**Table S2**. List of Genes in Maximal Cliques and Maximal Clique-Like Modules for Three Cancers: BRCA, COAD, and GBM

Table S2-a. List of Genes in Maximal Cliques for Cancer BRCA.

|  |  |  |
| --- | --- | --- |
| clique 1 | clique 2 | clique 3 |
| CD2  CD247 CD3D CD3E CXCR3 IL2RG  LCK  LY9  PTPN7 SH2D1A SIRPG  SIT1  SLA2 SLAMF1 SLAMF6 TBX21 UBASH3A | CD2  CD247  CD3D  CD3E  CD5  CXCR3  IL2RG  LCK  LY9  PTPN7  SH2D1A  SIRPG  SIT1  SLA2  SLAMF1  SLAMF6  UBASH3A | CD2  CD247  CD3D  CD3E  CD5  CD96  CXCR3  IL2RG  LCK  LY9  SH2D1A  SIRPG  SIT1  SLA2  SLAMF1  SLAMF6  UBASH3A |

The gene network biomarker for BRCA has three maximal cliques composed of 17 genes. All of them have 15 common genes out of total 17 genes. Clique #1 and Clique #2 have 16 out of 17 common genes. Also clique #2 and #3 have 16 genes common out of 17 genes. Clique #1 has TBX21 and clique #3 has CD96 those are not common with other clusters.

Table S2-b. List of Genes in Maximal Cliques for Cancer GBM.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| clique 1 | clique 2 | clique 3 | clique 4 | clique 5 | clique 6 |
| CD4  HCK  ITGB2  LAIR1  NCKAP1L  PTPN6  SASH3  SPI1  STXBP2  VAV1  WAS | ALOX5  HCK  ITGB2  LAIR1  NCKAP1L  PTPN6  SASH3  SPI1  STXBP2  VAV1  WAS | FERMT3  HCK  ITGB2  LAIR1  NCKAP1L  PTPN6  SASH3  SPI1  STXBP2  VAV1  WAS | CD4  HCK  ITGB2  LAIR1  LAPTM5  NCKAP1L  PTPN6  SASH3  SPI1  VAV1  WAS | ALOX5  HCK  ITGB2  LAIR1  LAPTM5  NCKAP1L  PTPN6  SASH3  SPI1  VAV1  WAS | FERMT3  HCK  ITGB2  LAIR1  LAPTM5  NCKAP1L  PTPN6  SASH3  SPI1  VAV1  WAS |

The gene network biomarker for GBM has six maximal cliques composed of 11 genes. There are nine genes - HCK, ITGB2, LAIR1, NCKAP1L, PTPN6, SASH3, SPI1, VAV1 and WAS – which are common in all six cliques. LAPTM5, STXBP2 were present in two different cliques. ALOX5, CD4, FERMT3 were present in two different cliques.

Table S2-c: List of Genes in Maximal Cliques for Cancer COAD.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| clique 1 | clique 2 | clique 3 | clique 4 | clique 5 | clique 6 | clique 7 | clique 8 | clique 9 | clique 10 |
| C1QB  C1QC  C3AR1  CD4  CD53  CD86  CLEC7A  CSF1R  CYTH4  DOK2  HCK  ITGB2  LAIR1  LAPTM5  LILRB1  LRRC25  SIGLEC7  SLAMF8  SPI1 | C1QC  C3AR1  CD4  CD53  CD86  CLEC7A  CSF1R  CYBB  CYTH4  DOK2  HCK  ITGB2  LAIR1  LAPTM5  LILRB1  LRRC25  SIGLEC7  SLAMF8  SPI1 | C1QC  C3AR1  CD53  CD86  CLEC7A  CYBB  FPR3  HAVCR2  HCK  ITGB2  LAIR1  LAPTM5  LILRB4  LRRC25  MS4A4A  SIGLEC7  SLAMF8  SPI1  TFEC | C1QB  C1QC  C3AR1  CD53  CD86  CLEC7A  FPR3  HAVCR2  HCK  ITGB2  LAIR1  LAPTM5  LILRB4  LRRC25  MS4A4A  SIGLEC7  SLAMF8  SPI1  TFEC | C1QB  C1QC  C3AR1  CD53  CD86  CLEC7A  FPR3  HAVCR2  HCK  ITGB2  LAIR1  LAPTM5  LILRB4  LRRC25  MS4A4A  SIGLEC7  SLAMF8  SPI1  TFEC | C1QB  C1QC  C3AR1  CD86  CLEC7A  FCER1G  FPR3  HAVCR2  HCK  ITGB2  LAIR1  LAPTM5  LILRB4  LRRC25  MS4A4A  SIGLEC7  SLAMF8  SPI1  TFEC | C1QC  C3AR1  CD86  CLEC7A  FCER1G  FPR3  HAVCR2  HCK  ITGB2  LAIR1  LAPTM5  LILRB4  LRRC25  MS4A4A  SIGLEC7  SIGLEC9  SLAMF8  SPI1  TYROBP | C1QB  C1QC  C3AR1  CD86  CLEC7A  FCER1G  FPR3  HAVCR2  HCK  ITGB2  LAIR1  LAPTM5  LILRB4  LRRC25  MS4A4A  SIGLEC7  SLAMF8  SPI1  TYROBP | C1QC  C3AR1  CD300A  CD86  CLEC7A  FCER1G  FPR3  HAVCR2  HCK  ITGB2  LAIR1  LAPTM5  LILRB4  LRRC25  MS4A4A  SIGLEC7  SIGLEC9  SPI1  TYROBP | C1QB  C1QC  C3AR1  CD300A  CD86  CLEC7A  FCER1G  FPR3  HAVCR2  HCK  ITGB2  LAIR1  LAPTM5  LILRB4  LRRC25  MS4A4A  SIGLEC7  SPI1  TYROBP |

The gene network biomarker for COAD has 10 maximal cliques composed of 19 genes. There are 11 genes -C1QC, C3AR1, CD86, CLEC7A, HCK, ITGB2, LAIR1, LAPTM5, LRRC25, SIGLEC7, and SPI1 – which are common in all 10 cliques. Five other genes- FPR3, HAVCR2, LILRB4, MS4A4A, and SLAMF8 – are common in 8 cliques. It is noticeable that gene PDCD1LG2 appears only in one clique.