**Supplementary data for review**

Figure legend

Figure A was the negative control where the primary antibody was omitted for the Immunofluorescence measurement in Figure 1B of the main text.

Figure B showed DN, CD4+ and of CD8+ T cells frequencies in CD138+ T cells of fresh splenocytes in MRL/lpr mice in vitro cultured for 0, 48 and 72 h, respectively.

Figure C was the negative control for flow cytometry analyses of CD138+ T cells in Figures of main text. It demonstrated these abnormal T cells express both CD3 and CD138. These results demonstrate CD138 positive expression in CD3+ T cells in flow cytometry was not caused by fluorescence disturbance or that PE-cy7 break down to be picked up as PE.

Supplementary data Figure

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| Supplementary data Figure_01 |