Supplementary results

Phenotyping (Fig.4B)

Individually, 3 profiles of patients were distinguished with patients #2 and #8 which exhibited a high percentage of TFh (52.21% and 65.87% respectively), patients #1, #3, #5, #7 and #9 exhibiting a medium expression (around 30%) and finally patient #4 presenting a low percentage of TFh (8.95%). Regarding non-TFh cells, 3 different profiles also appeared with patients #3 and #7 expressing the highest percentage (around 36%), patients #1, #2, #4, and #9 with a medium expression (around 20%) and patients #5 and #8 exhibiting the lowest percentage (<10%).

Cytokine release (Fig.4C)

3 different profiles were observed with patient #7 exhibiting the highest levels of GrB, IL-10, IL-8 and IL-6 (52.17 pg/mL, 36.18 pg/mL, 69.54 pg/mL and 326.76pg/mL respectively), patient #9 with an intermediate level of GrB and IL-6 secretion (10.55 pg/mL and 241.47 pg/mL respectively) and finally patient #8 for which almost all cytokines were very low (0 to 3 pg/mL for GrB, TNFα, IFNγ, IL-8, IL-10 and 62.87 pg/mL for IL-6).

2D imaging of the effect of immunotherapies (suppl. Fig.3)

Anti-CD20 mAb induced a decrease of the FL-PDLS center area, which represents the zone where viable cells aggregate, in 2 out of 8 patients (#1, #5) and an increase in 2 patients (#3, #4). Anti-PD-1 mAb induced different morphological behaviors with an increase in 3 FL-PDLS (#1, #2, #3) and a decrease for patients #4, #9 and more importantly for patient #5. However, combination treatment did not enhance the effect induced by anti-CD20 mAb as a single drug (suppl. Fig. 3B, left graph). BF periphery area (grey zone) representing dead cells (not shown) was measured (suppl. Fig. 3B, right graph). No significant variation was observed after anti-CD20 treatment except for a decrease in two patients (#4 and #7). In contrast, anti-PD-1 mAb treatment induced a slight increase in the BF periphery area in 4 out of 8 patients and a prominent increase for patient #4, while the 2 other patients displayed a small decrease. Anti-CD20 and anti-PD-1 mAbs combination did not modify the effects induced by single drugs except for patients #6 and #9 where combination induced a larger periphery area.