

Supplementary Table S3

| Gene ID_CI Variant     | Max of VAF | Min of VAF | Average of VAF |
|------------------------|------------|------------|----------------|
| KDR chr4:55953747      | 100        | 72.7       | 96.93333333    |
| FBN3 chr19:8146019     | 100        | 99         | 99.88571429    |
| COL1A1 chr17:48277061  | 100        | 10.4       | 82.30967742    |
| PDE4DIP chr1:144886092 | 58.3       | 27.5       | 47.34137931    |
| ZNF384 chr12:6777111   | 100        | 96.5       | 99.51111111    |
| SMARCB1 chr22:24145672 | 100        | 97.8       | 99.8           |
| AR chrX:66943601       | 100        | 99.2       | 99.86923077    |
| ARID1A chr1:27099010   | 100        | 100        | 100            |
| PDE4DIP chr1:144930571 | 58.1       | 31.1       | 47.59885057    |
| MLL3 chr7:151879244    | 100        | 100        | 100            |
| PDE4DIP chr1:144852315 | 100        | 32         | 65.34615385    |
| TSC2 chr16:2129453     | 100        | 96.2       | 99.57777778    |
| WHSC1 chr4:1976481     | 100        | 95.7       | 99.01818182    |
| WHSC1 chr4:1976483     | 100        | 95.7       | 98.98181818    |
| EP300 chr22:41542838   | 100        | 55.8       | 88             |
| GREB1 chr2:11751005    | 100        | 92         | 97.87777778    |
| FLT3 chr13:28597449    | 100        | 32.4       | 60.40769231    |
| LRP1B chr2:141202026   | 99.7       | 96.9       | 98.68571429    |
| ITGB2 chr21:46327067   | 100        | 99.6       | 99.9           |
| PKHD1 chr6:51921815    | 100        | 90         | 97.22          |
| PTPRD chr9:8460647     | 100        | 82.5       | 94.825         |
| GATA2 chr3:128202760   | 99.9       | 25.6       | 66.53478261    |
| PDGFRA chr4:55129894   | 99.7       | 99.5       | 99.6           |
| KDM6A chrX:44942869    | 100        | 49.6       | 74.8           |
| ITGA10 chr1:145530939  | 64.1       | 28.8       | 46.9           |
| ITGA10 chr1:145533894  | 51         | 38.4       | 43.42          |
| MUC1 chr1:155160052    | 99.7       | 98.6       | 99             |
| NTRK1 chr1:156811985   | 58.2       | 50.7       | 54.45          |
| DDR2 chr1:162737153    | 99.5       | 20.9       | 38.1           |
| RNF2 chr1:185056670    | 54.1       | 40.3       | 48.16666667    |
| IKBKE chr1:206647652   | 50.4       | 50.4       | 50.4           |
| ARID1A chr1:27097699   | 99         | 29.7       | 55.475         |
| BLNK chr10:97975168    | 91.2       | 8.8        | 58.89333333    |
| EP400 chr12:132562069  | 100        | 100        | 100            |
| KRAS chr12:25398279    | 50.5       | 0          | 2.048          |
| ZNF384 chr12:6788242   | 49.4       | 49.4       | 49.4           |
| NIN chr14:51221316     | 99.6       | 98.9       | 99.25          |
| TRIP11 chr14:92454746  | 53.6       | 50.7       | 52.5           |
| THBS1 chr15:39884882   | 83.3       | 30.4       | 55.33829787    |
| CDH11 chr16:65026991   | 49.9       | 49.9       | 49.9           |
| BRIP1 chr17:59760648   | 50.2       | 50.2       | 50.2           |
| PRKAR1A chr17:66511530 | 100        | 100        | 100            |
| TP53 chr17:7579634     | 57         | 20.6       | 38.21428571    |
| RNF213 chr17:78357518  | 49.5       | 49.5       | 49.5           |
