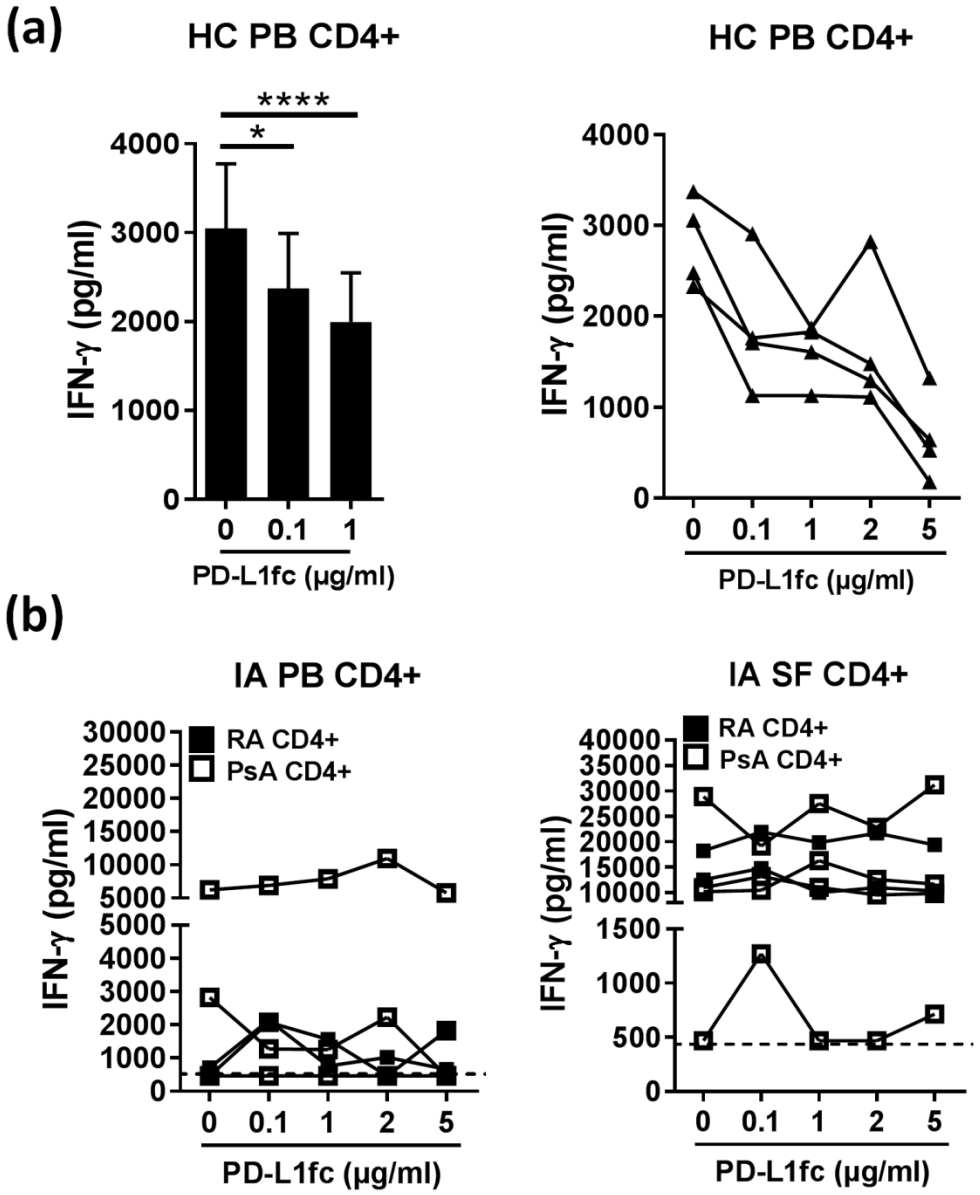
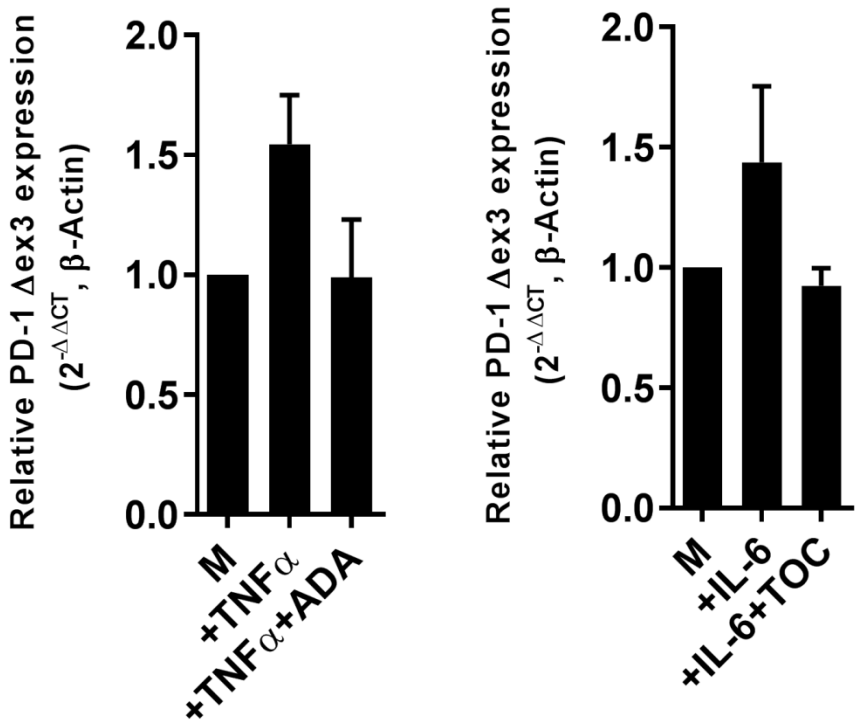
	RA PB	RA SF	PsA PB	PsA SF
Sex (Female/Male)	29/5	23/2	11/17	11/17
Age in years (mean±SD)	54.5 (±16.5) (n=34)	58.7 (±15.5) (n=25)	39.8 (±12.4) (n=28)	39.8 (±12.4) (n=28)
DAS28 score (mean±SD)	5.0 (±1.82) (n=25)	5.0 (±1.82) (n=25)	4.5 (±1.23) (n=24)	4.5 (±1.23) (n=24)
Treatment (None/DMARD/ Biologic)	5/21/8	5/12/8	7/12/9	7/12/9
Rheumatoid Factor (+/-)	19/6	19/6	0/28	0/28

