Description of Additional Supplementary Files

File name: Supplementary Data 1.

Description: AS Differentially expressed genes by cluster.

File name: Supplementary Data 2.

Description: AS Synovial fluid differentially expressed genes.

File name: Supplementary Data 3.

Description: PsA Differentially expressed genes by cluster.

File name: Supplementary Data 4.

Description: SpA (integrated AS/PsA) differentially expressed genes by cluster.

File name: Supplementary Data 5. **Description:** Enriched AS TCR clones.

File name: Supplementary Data 6. **Description:** Enriched PsA TCR clone.

File name: Supplementary Data 7.

Description: Differentially expressed genes in top 5 synovial fluid clonotypes vs non clonal synovial

fluid.

File name: Supplementary Data 8.

Description: LAG-3-mediated monocyte inhibition.

File name: Supplementary Data 9.

Description: Source data to generate figures 1c-d, 2c, 2h, 4b, 5d, 5g, 6c, and 6f.