| PER1 chr17:8045566     | 50.8       | 50.8       | 50.8           |

|         |                |      |      |             |
|---------|----------------|------|------|-------------|
| FZR1    | chr19:3531825  | 50.5 | 50.5 | 50.5        |
| LRP1B   | chr2:141232924 | 49.5 | 49.5 | 49.5        |
| LRP1B   | chr2:141607906 | 50.8 | 50.8 | 50.8        |
| SOX11   | chr2:5833816   | 99.5 | 99.5 | 99.5        |
| PTPRT   | chr20:40743814 | 100  | 100  | 100         |
| AURKA   | chr20:54959349 | 50.6 | 50.6 | 50.6        |
| ERG     | chr21:39817470 | 99.7 | 99.7 | 99.7        |
| FANCD2  | chr3:10132031  | 49.2 | 29.3 | 39.22       |
| EPHA3   | chr3:89448462  | 49.5 | 49.5 | 49.5        |
| NFKB1   | chr4:103533242 | 49.8 | 49.8 | 49.8        |
| TET2    | chr4:106193885 | 67.4 | 46.2 | 54.7        |
| PDGFRA  | chr4:55129892  | 99.5 | 99.5 | 99.5        |
| PDGFRB  | chr5:149499530 | 60.3 | 11.9 | 29.90333333 |
| IL6ST   | chr5:55237596  | 50.2 | 48.4 | 49.3        |
| IL6ST   | chr5:55247262  | 50.4 | 50.4 | 50.4        |
| SYNE1   | chr6:152529254 | 49.9 | 49.9 | 49.9        |
| DST     | chr6:56485091  | 99.3 | 96.8 | 98.05       |
| MLL3    | chr7:151902163 | 100  | 16   | 55.76666667 |
| TRRAP   | chr7:98543325  | 50.3 | 50.3 | 50.3        |
| UBR5    | chr8:103341456 | 77.5 | 49.5 | 63.76666667 |
| MYC     | chr8:128753001 | 99.7 | 99.7 | 99.7        |
| NCOA2   | chr8:71128917  | 49   | 49   | 49          |
| NUP214  | chr9:134090676 | 99   | 99   | 99          |
| PAK3    | chrX:110463549 | 50.9 | 50.9 | 50.9        |
| MTOR    | chr1:11167502  | 24.7 | 24.7 | 24.7        |
| TRIM33  | chr1:114940315 | 28.2 | 28.2 | 28.2        |
| TRIM33  | chr1:114976234 | 46.3 | 46.3 | 46.3        |
| NOTCH2  | chr1:120477935 | 22.2 | 22.2 | 22.2        |
| NOTCH2  | chr1:120539655 | 48.8 | 48.8 | 48.8        |
| PDE4DIP | chr1:144859929 | 27   | 22   | 24.18571429 |
| PDE4DIP | chr1:144863360 | 39.3 | 21.2 | 28.1        |
| PDE4DIP | chr1:144863366 | 25.1 | 25.1 | 25.1        |
| PDE4DIP | chr1:144863384 | 25.2 | 25.2 | 25.2        |
| PDE4DIP | chr1:144863388 | 25.1 | 25.1 | 25.1        |
| PDE4DIP | chr1:144866660 | 23.9 | 23.9 | 23.9        |
| PDE4DIP | chr1:144866673 | 27.6 | 24.1 | 25.85       |
| PDE4DIP | chr1:144879054 | 43.1 | 15.3 | 26.36666667 |
| PDE4DIP | chr1:144879086 | 47.7 | 47.7 | 47.7        |
| PDE4DIP | chr1:144881463 | 29.2 | 24.3 | 26.86       |
| PDE4DIP | chr1:144881547 | 27.5 | 18.7 | 23.7        |
| PDE4DIP | chr1:144886267 | 37.2 | 23.3 | 27.075      |
| PDE4DIP | chr1:144923712 | 35.2 | 35.2 | 35.2        |
| PDE4DIP | chr1:144930977 | 28.7 | 25.7 | 27.125      |
| PDE4DIP | chr1:144931423 | 20.6 | 20.6 | 20.6        |
| PDE4DIP | chr1:144994617 | 46.5 | 20.9 | 30.53333333 |
| PDE4DIP | chr1:144994670 | 29.4 | 19.5 | 24.8        |
| PDE4DIP | chr1:144994694 | 14.4 | 14.4 | 14.4        |

|         |                 |      |      |             |
|---------|-----------------|------|------|-------------|
| ITGA10  | chr1:145528319  | 37.6 | 37.6 | 37.6        |
| ITGA10  | chr1:145528348  | 74.6 | 54.7 | 64.65       |
| BCL9    | chr1:147090697  | 33.8 | 33.8 | 33.8        |
| BCL9    | chr1:147094034  | 21.4 | 21.4 | 21.4        |
| MCL1    | chr1:150550722  | 33   | 33   | 33          |
| ARNT    | chr1:150808978  | 48.6 | 48.6 | 48.6        |
