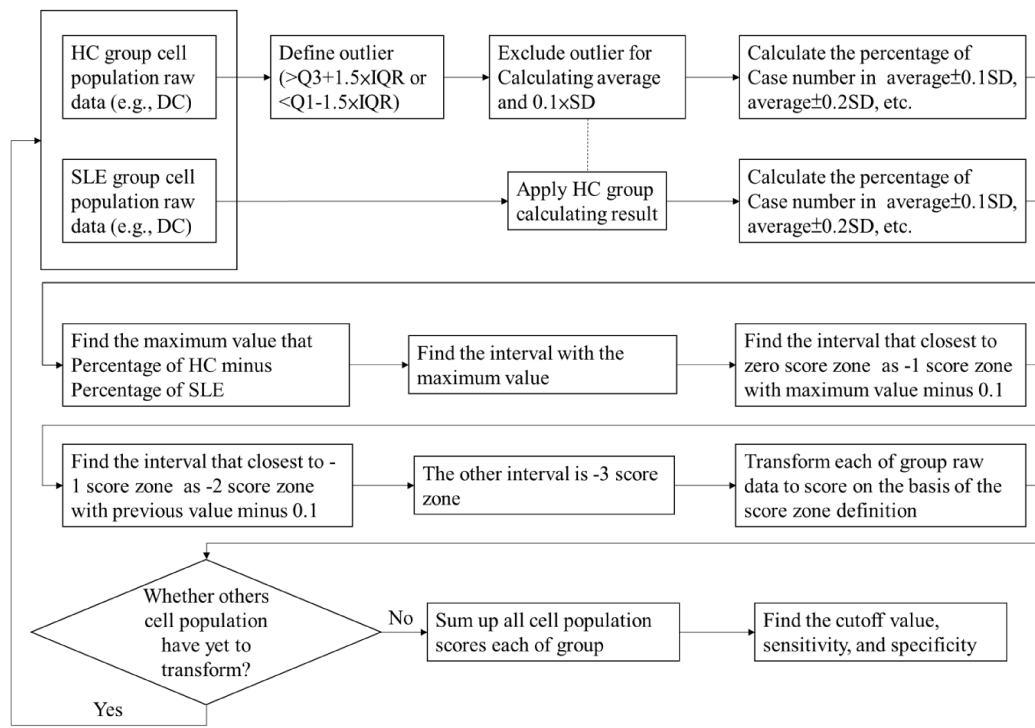


**Supplementary Figure 1. Schematic illustration of the immune signature calculation.**

Contents of the immune subsets from the HC group were trimmed followed by the calculating average and standard deviation (SD). Then, we applied  $\text{average} \pm 0.1 \times \text{SD}$  into the HC and the SLE groups to determine the zero zone. We further calculated zero-zone  $\pm 0.1 \times \text{SD}$  in the HC group and used to rank the content of each subset as -1, -2, and -3. Finally, we summarized all ranked subsets as the immune signature. Abbreviation: DC, dendritic cell; HC, healthy control; IQR, interquartile range; Q1, 1st quartile; Q3, 3rd quartile.