* | *RERIe* | *95%CI* | *RERIe* | *95%CIg* | *RERIe* | *95%CI* |
| *OverweightxAG/GG* | *0.14* | *-0.23,0.43* | *-0.31* | *-0.83,0.08* | *-0.22* | *-0.88,0.42* | *-0.06* | *-0.32,0.15* |
| *Obese x AG/GG* | *-0.05* | *-0.62,0.39* | *-0.30* | *-0.98,0.21* | *-0.22* | *-0.91,0.48* | *-0.10* | *-0.44,0.19* |
| *Test for interactionf interactiond* | χ2*=0.53, p=0.77* |  | χ2*=1.75, p=0.42* |  | χ2*=0.66, p=0.72* |  | χ2*=0.34, p=0.84* |  |

Supplementary Table 1: Joint associations and relative excess risks due to interaction of being overweight or obese and a carrier of variant allele in several cytokine polymorphisms for lymphoid neoplasms. Continued/…

|  **BMIa & SNP** | DLBCLb |   |   | FLb |   |   | CLL/SLLb |   |   | Lymphoid neoplasmsb |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|   | Case/Control | ORc | 95%CI | Case/Control | ORc | 95%CI | Case/Control | ORc | 95%CI | Case/Control | ORc | 95%CI |
| **CARD15 Ex11–35→C (rs2066847)** |  |  |  |  |  |  |  |  |  |  |
| Normal, -- | 532/1942 | 1 | ref | 467/1942 | 1 | ref | 337/1128 | 1 | ref | 1915/1942 | 1 | ref |
| Normal, -+/++ | 21/63 | 1.18 | 0.73-1.89 | 19/63 | 1.28 | 0.48-3.43 | 8/37 | 0.93 | 0.38-2.31 | 68/63 | 1.22 | 0.72-2.06 |
| Overweight, -- | 448/1427 | 1.07 | 0.86-1.40 | 346/1427 | 1.04 | 0.89-1.22 | 274/979 | 0.83 | 0.65-1.06 | 1555/1427 | 1.01 | 0.85-1.21 |
| Overweight, -+/++ | 21/56 | 1.41 | 0.94-2.12 | 10/56 | 0.86 | 0.44-1.69 | 11/31 | 1.39 | 0.70-2.76 | 59/56 | 1.16 | 1.01-1.33 |
| Obese, -- | 219/539 | 1.40 | 1.06-1.85 | 124/539 | 0.95 | 0.76-1.18 | 92/423 | 0.78 | 0.60-1.01 | 611/539 | 1.05 | 0.82-1.34 |
| Obese, -+/++ | 9/19 | 2.07 | 1.01-4.22 | 3/19 | 0.89 | 0.15-5.26 | 4/15 | 1.08 | 0.41-2.83 | 20/19 | 1.13 | 0.53-2.41 |
| Study heterogeneityd |  χ2=23.4, p=0.08 |  |  χ2=21.5, p=0.12 |  | χ2=13.6, p=0.55 |  | χ2=27.2, p=0.03 |  |
|  | *RERIe* | *95%CI* | *RERIe* | *95%CIg* | *RERIe* | *95%CIg* | *RERIe* | *95%CI* |
| *Overweightx-+/++* | *0.14* | *-0.58,0.94* | *-0.45* | *-1.33,0.43* | *0.61* | *-0.62,1.84* | *-0.07* | *-0.61,0.45* |
| *Obese x -+/++* | *0.47* | *-0.89,2.00* | *-0.19* | *-1.62,1.23* | *0.34* | *-1.07,1.75* | *-0.14* | *-0.88,0.57* |
| *Test for interactionf* | χ2*=0.33, p=0.85* |  | χ2*=0.99, p=0.61* |  |  | χ2*=0.97, p=0.62* |  | χ2*=0.12, p=0.94* |  |
| **IL1A −889C→T (rs1800587)** |  |  |  |  |  |  |  |  |  |  |  |
| Normal, CC | 161/479 | 1 | ref | 131/479 | 1 | ref | 39/351 | 1 | ref | 435/479 | 1 | ref |
