**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