

Description of Additional Supplementary Files

File Name: **Supplementary Data 1**

Description: Clinical and biological characteristics of patients with AILD presented in the Figure 1.

File Name: **Supplementary Data 2**

Description: List of the significant genes per cluster identified in the figure 2F.

File Name: **Supplementary Data 3**

Description: GO biological process genes linked to the data in the figure 2F and in the figure 6.

File Name: **Supplementary Data 4**

Description: List of genes used for the gene set score analysis.

File Name: **Supplementary Data 5**

Description: P values of the gene set score analysis (Supplementary Figure 4)

File Name: **Supplementary Data 6**

Description: List of the liver clonotypes (TCR beta sequences).

File Name: **Supplementary Data 7**

Description: List of the blood CD4 T cell clonotypes (TCR beta sequences).

File Name: **Supplementary Data 8**

Description: List of the significant genes per cluster identified in the figure 3.

File Name: **Supplementary Data 9**

Description: P values of the gene set score analysis (Figure 3E and supplementary Figure 12).

File Name: **Supplementary Data 10**

Description: Genes data presented in the figure 5F.

File Name: **Supplementary Data 11**

Description: List of the significant genes of HA-specific-CD4 T cells from the liver or the spleen (Figure 6G).