| Normal, CT/TT | 157/445 | 1.01 | 0.82-1.24 | 151/445 | 1.21 | 0.85-1.72 | 51/304 | 1.52 | 1.20-1.92 | 457/445 | 1.12 | 0.92-1.38 |
| Overweight, CC | 142/335 | 1.33 | 0.91-1.94 | 119/335 | 1.36 | 1.06-1.75 | 48/252 | 1.35 | 1.04-1.75 | 411/335 | 1.33 | 1.08-1.63 |
| Overweight, CT/TT | 141/392 | 1.15 | 1.06-1.26 | 104/392 | 1.02 | 0.88-1.18 | 46/316 | 1.05 | 0.77-1.44 | 394/392 | 1.09 | 0.93-1.27 |
| Obese, CC | 93/184 | 1.72 | 1.10-2.67 | 61/184 | 1.36 | 1.07-1.74 | 21/167 | 0.92 | 0.50-1.69 | 236/184 | 1.39 | 1.20-1.62 |
| Obese, CT/TT | 79/217 | 1.25 | 0.98-1.61 | 65/217 | 1.17 | 0.79-1.73 | 27/188 | 1.04 | 0.85-1.26 | 245/217 | 1.21 | 0.96-1.53 |
| Study heterogeneityd | χ2=19.3, p=0.20 |  | χ2=12.8, p=0.62 |  | χ2=7.69, p=0.66 |  | χ2=16.6, p=0.35 |  |
|  | *RERIe* | *95%CI* | *RERIe* | *95%CI* | *RERIe* | *95%CIg* | *RERIe* | *95%CI* |
| *OverweightxCT/TT* | *-0.18* | *-0.59,0.15* | *-0.55* | *-1.05,-0.16* | *-0.81* | *-1.74,0.12* | *-0.37* | *-0.67,-0.10* |
| *Obese x CT/TT* | *-0.47* | *-1.05,0.003* | *-0.40* | *-0.99,0.07* | *-0.40* | *-1.29,0.49* | *-0.30* | *-0.67,0.02* |
| *Test for interactionf* | χ2*=2.55, p=0.28* |  | χ2*=5.80, p=0.06* |  | χ2*=4.33, p=0.12* |  | χ2*=5.93, p=0.05* |  |

Supplementary Table 1: Joint associations and relative excess risks due to interaction of being overweight or obese and a carrier of variant allele in several cytokine polymorphisms for lymphoid neoplasms. Continued/…

|  **BMIa & SNP** | DLBCLb |   |   | FLb |   |   | CLL/SLLb |   |   | Lymphoid neoplasmsb |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|   | Case/Control | ORc | 95%CI | Case/Control | ORc | 95%CI | Case/Control | ORc | 95%CI | Case/Control | ORc | 95%CI |
| **IL1B −31C→T (rs1143627)** |  |  |  |  |  |  |  |  |  |  |  |
| Normal, CC | 138/400 | 1 | ref | 124/400 | 1 | ref | 44/297 | 1 | ref | 396/400 | 1 | ref |
| Normal, CT/TT | 173/528 | 0.91 | 0.70-1.18 | 157/528 | 0.96 | 0.61-1.50 | 44/364 | 0.82 | 0.47-1.45 | 491/528 | 0.94 | 0.74-1.18 |
| Overweight, CC | 131/347 | 1.17 | 1.00-1.38 | 98/347 | 0.99 | 0.78-1.24 | 46/276 | 0.88 | 0.57-1.37 | 374/347 | 1.08 | 0.96-1.21 |
| Overweight, CT/TT | 152/386 | 1.19 | 0.83-1.70 | 126/386 | 1.10 | 0.82-1.47 | 49/300 | 0.89 | 0.41-1.93 | 434/386 | 1.11 | 0.93-1.33 |
| Obese, CC | 71/175 | 1.33 | 0.92-1.93 | 62/175 | 1.27 | 0.94-1.72 | 17/157 | 0.60 | 0.32-1.13 | 218/175 | 1.24 | 1.15-1.33 |
| Obese, CT/TT | 98/233 | 1.39 | 1.03-1.88 | 63/233 | 0.96 | 0.56-1.66 | 30/204 | 0.80 | 0.48-1.31 | 257/233 | 1.10 | 0.97-1.24 |