| MUC1    | chr1:155160768  | 29.1 | 29.1 | 29.1        |
| NTRK1   | chr1:156841496  | 25   | 25   | 25          |
| DDR2    | chr1:162740326  | 15   | 11.6 | 13.35       |
| DDR2    | chr1:162748385  | 25.5 | 25.5 | 25.5        |
| RNF2    | chr1:185067185  | 45.3 | 45.3 | 45.3        |
| TPR     | chr1:186301473  | 51.9 | 51.9 | 51.9        |
| TPR     | chr1:186304551  | 27   | 27   | 27          |
| TPR     | chr1:186315243  | 16.2 | 9.9  | 12.06666667 |
| PTGS2   | chr1:186646996  | 27.5 | 27.5 | 27.5        |
| PTGS2   | chr1:186647541  | 26.2 | 26.2 | 26.2        |
| PAX7    | chr1:19018422   | 51.2 | 51.2 | 51.2        |
| CDC73   | chr1:193110968  | 54.2 | 54.2 | 54.2        |
| CDC73   | chr1:193111251  | 29.2 | 29.2 | 29.2        |
| PIK3C2B | chr1:204438894  | 41.4 | 41.4 | 41.4        |
| MARK1   | chr1:220808683  | 47.4 | 44   | 45.7        |
| MTR     | chr1:236966821  | 55.2 | 37.4 | 48.45       |
| MTR     | chr1:237016242  | 30.5 | 30.5 | 30.5        |
| MTR     | chr1:237038012  | 17.8 | 15.1 | 16.45       |
| MTR     | chr1:237058719  | 27.3 | 27.3 | 27.3        |
| AKT3    | chr1:243727211  | 40.2 | 40.2 | 40.2        |
| ARID1A  | chr1:27092820   | 37.3 | 37.3 | 37.3        |
| ARID1A  | chr1:27092822   | 38.8 | 38.8 | 38.8        |
| ARID1A  | chr1:27106343   | 37.6 | 37.6 | 37.6        |
| MYCL1   | chr1:40363605   | 56.5 | 56.5 | 56.5        |
| MPL     | chr1:43803502   | 38.2 | 38.2 | 38.2        |
| MPL     | chr1:43818486   | 46.5 | 46.5 | 46.5        |
| MUTYH   | chr1:45799181   | 92.2 | 92.2 | 92.2        |
| BCL10   | chr1:85733370   | 20.8 | 20.8 | 20.8        |
| BCL10   | chr1:85736596   | 30.7 | 30.7 | 30.7        |
| DPYD    | chr1:97564040   | 26.1 | 26.1 | 26.1        |
| DPYD    | chr1:98144767   | 21.2 | 21.2 | 21.2        |
| DPYD    | chr1:98206046   | 21.8 | 21.8 | 21.8        |
| DPYD    | chr1:98386487   | 31.8 | 31.8 | 31.8        |
| NFKB2   | chr10:104156192 | 25.3 | 25.3 | 25.3        |
| SUFU    | chr10:104357022 | 46   | 33.9 | 39.95       |
| TCF7L2  | chr10:114710518 | 23.3 | 23.3 | 23.3        |
| TCF7L2  | chr10:114911539 | 20   | 20   | 20          |
| FGFR2   | chr10:123246886 | 21.2 | 21.2 | 21.2        |
| MLLT10  | chr10:21901248  | 86   | 82.3 | 83.975      |
| MLLT10  | chr10:21901253  | 17.7 | 13.5 | 15.52       |
| MLLT10  | chr10:22022026  | 25.8 | 25.8 | 25.8        |

|          |                 |      |      |             |
|----------|-----------------|------|------|-------------|
| KLF6     | chr10:3824270   | 43.5 | 43.5 | 43.5        |
| NCOA4    | chr10:51584910  | 51.2 | 40.5 | 45.85       |
| NCOA4    | chr10:51586458  | 39.7 | 39.7 | 39.7        |
| TET1     | chr10:70332342  | 23.8 | 23.8 | 23.8        |
| TET1     | chr10:70406386  | 98.8 | 95.7 | 97.25       |
| TET1     | chr10:70451510  | 23.8 | 23.8 | 23.8        |
| KAT6B    | chr10:76735416  | 79.1 | 12.1 | 47.68571429 |
| KAT6B    | chr10:76736004  | 20.8 | 20.8 | 20.8        |
| KAT6B    | chr10:76744954  | 85.6 | 85.6 | 85.6        |
| KAT6B    | chr10:76744958  | 14.4 | 14.4 | 14.4        |
| KAT6B    | chr10:76744965  | 20.9 | 17   | 19.33333333 |
| CYP2C19  | chr10:96541627  | 46.2 | 46.2 | 46.2        |
| BIRC3    | chr11:102195293 | 38.2 | 38.2 | 38.2        |
