

## Description of Additional Supplementary Files

**File Name:** Supplementary Data 1

**Description:** Image Cluster summary organized by hierarchical grouping Summary of cluster characterization by pathologists. Cluster colors correspond to the hierarchical grouping and median biomarker prediction scores for each cluster are color coded by value (0-1).

**File Name:** Supplementary Data 2

**Description:** TCAV analysis

**File Name:** Supplementary Data 3

**Description:** Biomarker prediction clustering.

**File Name:** Supplementary Data 4

**Description:** ROC curve analysis data. Data for each panel of Figure 2 is provided as a separate tab in the data file.