| Study heterogeneityd | χ2=16.6, p=0.35 |  | χ2=19.3, p=0.20 |  | χ2=6.56, p=0.77 |  | χ2=11.4, p=0.72 |  |
|  | *RERIe* | *95%CI* | *RERIe* | *95%CI* | *RERIe* | *95%CIg* | *RERIe* | *95%CI* |
| *OverweightxCT/TT* | *0.11* | *-0.25,0.41* | *0.16* | *-0.21,0.45* | *0.19* | *-0.35,0.72* | *0.10* | *-0.15,0.31* |
| *Obese x CT/TT* | *0.14* | *-0.34,0.55* | *-0.27* | *-0.78,0.14* | *0.38* | *-0.17,0.92* | *-0.08* | *-0.40,0.20* |
| *Test for interactionf* | χ2*=0.41, p=0.82* |  | χ2*=2.35, p=0.31* |  | χ2*=1.51, p=0.47* |  | χ2*=0.89, p=0.64* |  |
| **IL2 −384T→G (rs2069762)** |  |  |  |  |  |  |  |  |  |  |  |
| Normal, TT | 160/444 | 1 | ref | 138/444 | 1 | ref | 50/320 | 1 | ref | 442/444 | 1 | ref |
| Normal, TG/GG | 151/482 | 0.83 | 0.53-1.29 | 143/482 | 0.90 | 0.77-1.06 | 40/336 | 0.83 | 0.54-1.27 | 443/482 | 0.90 | 0.75-1.09 |
| Overweight, TT | 142/365 | 1.12 | 0.76-1.66 | 109/365 | 0.99 | 0.69-1.42 | 43/284 | 0.81 | 0.62-1.05 | 398/365 | 1.07 | 0.90-1.27 |
| Overweight, TG/GG | 141/360 | 1.17 | 0.84-1.64 | 115/360 | 1.07 | 0.77-1.47 | 51/284 | 0.95 | 0.68-1.33 | 407/360 | 1.11 | 0.87-1.43 |
| Obese, TT | 86/198 | 1.35 | 0.87-2.07 | 62/198 | 1.07 | 0.80-1.42 | 19/171 | 0.62 | 0.51-0.74 | 222/198 | 1.08 | 0.97-1.22 |
| Obese, TG/GG | 84/206 | 1.31 | 0.85-2.02 | 65/206 | 1.12 | 0.77-1.63 | 27/186 | 0.76 | 0.61-0.95 | 255/206 | 1.23 | 1.05-1.43 |
| Study heterogeneityd | χ2=35.3, p<0.01 |  | χ2=11.6, p=0.71 |  | χ2=8.00, p=0.63 |  | χ2=17.7, p=0.28 |  |
|  | *RERIe* | *95%CI* | *RERIe* | *95%CI* | *RERIe* | *95%CI* | *RERIe* | *95%CI* |
| *OverweightxTG/GG* | *0.22* | *-0.11,0.50* | *0.17* | *-0.17,0.46* | *0.32* | *-0.21,0.71* | *0.14* | *-0.09,0.35* |
| *Obese x TG/GG* | *0.14* | *-0.32,0.53* | *0.15* | *-0.29,0.53* | *0.32* | *-0.24,0.73* | *0.24* | *-0.05,0.50* |
| *Test for interactionf* | χ2*=1.19, p=0.55* |  | χ2*=0.81, p=0.67* |  | χ2*=1.52, p=0.47* |  | χ2*=2.13, p=0.34* |  |

Supplementary Table 1: Joint associations and relative excess risks due to interaction of being overweight or obese and a carrier of variant allele in several cytokine polymorphisms for lymphoid neoplasms. Continued/…

|  **BMIa & SNP** | DLBCLb |   |   | FLb |   |   | CLL/SLLb |   |   | Lymphoid neoplasmsb |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|   | Case/Control | ORc | 95%CI | Case/Control | ORc | 95%CI | Case/Control | ORc | 95%CI | Case/Control | ORc | 95%CI |
| **IL6 −174G→C (rs1800795)** |  |  |  |  |  |  |  |  |  |  |  |