| BIRC3    | chr11:102195716 | 21   | 21   | 21          |
| BIRC3    | chr11:102201890 | 33.1 | 33.1 | 33.1        |
| BIRC3    | chr11:102207645 | 62   | 55   | 58.5        |
| BIRC3    | chr11:102207653 | 35.3 | 35.3 | 35.3        |
| GUCY1A2  | chr11:106579288 | 27.1 | 27.1 | 27.1        |
| ATM      | chr11:108117897 | 16   | 12.5 | 14.25       |
| ATM      | chr11:108175596 | 23   | 23   | 23          |
| ATM      | chr11:108201010 | 25.8 | 25.8 | 25.8        |
| MLL      | chr11:118376178 | 24.8 | 24.8 | 24.8        |
| MLL      | chr11:118390491 | 37.5 | 37.5 | 37.5        |
| CBL      | chr11:119145464 | 78.7 | 38   | 64.3        |
| NUP98    | chr11:3794852   | 23.6 | 23.6 | 23.6        |
| EXT2     | chr11:44228576  | 59   | 59   | 59          |
| MEN1     | chr11:64572073  | 57.8 | 57.8 | 57.8        |
| MRE11A   | chr11:94224026  | 27.5 | 27.5 | 27.5        |
| MAML2    | chr11:95724845  | 71.2 | 71.2 | 71.2        |
| MAML2    | chr11:95826226  | 23.8 | 23.8 | 23.8        |
| MAML2    | chr11:95826390  | 24.8 | 24.8 | 24.8        |
| PTPN11   | chr12:112910806 | 47.2 | 32.7 | 41.525      |
| EP400    | chr12:132466141 | 18.5 | 18.5 | 18.5        |
| EP400    | chr12:132490800 | 40.1 | 40.1 | 40.1        |
| EP400    | chr12:132497625 | 24.5 | 24.5 | 24.5        |
| EP400    | chr12:132529321 | 51.2 | 51.2 | 51.2        |
| EP400    | chr12:132535176 | 22   | 22   | 22          |
| ADAMTS2C | chr12:43846296  | 22.4 | 22.4 | 22.4        |
| ARID2    | chr12:46285667  | 46.2 | 46.2 | 46.2        |
| MLL2     | chr12:49433170  | 77.6 | 77.6 | 77.6        |
| ERBB3    | chr12:56479046  | 21.2 | 21.2 | 21.2        |
| CDK4     | chr12:58143112  | 46.8 | 46.8 | 46.8        |
| IRS2     | chr13:110434840 | 46.9 | 46.9 | 46.9        |
| FOXO1    | chr13:41134840  | 20.8 | 20.8 | 20.8        |
| HSP90AA1 | chr14:102548088 | 26.5 | 26.5 | 26.5        |
| HSP90AA1 | chr14:102548797 | 72   | 72   | 72          |
| NIN      | chr14:51225320  | 68.3 | 68.3 | 68.3        |

|        |                |      |      |             |
|--------|----------------|------|------|-------------|
| TSHR   | chr14:81554286 | 22   | 22   | 22          |
| TSHR   | chr14:81554303 | 34.8 | 22.9 | 28.85       |
| TSHR   | chr14:81606071 | 20.2 | 20.2 | 20.2        |
| TRIP11 | chr14:92461911 | 32.5 | 19.3 | 27.4        |
| TRIP11 | chr14:92471880 | 20.8 | 20.8 | 20.8        |
| DICER1 | chr14:95569893 | 39.6 | 39.6 | 39.6        |
| CASC5  | chr15:40913884 | 29.7 | 29.7 | 29.7        |
| CASC5  | chr15:40949531 | 20.8 | 8.2  | 14.5        |
| MAP2K1 | chr15:66782073 | 51.1 | 51.1 | 51.1        |
| NTRK3  | chr15:88669573 | 27.3 | 27.3 | 27.3        |
| IDH2   | chr15:90628243 | 28.3 | 28.3 | 28.3        |
| BLM    | chr15:91304145 | 46.3 | 39.4 | 42.85       |
| BLM    | chr15:91347493 | 27.8 | 27.8 | 27.8        |
| IGF1R  | chr15:99250742 | 23.5 | 23.5 | 23.5        |
| IGF1R  | chr15:99460151 | 35.8 | 35.8 | 35.8        |
| MYH11  | chr16:15808865 | 44.7 | 44.7 | 44.7        |
| MYH11  | chr16:15826573 | 38.2 | 38.2 | 38.2        |
| CREBBP | chr16:3843610  | 44.5 | 44.5 | 44.5        |
| CDH1   | chr16:68844081 | 64.2 | 64.2 | 64.2        |
| FANCA  | chr16:89857743 | 31.6 | 31.6 | 31.6        |
