



**Additional file 5. Upstream analysis of the gene expression signature of T<sub>CM</sub> cells from HIV.** Upstream molecules related with the gene expression signature of HIV<sup>+</sup> T<sub>CM</sub> cells are associated with inflammatory signaling through CCL5, IL1 $\beta$ , TNF- $\alpha$ , and NF $\kappa$ B pathways. These upstream molecules had the highest z-score using IPA.