| Normal, GG | 107/313 | 1 | ref | 95/313 | 1 | ref | 35/233 | 1 | ref | 320/313 | 1 | ref |
| Normal, GC/CC | 207/615 | 0.99 | 0.73-1.34 | 188/615 | 0.99 | 0.77-1.27 | 55/441 | 0.73 | 0.32-1.66 | 575/615 | 0.91 | 0.72-1.16 |
| Overweight, GG | 104/241 | 1.40 | 1.18-1.66 | 77/241 | 1.14 | 0.79-1.65 | 28/192 | 0.68 | 0.39-1.20 | 278/241 | 1.12 | 0.83-1.51 |
| Overweight, GC/CC | 178/490 | 1.14 | 0.82-1.58 | 148/490 | 1.02 | 0.65-1.61 | 66/382 | 0.83 | 0.38-1.77 | 530/490 | 1.03 | 0.80-1.34 |
| Obese, GG | 60/149 | 1.34 | 1.11-1.62 | 50/149 | 1.20 | 0.88-1.63 | 18/126 | 0.72 | 0.36-1.46 | 179/149 | 1.16 | 0.97-1.39 |
| Obese, GC/CC | 110/257 | 1.48 | 1.19-1.84 | 79/257 | 1.11 | 0.68-1.83 | 30/233 | 0.61 | 0.42-0.89 | 303/257 | 1.13 | 0.84-1.53 |
| Study heterogeneityd | χ2=17.8, p=0.27 |  | χ2=16.2, p=0.37 |  | χ2=11.2, p=0.34 |  | χ2=17.6, p=0.28 |  |
|  | *RERIe* | *95%CI* | *RERIe* | *95%CI* | *RERIe* | *95%CIg* | *RERIe* | *95%CI* |
| *OverweightxGC/CC* | *-0.25* | *-0.71,0.11* | *-0.11* | *-0.55,0.23* | *0.41* | *-0.05,0.87* | *0.001* | *-0.26,0.22* |
| *Obese x GC/CC* | *0.15* | *-0.38,0.57* | *-0.07* | *-0.61,0.34* | *0.15* | *-0.41,0.72* | *0.06* | *-0.27,0.33* |
| *Test for interactionf* | χ2*=1.75, p=0.42* |  | χ2*=0.23, p=0.89* |  | χ2*=2.27, p=0.32* |  | χ2*=0.10, p=0.95* |  |
| **IL1B −511C→T (rs16944)** |  |  |  |  |  |  |  |  |  |  |  |
| Normal, CC | 130/336 | 1 | ref | 113/336 | 1 | ref | 33/233 | 1 | ref | 348/336 | 1 | ref |
| Normal, CT/TT | 167/463 | 0.92 | 0.69-1.22 | 133/463 | 0.86 | 0.56-1.33 | 28/299 | 0.65 | 0.42-1.01 | 431/463 | 0.90 | 0.70-1.16 |
| Overweight, CC | 117/268 | 1.16 | 1.00-1.34 | 81/268 | 0.96 | 0.76-1.20 | 25/198 | 0.72 | 0.59-0.89 | 302/268 | 1.06 | 0.94-1.19 |
| Overweight, CT/TT | 135/298 | 1.18 | 0.73-1.92 | 113/298 | 1.16 | 0.81-1.67 | 25/211 | 0.67 | 0.44-1.03 | 367/298 | 1.15 | 0.89-1.50 |
| Obese, CC | 64/129 | 1.38 | 0.88-2.16 | 53/129 | 1.35 | 0.95-1.92 | 9/112 | 0.49 | 0.42-0.58 | 182/129 | 1.31 | 1.24-1.39 |
| Obese, CT/TT | 90/173 | 1.45 | 1.02-2.06 | 46/173 | 0.86 | 0.50-1.47 | 15/143 | 0.64 | 0.52-0.79 | 198/173 | 1.06 | 0.97-1.16 |
| Study heterogeneityd | χ2=17.8, p=0.06 |  | χ2=10.3, p=0.41 |  | χ2=3.06, p=0.69 |  | χ2=8.73, p=0.56 |  |
|  | *RERIe* | *95%CI* | *RERIe* | *95%CI* | *RERIe* | *95%CIg* | *RERIe* | *95%CI* |
| *OverweightxCT/TT* | *0.11* | *-0.27,0.42* | *0.35* | *-0.03,0.64* | *0.29* | *-0.26,0.84* | *0.19* | *-0.07,0.41* |
| *Obese x CT/TT* | *0.15* | *-0.38,0.59* | *-0.36* | *-0.91,0.09* | *0.50* | *-0.07,1.07* | *-0.15* | *-0.52,0.16* |