| FANCA  | chr16:89877320 | 23.8 | 23.8 | 23.8        |
| NF1    | chr17:29527684 | 48.5 | 48.5 | 48.5        |
| NF1    | chr17:29563074 | 60   | 22.2 | 36.1        |
| NF1    | chr17:29684016 | 21.8 | 21.8 | 21.8        |
| CDK12  | chr17:37627782 | 65.7 | 32.8 | 49.25       |
| ERBB2  | chr17:37868327 | 34.7 | 34.7 | 34.7        |
| ERBB2  | chr17:37868741 | 58.1 | 58.1 | 58.1        |
| ERBB2  | chr17:37883680 | 31   | 31   | 31          |
| RARA   | chr17:38504723 | 25.8 | 25.8 | 25.8        |
| ETV4   | chr17:41610590 | 43.8 | 43.8 | 43.8        |
| ITGB3  | chr17:45360865 | 29.8 | 29.8 | 29.8        |
| ITGB3  | chr17:45361773 | 24.3 | 24.3 | 24.3        |
| ITGB3  | chr17:45377857 | 54.8 | 34.8 | 44.8        |
| ITGB3  | chr17:45377881 | 31.3 | 31.3 | 31.3        |
| NLRP1  | chr17:5487204  | 57.1 | 40.4 | 48.75       |
| BRIP1  | chr17:59858190 | 34.2 | 34.2 | 34.2        |
| BRIP1  | chr17:59861596 | 25.1 | 25.1 | 25.1        |
| BIRC5  | chr17:76210389 | 29   | 29   | 29          |
| BIRC5  | chr17:76219645 | 24.2 | 11.1 | 17.91764706 |
| RNF213 | chr17:78262057 | 32.8 | 32.8 | 32.8        |
| RNF213 | chr17:78264358 | 24.8 | 17.3 | 20          |
| RNF213 | chr17:78268717 | 41.5 | 41.5 | 41.5        |
| RNF213 | chr17:78319102 | 41.9 | 14.3 | 24.5        |
| RNF213 | chr17:78351613 | 34.2 | 20.1 | 26.23333333 |
| AURKB  | chr17:8109871  | 19   | 19   | 19          |
| CDH2   | chr18:25589869 | 45.8 | 45.8 | 45.8        |
| CDH2   | chr18:25593716 | 26   | 26   | 26          |

|         |                |      |      |             |
|---------|----------------|------|------|-------------|
| MBD1    | chr18:47793930 | 43.4 | 22.1 | 32.86428571 |
| MBD1    | chr18:47801260 | 97.2 | 97.1 | 97.15       |
| SMAD4   | chr18:48575204 | 25.2 | 25.2 | 25.2        |
| SMAD4   | chr18:48593440 | 20.9 | 20.9 | 20.9        |
| DCC     | chr18:50451642 | 37.3 | 37.3 | 37.3        |
| DCC     | chr18:50451662 | 58.1 | 58.1 | 58.1        |
| DCC     | chr18:50942526 | 66.6 | 66.6 | 66.6        |
| DCC     | chr18:50976845 | 34.6 | 34.6 | 34.6        |
| CDH20   | chr18:59221876 | 30.7 | 11   | 22.26666667 |
| KEAP1   | chr19:10600522 | 51.4 | 51.4 | 51.4        |
| SMARCA4 | chr19:11170500 | 42   | 42   | 42          |
| TCF3    | chr19:1646325  | 46.8 | 28.9 | 37.85       |
| AKT2    | chr19:40741244 | 34.2 | 34.2 | 34.2        |
| CIC     | chr19:42791062 | 59.5 | 59.5 | 59.5        |
| CIC     | chr19:42798455 | 61.9 | 61.9 | 61.9        |
| MARK4   | chr19:45805895 | 48.4 | 48.4 | 48.4        |
| AURKC   | chr19:57744792 | 21.5 | 21.5 | 21.5        |
| LRP1B   | chr2:141079482 | 26   | 26   | 26          |
| LRP1B   | chr2:141214069 | 51.9 | 51.9 | 51.9        |
| LRP1B   | chr2:141299350 | 26   | 26   | 26          |
| LRP1B   | chr2:141598592 | 30.4 | 30.4 | 30.4        |
| LRP1B   | chr2:141680645 | 29.3 | 29.3 | 29.3        |
| LRP1B   | chr2:141819743 | 30.5 | 30.5 | 30.5        |
| LRP1B   | chr2:141986696 | 56.1 | 56.1 | 56.1        |
| LRP1B   | chr2:142004935 | 24.5 | 24.5 | 24.5        |
| LRP1B   | chr2:142888193 | 21.4 | 21.4 | 21.4        |
| ACVR2A  | chr2:148672817 | 22.3 | 22.3 | 22.3        |
| MYCN    | chr2:16086048  | 29.2 | 29.2 | 29.2        |
| NFE2L2  | chr2:178096253 | 21.6 | 21.6 | 21.6        |