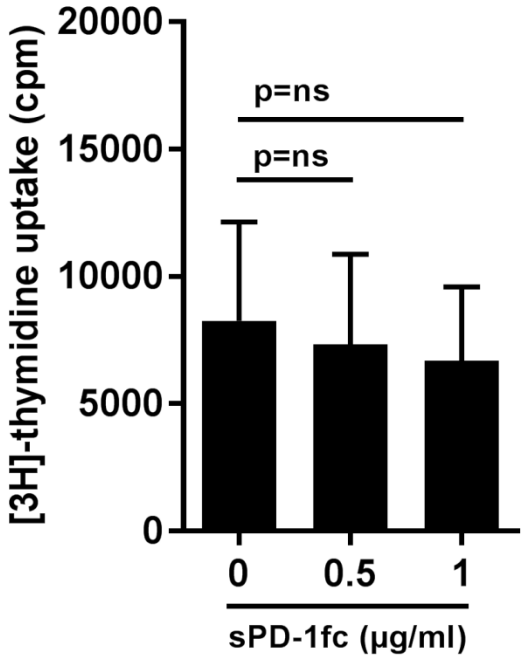
Supplementary Table 1. Demographic and clinical parameters of the patients included in the study. Some samples were used for flow cytometry or functional assays only, whilst other samples were only used for cytokine detection in serum and SF. Clinical and demographic data are provided, where available. Abbreviations used: DAS28, disease activity score of 28 joints; DMARDs, disease-modifying anti-rheumatic drugs.