| *Test for interactionf* | χ2*=0.36, p=0.84* |  | χ2*=5.37, p=0.07* |  | χ2*=2.29, p=0.32* |  | χ2*=2.64, p=0.27* |  |

Supplementary Table 1: Joint associations and relative excess risks due to interaction of being overweight or obese and a carrier of variant allele in several cytokine polymorphisms for lymphoid neoplasms. Continued/…

|  **BMIa & SNP** | DLBCLb |   |   | FLb |   |   | CLL/SLLb |   |   | Lymphoid neoplasmsb |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|   | Case/Control | ORc | 95%CI | Case/Control | ORc | 95%CI | Case/Control | ORc | 95%CI | Case/Control | ORc | 95%CI |
| **IL1RN 9589A→T (rs454078)** |  |  |  |  |  |  |  |  |  |  |  |
| Normal, AA | 84/374 | 1 | ref | 84/374 | 1 | ref | 42/374 | 1 | ref | 320/374 | 1 | ref |
| Normal, AT/TT | 79/276 | 1.26 | 0.95-1.65 | 91/276 | 1.42 | 0.94-2.16 | 46/276 | 1.49 | 0.90-2.46 | 308/276 | 1.29 | 1.07-1.56 |
| Overweight, AA | 97/320 | 1.34 | 1.22-1.48 | 76/320 | 1.06 | 0.82-1.37 | 40/320 | 0.89 | 0.42-1.86 | 317/320 | 1.12 | 1.03-1.22 |
| Overweight, AT/TT | 89/255 | 1.58 | 1.13-2.19 | 67/255 | 1.18 | 0.82-1.68 | 54/255 | 1.52 | 0.81-2.84 | 308/255 | 1.37 | 1.11-1.69 |
| Obese, AA | 69/191 | 1.58 | 0.98-2.54 | 50/191 | 1.13 | 0.72-1.77 | 23/191 | 0.88 | 0.47-1.64 | 212/191 | 1.24 | 1.19-1.29 |
| Obese, AT/TT | 56/160 | 1.59 | 1.17-2.18 | 51/160 | 1.39 | 0.79-2.43 | 24/160 | 1.05 | 0.69-1.59 | 192/160 | 1.37 | 1.17-1.60 |
| Study heterogeneityd | χ2=10.6, p=0.39 |  | χ2=7.11, p=0.71 |  | χ2=8.18, p=0.61 |  | χ2=5.36, p=0.87 |  |
|  | *RERIe* | *95%CI* | *RERIe* | *95%CI* | *RERIe* | *95%CIg* | *RERIe* | *95%CI* |
| *OverweightxAT/TT* | *-0.02* | *-0.62,0.46* | *-0.31* | *-0.92,0.17* | *0.14* | *-0.63,0.91* | *-0.04* | *-0.39,0.27* |
| *Obese x AT/TT* | *-0.24* | *-0.98,0.35* | *-0.17* | *-0.87,0.38* | *-0.32* | *-1.19,0.55* | *-0.16* | *-0.59,0.20* |
| *Test for interactionf* | χ2*=0.39, p=0.82* |  | χ2*=1.06, p=0.59* |  | χ2*=1.29, p=0.52* |  | χ2*=0.50, p=0.78* |  |
| **IL6 −597G→A (rs1800797)** |  |  |  |  |  |  |  |  |  |  |  |
| Normal, GG | 55/221 | 1 | ref | 64/221 | 1 | ref | 37/221 | 1 | ref | 237/221 | 1 | ref |
| Normal, GA/AA | 111/424 | 1.05 | 0.53-2.08 | 108/424 | 0.87 | 0.71-1.07 | 52/424 | 0.69 | 0.33-1.43 | 387/424 | 0.85 | 0.61-1.19 |
| Overweight, GG | 69/192 | 1.51 | 0.98-2.34 | 54/192 | 1.03 | 0.61-1.74 | 30/192 | 0.71 | 0.43-1.17 | 219/192 | 1.06 | 0.70-1.59 |
| Overweight, GA/AA | 125/378 | 1.33 | 0.71-2.51 | 91/378 | 0.82 | 0.57-1.17 | 65/378 | 0.79 | 0.38-1.64 | 415/378 | 0.99 | 0.65-1.50 |