| PMS1    | chr2:190719333 | 36.8 | 36.8 | 36.8        |
| PMS1    | chr2:190719788 | 48.7 | 48.7 | 48.7        |
| SF3B1   | chr2:198262720 | 52.5 | 52.5 | 52.5        |
| ERBB4   | chr2:212248634 | 24.4 | 24.4 | 24.4        |
| ERBB4   | chr2:212495163 | 23.8 | 23.8 | 23.8        |
| ERBB4   | chr2:212989451 | 25.8 | 25.8 | 25.8        |
| FN1     | chr2:216232553 | 25.1 | 25.1 | 25.1        |
| FN1     | chr2:216237084 | 51.8 | 51.8 | 51.8        |
| FN1     | chr2:216272993 | 23.8 | 23.8 | 23.8        |
| STK36   | chr2:219544800 | 35.1 | 35.1 | 35.1        |
| DNMT3A  | chr2:25457148  | 31.9 | 31.9 | 31.9        |
| DNMT3A  | chr2:25523013  | 39   | 39   | 39          |
| ALK     | chr2:29498305  | 41.9 | 41.9 | 41.9        |
| MSH2    | chr2:47639586  | 30.8 | 30.8 | 30.8        |
| MSH2    | chr2:47641570  | 30.4 | 15   | 20.37142857 |
| MSH2    | chr2:47643502  | 95   | 23.8 | 52.6        |
| MSH2    | chr2:47705460  | 53.2 | 53.2 | 53.2        |
| BCL11A  | chr2:60773062  | 28.7 | 28.7 | 28.7        |

|         |                |      |      |             |
|---------|----------------|------|------|-------------|
| REL     | chr2:61147771  | 87.3 | 83.8 | 85.61428571 |
| REL     | chr2:61147775  | 16.2 | 12.7 | 14.38571429 |
| TCF7L1  | chr2:85534779  | 11.9 | 11.9 | 11.9        |
| SRC     | chr20:36031361 | 38.8 | 38.8 | 38.8        |
| SRC     | chr20:36031767 | 67.4 | 23.1 | 48.5        |
| GNAS    | chr20:57428437 | 44.9 | 16.5 | 35.87419355 |
| SMARCB1 | chr22:24167632 | 37.5 | 17.8 | 24.74       |
| MYH9    | chr22:36690119 | 15.5 | 15.5 | 15.5        |
| EP300   | chr22:41550944 | 23.6 | 16.9 | 20.25       |
| CYP2D6  | chr22:42524893 | 21   | 21   | 21          |
| FANCD2  | chr3:10088295  | 30   | 30   | 30          |
| RAF1    | chr3:12626400  | 57.7 | 57.7 | 57.7        |
| RAF1    | chr3:12626737  | 51.1 | 51.1 | 51.1        |
| RAF1    | chr3:12641349  | 67.6 | 51.7 | 59.65       |
| EPHB1   | chr3:134885838 | 29.6 | 29.6 | 29.6        |
| PIK3CB  | chr3:138461524 | 44.2 | 44.2 | 44.2        |
| ATR     | chr3:142176618 | 47   | 47   | 47          |
| ATR     | chr3:142176649 | 27.5 | 27.5 | 27.5        |
| ATR     | chr3:142186845 | 37.3 | 37.3 | 37.3        |
| ATR     | chr3:142269112 | 20.4 | 20.4 | 20.4        |
| ATR     | chr3:142272647 | 28.7 | 19.8 | 25.175      |
| ATR     | chr3:142274652 | 25.6 | 25.6 | 25.6        |
| PIK3CA  | chr3:178916986 | 27.6 | 27.6 | 27.6        |
| PIK3CA  | chr3:178922273 | 57.8 | 53.5 | 55.65       |
| SOX2    | chr3:181430876 | 35   | 35   | 35          |
| BCL6    | chr3:187447019 | 25.9 | 25.9 | 25.9        |
| CRBN    | chr3:3194271   | 25.3 | 25.3 | 25.3        |
| CRBN    | chr3:3197988   | 45.2 | 45.2 | 45.2        |
| MLH1    | chr3:37090047  | 24.2 | 24.2 | 24.2        |
| ITGA9   | chr3:37567515  | 29.1 | 29.1 | 29.1        |
| ITGA9   | chr3:37791907  | 31.8 | 31.8 | 31.8        |
| CTNNB1  | chr3:41267196  | 23.8 | 23.8 | 23.8        |
| LTF     | chr3:46501310  | 31.1 | 31.1 | 31.1        |
| SETD2   | chr3:47155487  | 23   | 23   | 23          |
| SETD2   | chr3:47163994  | 25.8 | 25.8 | 25.8        |
| PBRM1   | chr3:52610602  | 22.2 | 22.2 | 22.2        |
| PBRM1   | chr3:52610619  | 42.8 | 42.8 | 42.8        |
| MAGI1   | chr3:65376926  | 30.8 | 30.8 | 30.8        |
