## Supplemental Table 2

| Pathway                                                                 | p-value   |
|-------------------------------------------------------------------------|-----------|
| B Cell Receptor Signaling                                              | 6.31E-33  |
| IL-15 Signaling                                                        | 2.51E-32  |
| **Systemic Lupus Erythematosus in B Cell Signaling Pathway**           | 1.58E-31  |
| Communication between Innate and Adaptive Immune Cells                | 3.98E-31  |
| Primary Immunodeficiency Signaling                                     | 4.47E-09  |
| Role of Macrophages, Fibroblasts and Endothelial Cells in Rheumatoid Arthritis | 4.79E-04  |
| Systemic Lupus Erythematosus Signaling                                 | 6.17E-04  |
| Phospholipase C Signaling                                              | 8.91E-04  |
| Hematopoiesis from Pluripotent Stem Cells                              | 1.51E-03  |
| Autoimmune Thyroid Disease Signaling                                   | 1.66E-03  |
| Allograft Rejection Signaling                                          | 2.09E-03  |
| Dendritic Cell Maturation                                              | 4.27E-03  |
| Phagosome Formation                                                    | 7.41E-03  |
| Altered T Cell and B Cell Signaling in Rheumatoid Arthritis           | 1.82E-02  |
| April Mediated Signaling                                               | 4.68E-02  |
| **B Cell Activating Factor Signaling**                                 | 4.79E-02  |
| **B Cell Development**                                                 | 4.79E-02  |