| Obese, GG | 45/123 | 1.49 | 1.11-2.01 | 42/123 | 1.16 | 0.58-2.31 | 18/123 | 0.69 | 0.32-1.46 | 159/123 | 1.19 | 0.73-1.92 |
| Obese, GA/AA | 79/229 | 1.40 | 1.18-1.66 | 59/229 | 0.88 | 0.62-1.24 | 29/229 | 0.58 | 0.39-0.86 | 246/229 | 0.97 | 0.82-1.14 |
| Study heterogeneityd | χ2=12.0, p=0.28 |  | χ2=8.57, p=0.57 |  | χ2=9.73, p=0.46 |  | χ2=11.0, p=0.36 |  |
|  | *RERIe* | *95%CI* | *RERIe* | *95%CI* | *RERIe* | *95%CIg* | *RERIe* | *95%CI* |
| *OverweightxGA/AA* | *-0.23* | *-0.90,0.23* | *-0.08* | *-0.60,0.29* | *0.39* | *-0.07,0.84* | *0.08* | *-0.22,0.32* |
| *Obese x GA/AA* | *-0.14* | *-0.90,0.39* | *-0.15* | *-0.77,0.29* | *0.20* | *-0.34,0.74* | *-0.07* | *-0.44,0.23* |
| *Test for interactionf* | χ2*=0.57, p=0.75* |  | χ2*=0.27, p=0.88* |  | χ2*=2.02, p=0.36* |  | χ2*=0.53, p=0.77* |  |

aBMI: body mass index where Normal weight is 18.5-<25kg m-2, Overweight is 25-<30kg m-2, Obese is ≥30kg m-2. bDLBCL: diffuse large B-cell lymphoma; FL: follicular lymphoma; CLL/SLL: chronic lymphocytic leukaemia/small lymphocytic lymphoma; Lymphoid neoplasms: includes DLBCL, FL, CLL/SLL, other mature B-cell neoplasms, T-cell neoplasms and non-Hodgkin lymphomas not otherwise specified. cOdds ratios (OR) and 95% confidence intervals (CI) estimated using logistic regression adjusted for sex, age and study. d Tests for heterogeneity between study-specific risk estimates were conducted using the likelihood ratio test to compare the model with an interaction term between the joint effect and study variables with the basic model which adjusted for study. For FL, EpiLymph- France and Spain were considered together due to small numbers of cases in some strata. eRelative Excess Risk due to Interaction (RERI) estimated using linear odds ratio regression adjusted for sex, age and study. Likelihood-based 95%CI were derived using maximum likelihood estimation. f Tests for departure from additive interaction between BMI and TNF were conducted using the likelihood ratio test on linear odds ratio model. g95%CI are Wald-type from linear odds ratio regression model rather than likelihood-based 95%CI since maximum likelihood estimation failed to converge.

Supplementary Table 2: Risk estimates and relative excess risks due to interaction for lymphoid neoplasms associated with 5 kg m−2 increase in BMI above 18.5 kg m−2 (Normal weight) in homozygous wild types and carriers of variant allele in several cytokine polymorphisms.