| MITF    | chr3:69985829  | 47.1 | 47.1 | 47.1        |
| MITF    | chr3:70000910  | 25   | 25   | 25          |
| FOXP1   | chr3:71179709  | 62.5 | 25.8 | 44.53333333 |
| EPHA3   | chr3:89462276  | 20   | 20   | 20          |
| EPHA3   | chr3:89462294  | 23.3 | 23.3 | 23.3        |
| NFKB1   | chr4:103533291 | 29   | 29   | 29          |
| NFKB1   | chr4:103533656 | 29.4 | 29.4 | 29.4        |
| NFKB1   | chr4:103537741 | 22   | 22   | 22          |
| TET2    | chr4:106158026 | 45.9 | 45.9 | 45.9        |

|        |                |      |      |             |
|--------|----------------|------|------|-------------|
| FBXW7  | chr4:153244077 | 29.2 | 29.2 | 29.2        |
| FGFR3  | chr4:1803326   | 47.8 | 47.8 | 47.8        |
| FGFR3  | chr4:1807545   | 30.1 | 11.6 | 19.63333333 |
| WHSC1  | chr4:1961342   | 30.7 | 30.7 | 30.7        |
| WHSC1  | chr4:1976485   | 89.2 | 89.2 | 89.2        |
| WHSC1  | chr4:1976486   | 10.5 | 10.5 | 10.5        |
| KDR    | chr4:55970908  | 36   | 36   | 36          |
| KDR    | chr4:55980293  | 23.5 | 23.5 | 23.5        |
| KDR    | chr4:55981509  | 47.7 | 47.7 | 47.7        |
| LPHN3  | chr4:62599099  | 20   | 20   | 20          |
| LPHN3  | chr4:62897317  | 25.2 | 25.2 | 25.2        |
| AFF1   | chr4:87967279  | 25.5 | 25.5 | 25.5        |
| AFF1   | chr4:87967936  | 32.6 | 32.6 | 32.6        |
| APC    | chr5:112164622 | 22.2 | 22.2 | 22.2        |
| APC    | chr5:112164623 | 69.1 | 69.1 | 69.1        |
| APC    | chr5:112173971 | 19   | 19   | 19          |
| APC    | chr5:112175208 | 29.3 | 29.3 | 29.3        |
| APC    | chr5:112175611 | 61.3 | 61.3 | 61.3        |
| RAD50  | chr5:131924445 | 24.8 | 24.8 | 24.8        |
| CTNNA1 | chr5:138266523 | 45.5 | 45.5 | 45.5        |
| CTNNA1 | chr5:138269717 | 42   | 42   | 42          |
| PDGFRB | chr5:149514424 | 30.3 | 30.3 | 30.3        |
| FGFR4  | chr5:176520463 | 36.8 | 36.8 | 36.8        |
| NSD1   | chr5:176637204 | 56.4 | 45.5 | 50.95       |
| FLT4   | chr5:180035995 | 47.6 | 47.6 | 47.6        |
| SDHA   | chr5:233504    | 23.1 | 14.5 | 18          |
| LIFR   | chr5:38481879  | 23.5 | 23.5 | 23.5        |
| LIFR   | chr5:38486091  | 32.2 | 32.2 | 32.2        |
| LIFR   | chr5:38499715  | 23.5 | 23.5 | 23.5        |
| LIFR   | chr5:38502822  | 46.4 | 46.4 | 46.4        |
| IL6ST  | chr5:55237092  | 27.6 | 27.6 | 27.6        |
| IL6ST  | chr5:55256341  | 23.6 | 23.6 | 23.6        |
| IL6ST  | chr5:55264283  | 29   | 29   | 29          |
| PIK3R1 | chr5:67522726  | 26.8 | 26.8 | 26.8        |
| PIK3R1 | chr5:67590496  | 41.2 | 41.2 | 41.2        |
| FOXO3  | chr6:108985258 | 21.4 | 21.4 | 21.4        |
| ROS1   | chr6:117710658 | 28.3 | 28.3 | 28.3        |
| SGK1   | chr6:134498787 | 32.2 | 32.2 | 32.2        |
| SGK1   | chr6:134528524 | 51.7 | 51.7 | 51.7        |
| SYNE1  | chr6:152457915 | 48.2 | 48.2 | 48.2        |
| SYNE1  | chr6:152470784 | 25   | 25   | 25          |
| SYNE1  | chr6:152472812 | 51.5 | 40.8 | 46.15       |
| SYNE1  | chr6:152542688 | 27   | 27   | 27          |
| SYNE1  | chr6:152631545 | 23.8 | 23.8 | 23.8        |
| SYNE1  | chr6:152631970 | 35.2 | 35.2 | 35.2        |
| SYNE1  | chr6:152639288 | 26.8 | 26.8 | 26.8        |
| SYNE1  | chr6:152644654 | 19.3 | 19.3 | 19.3        |