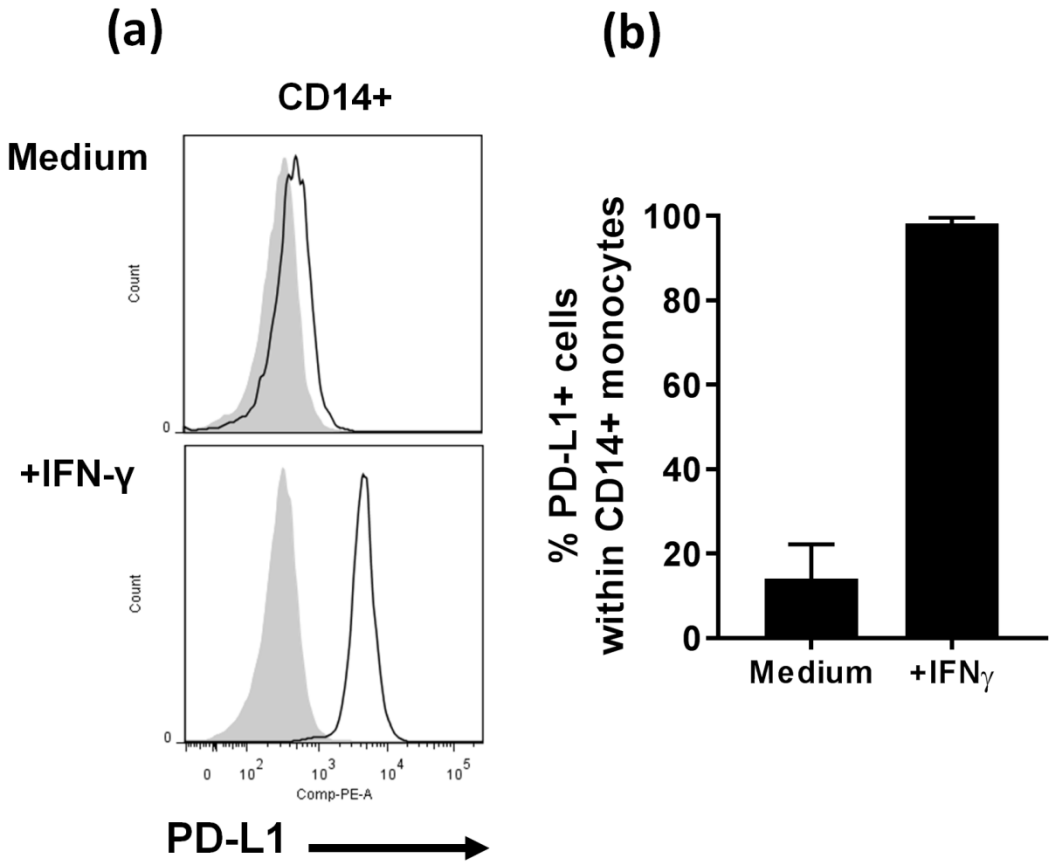
Supplementary Figure 1. PD-1 ligation reduces IFN-γ production by HC CD4+ T cells but not RA or PsA CD4+ T cells. CD4+ T cells from HC PBMC, RA and PsA PBMC and SFMC were cultured in plates pre-coated with anti-CD3 mAb (OKT3) and PD-L1fc/IgG1fc. Supernatants were collected at day 5 and tested by ELISA for IFN-γ production. (a) IFN-γ production in HC CD4+ T cell cultures in presence of PD-L1fc (0, 0.1 and 1 µg/ml range; n=11 and 0, 0.1, 1, 2 and 5 µg/ml range; n=4). (b) IFN-γ production in RA and PsA CD4+ T cell cultures; IA PB (RA n=2; PsA n=3) and IA SF (RA n=2; PsA n=4). Data were analysed by Friedman Test with Dunn's Multiple Comparison test. *$p < 0.05$, **$p < 0.01$ and ***$p < 0.001$.