| **SNP** | DLBCLa | FLa | CLL/SLLa | Lymphoid neoplasmsa |
| --- | --- | --- | --- | --- |
|   | ORb | 95%CI | ORb | 95%CI | ORb | 95%CI | ORb | 95%CI |
| **TNF -308G→A (rs1800629)** |  |  |  |  |  |  |  |  |
| GG  | 1.14 | 1.07-1.22 | 1.03 | 0.95-1.11 | 0.92 | 0.84-1.02 | 1.04 | 1.00-1.09 |
| GA/AA  | 1.19 | 1.12-1.27 | 1.02 | 0.95-1.11 | 0.94 | 0.85-1.04 | 1.07 | 1.02-1.12 |
| *RERIc* | *0.05* | *-0.005,0.08* | *0.09* | *0.01,0.15* | *0.12* | *-0.11,0.21* | *0.08* | *0.03,0.11* |
| **LTA 252A→G (rs909253)** |  |  |  |  |  |  |  |  |
| AA  | 1.15 | 1.08-1.22 | 1.03 | 0.96-1.12 | 0.93 | 0.84-1.02 | 1.04 | 1.00-1.09 |
| AG/GG  | 1.18 | 1.11-1.26 | 1.02 | 0.95-1.10 | 0.95 | 0.87-1.04 | 1.06 | 1.01-1.11 |
| *RERIc* | *0.03* | *-0.01,0.07* | *0.09* | *-0.01,0.17* | *0.06* | *-0.24,0.20* | *0.07* | *0.01-0.11* |
| **IL10 −3575T→A (rs1800890)** |  |  |  |  |  |  |  |  |
| TT | 1.14 | 1.07-1.21 | 1.00 | 0.92-1.08 | 0.93 | 0.84-1.02 | 1.03 | 0.98-1.08 |
| TA/AA  | 1.15 | 1.08-1.23 | 1.02 | 0.95-1.10 | 0.91 | 0.83-1.00 | 1.04 | 1.00-1.09 |
| *RERIc* | *0.01* | *-0.05,0.06* | *-0.04* | *-0.33,0.09* | *0.03* | *-0.30,0.21* | *-0.003* | *-0.10,0.07* |
| **IL10 −1082A→G (rs1800896)** |  |  |  |  |  |  |  |  |
| AA  | 1.13 | 1.05-1.22 | 1.03 | 0.94-1.12 | 0.89 | 0.79-1.02 | 1.05 | 0.99-1.11 |
| AG/GG  | 1.16 | 1.08-1.25 | 1.05 | 0.96-1.14 | 0.89 | 0.78-1.01 | 1.07 | 1.01-1.13 |
| *RERIc* | *0.03* | *-0.04,0.10* | *-0.06* | *-0.41,0.09* | *-0.12* | *-1.24,0.19* | *0.01* | *-0.10-0.08* |
| **CARD15 Ex11–35→C (rs2066847)** |  |  |  |  |  |  |
| --  | 1.18 | 1.10-1.27 | 0.99 | 0.91-1.08 | 0.91 | 0.82-1.02 | 1.04 | 0.99-1.09 |
| -+/++  | 1.24 | 1.13-1.36 | 0.99 | 0.88-1.12 | 0.96 | 0.83-1.10 | 1.07 | 1.00-1.14 |
| *RERIc* | *0.03* | *-0.21,0.12* | *0.02* | *-12.6,0.13* | *0.15* | *-1.69,0.22* | *0.05* | *-0.50,0.10* |
| **IL1A −889C→T (rs1800587)** |  |  |  |  |  |  |  |
| CC | 1.19 | 1.10-1.29 | 1.04 | 0.95-1.14 | 0.92 | 0.79-1.06 | 1.10 | 1.03-1.17 |
| CT/TT | 1.17 | 1.07-1.26 | 1.03 | 0.94-1,13 | 0.93 | 0.80-1.08 | 1.08 | 1.02-1.15 |
| *RERIc* | *-0.05* | *-0.24,0.02* | *-0.06* | *-0.48,0.08* | *-0.10* | *-1.75,0.20* | *-0.06* | *-0.22,0.02* |
| **IL1B −31C→T (rs1143627)** |  |  |  |  |  |  |  |  |
| CC | 1.18 | 1.09-1.29 | 1.03 | 0.94-1.13 | 0.92 | 0.79-1.07 | 1.09 | 1.03-1.16 |
| CT/TT | 1.18 | 1.09-1.28 | 1.02 | 0.93-1.12 | 0.92 | 0.80-1.07 | 1.08 | 1.02-1.15 |
