**Supplemental Table 1. Comparison of Citrus and RAPID**

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|  | **Citrus** | **RAPID** |
| Finding cell clusters | Unsupervised(hierarchical clustering, cells may be in > 1 cluster) | Unsupervised(various: FlowSOM\*, dbSCAN, KNN) |
| Determining number of clusters to seek | Unsupervised(must be >5% of sample) | Unsupervised(automatically chosen based on prioritizing low intra-cluster variance) |
| Modeling cluster features | Supervised, multivariate(lasso regularized logistic regression, nearest shrunken centroid) | Unsupervised, univariate(median or MEM statistical description of cluster) |
| Splitting patients into groups | Supervised, prior to clustering(expert assigns patients to groups) | Unsupervised, post-clustering(cluster abundance determines cut points, tested with a Cox model of hazards) |

\*used in the work described above