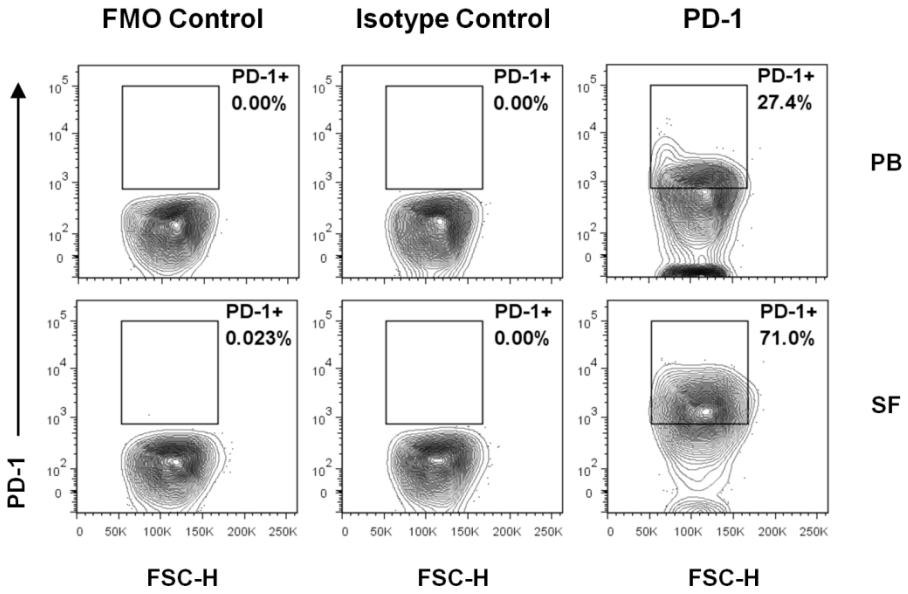
Supplementary Figure 2. Expression of PD-1Δex3 transcript in activated HC CD4+ T cells in presence of TNFα and IL-6. HC CD4+ T cells were cultured in absence (medium, M) or presence of 10 ng/ml of TNFα (n=4) or IL-6 (n=3) +/- anti-TNFα (adalimumab; ADA) or anti-IL-6R (tocilizumab; TOC) (all at 1 μg/ml) for 5 days. PD-1Δex3 expression was examined by qPCR and normalised to β-Actin housekeeping gene (mean ± SEM).



Supplementary Figure 3. Proliferation of HC CD4+ T cells in presence of increasing sPD-1fc concentrations. HC CD4+ T cells (n=9) were cultured with immobilised anti-CD3 mAb (OKT3) in presence of increasing concentrations of sPD-1fc (0, 0.5 and 1 µg/ml). Proliferation was assessed at day 5 by ^{3}H-thymidine incorporation and displayed as counts per minute (cpm). Data (mean ± SEM) were analysed by Friedman Test with Dunn's Multiple Comparison test. *$p < 0.05$, **$p < 0.01$ and ***$p < 0.001$.



Supplementary Figure 4. PD-L1 expression in CD14+ monocytes following IFN-γ stimulation. CD14+ monocytes where positively isolated from HC PBMC and cultured overnight at 37ºC in medium only or in medium supplemented with IFN-γ (10 ng/ml). PD-L1 expression was assessed after 12 hrs by flow cytometry. (a) Representative experiment. Shaded histograms represent the isotype control, open histograms indicate the expression profile for PD-L1 with/out IFN-γ stimulation. (b) Cumulative data (n=3).



Supplementary Figure 5. PD-1+ T cell frequencies are increased in synovial fluid compared to peripheral blood. Contour plot of CD3+CD4+PD-1+ cells from paired PBMC and SFMC of one representative RA donor. FMO controls and isotype controls are shown for the CD3+CD4+ populations.