| *RERIc* | *-0.01* | *-0.09,0.05* | *-0.08* | *-0.51,0.08* | *0.15* | *-0.23,0.34* | *-0.03* | *-0.17,0.04* |
| **IL2 −384T→G (rs2069762)** |  |  |  |  |  |  |  |  |
| TT | 1.19 | 1.10-1.29 | 1.03 | 0.94-1.14 | 0.91 | 0.78-1.05 | 1.09 | 1.02-1.16 |
| TG/GG | 1.18 | 1.08-1.27 | 1.03 | 0.94-1.13 | 0.92 | 0.79-1.06 | 1.09 | 1.03-1.16 |
| *RERIc* | *-0.01* | *-0.08,0.05* | *0.05* | *-0.13,0.16* | *0.15* | *-0.30,0.33* | *0.03* | *-0.04,0.09* |
| **IL6 −174G→C (rs1800795)** |  |  |  |  |  |  |  |  |
| GG | 1.19 | 1.10-1.29 | 1.05 | 0.95-1.15 | 0.94 | 0.81-1.09 | 1.10 | 1.04-1.17 |
| GC/CC | 1.17 | 1.08-1.27 | 1.03 | 0.94-1.13 | 0.92 | 0.80-1.07 | 1.09 | 1.02-1.15 |
| *RERIc* | *-0.02* | *-0.11,0.06* | *-0.11* | *-0.57,0.06* | *-0.02* | *-1.04,0.28* | *-0.04* | *-0.16,0.04* |
| **IL1B −511C→T (rs16944)** |  |  |  |  |  |  |  |  |
| CC | 1.21 | 1.11-1.32 | 1.05 | 0.94-1.16 | 0.89 | 0.73-1.09 | 1.11 | 1.04-1.19 |
| CT/TT | 1.20 | 1.10-1.31 | 1.03 | 0.93-1.14 | 0.87 | 0.72-1.06 | 1.10 | 1.03-1.17 |
| *RERIc* | *-0.05* | *-0.07,0.06* | *-0.09* | *-0.60,0.09* | *0.25* | *-0.18,0.47* | *-0.03* | *-0.17,0.04* |
| **IL1RN 9589A→T (rs454078)** |  |  |  |  |  |  |  |
| AA | 1.15 | 1.04-1.26 | 0.99 | 0.89-1.10 | 0.89 | 0.76-1.03 | 1.05 | 0.98-1.13 |
| AT/TT | 1.18 | 1.07-1.30 | 1.03 | 0.93-1.15 | 0.96 | 0.82-1.11 | 1.09 | 1.02-1.17 |
| *RERIc* | *0.03* | *-0.13,0.10* | *-0.11* | *-0.98,0.10* | *0.08* | *-0.75,0.29* | *-0.01* | *-0.22,0.08* |
| **IL6 −597G→A (rs1800797)** |  |  |  |  |  |  |  |  |
| GG | 1.15 | 1.05-1.27 | 1.03 | 0.93-1.15 | 0.94 | 0.81-1.09 | 1.09 | 1.02-1.17 |
| GA/AA | 1.14 | 1.04-1.25 | 0.99 | 0.89-1.10 | 0.92 | 0.79-1.06 | 1.06 | 0.99-1.13 |
| *RERIc* | *-0.05* | *-0.30,0.08* | *-0.11* | *-0.69,0.10* | *0.03* | *-0.77,0.30* | *-0.06* | *-0.24,0.04* |

aDLBCL: diffuse large B-cell lymphoma; FL: follicular lymphoma; CLL/SLL: chronic lymphocytic leukaemia/small lymphocytic lymphoma; Lymphoid neoplasms: includes DLBCL, FL, CLL/SLL, other mature B-cell neoplasms, T-cell neoplasms and non-Hodgkin lymphomas not otherwise specified. bOdds ratios (OR) and 95% confidence intervals (CI) estimated using logistic regression adjusted for sex, age and study. cRelative Excess Risk due to Interaction (RERI) estimated using linear odds ratio regression adjusted for sex, age and study, and 95%CI from the bootstrapping percentile method.