|         |                |      |      |             |
|---------|----------------|------|------|-------------|
| SYNE1   | chr6:152652197 | 23.5 | 23.5 | 23.5        |
| SYNE1   | chr6:152674791 | 22.1 | 22.1 | 22.1        |
| SYNE1   | chr6:152712677 | 27.3 | 27.3 | 27.3        |
| SYNE1   | chr6:152823897 | 24   | 24   | 24          |
| IGF2R   | chr6:160412166 | 37   | 16.7 | 21.56363636 |
| IGF2R   | chr6:160491086 | 34.5 | 34.5 | 34.5        |
| RPS6KA2 | chr6:166952128 | 31.5 | 28.1 | 29.8        |
| NOTCH4  | chr6:32166734  | 56.4 | 56.4 | 56.4        |
| IRF4    | chr6:397155    | 33.2 | 33.2 | 33.2        |
| FOXP4   | chr6:41559050  | 27   | 27   | 27          |
| PKHD1   | chr6:51524653  | 21   | 21   | 21          |
| PKHD1   | chr6:51613058  | 34.1 | 34.1 | 34.1        |
| PKHD1   | chr6:51889459  | 51.9 | 51.9 | 51.9        |
| PKHD1   | chr6:51890498  | 29.5 | 29.5 | 29.5        |
| PKHD1   | chr6:51923126  | 23.9 | 23.9 | 23.9        |
| DST     | chr6:56341107  | 41   | 11.7 | 23.21219512 |
| DST     | chr6:56347533  | 24.3 | 24.3 | 24.3        |
| DST     | chr6:56350158  | 21.5 | 21.5 | 21.5        |
| DST     | chr6:56417148  | 68.2 | 28.2 | 48.2        |
| DST     | chr6:56417448  | 71.5 | 71.5 | 71.5        |
| DST     | chr6:56485266  | 22.9 | 22.9 | 22.9        |
| DST     | chr6:56489467  | 45.8 | 45.8 | 45.8        |
| BAI3    | chr6:69349192  | 29   | 29   | 29          |
| BAI3    | chr6:70071243  | 34.8 | 34.8 | 34.8        |
| EPHA7   | chr6:93968004  | 97.3 | 83.3 | 88.79333333 |
| EPHA7   | chr6:93973530  | 27.8 | 27.8 | 27.8        |
| EPHA7   | chr6:94128960  | 29.3 | 29.3 | 29.3        |
| PIK3CG  | chr7:106545513 | 25.6 | 25.6 | 25.6        |
| MET     | chr7:116339867 | 26   | 26   | 26          |
| MET     | chr7:116397717 | 38.3 | 21.2 | 29.45454545 |
| POT1    | chr7:124475481 | 45.2 | 45.2 | 45.2        |
| ETV1    | chr7:13950941  | 29   | 29   | 29          |
| EZH2    | chr7:148523504 | 31.6 | 23.5 | 28.63333333 |
| MLL3    | chr7:151859655 | 23.9 | 23.9 | 23.9        |
| MLL3    | chr7:151902164 | 30.4 | 13.8 | 21.37       |
| MLL3    | chr7:151902167 | 85.5 | 15.6 | 47.15       |
| MLL3    | chr7:151947941 | 40.9 | 40.9 | 40.9        |
| MLL3    | chr7:151971024 | 14.8 | 14.8 | 14.8        |
| CARD11  | chr7:2968269   | 23   | 23   | 23          |
| PMS2    | chr7:6027040   | 42.2 | 42.2 | 42.2        |
| PMS2    | chr7:6029511   | 30.7 | 22.2 | 25.53333333 |
| PMS2    | chr7:6035156   | 35   | 35   | 35          |
| AKAP9   | chr7:91631234  | 52.1 | 52.1 | 52.1        |
| AKAP9   | chr7:91641671  | 10.2 | 10.2 | 10.2        |
| AKAP9   | chr7:91670064  | 51.4 | 51.4 | 51.4        |
| AKAP9   | chr7:91672096  | 28   | 28   | 28          |
| AKAP9   | chr7:91699372  | 43.8 | 43.8 | 43.8        |

|         |                |      |      |             |
|---------|----------------|------|------|-------------|
| AKAP9   | chr7:91709156  | 25.2 | 25.2 | 25.2        |
| AKAP9   | chr7:91712728  | 56.8 | 56.8 | 56.8        |
| TRRAP   | chr7:98552756  | 21.9 | 21.9 | 21.9        |
| TRRAP   | chr7:98552760  | 28.2 | 28.2 | 28.2        |
| TRRAP   | chr7:98552779  | 27.3 | 27.3 | 27.3        |
| TRRAP   | chr7:98579357  | 26.5 | 26.5 | 26.5        |
| UBR5    | chr8:103284936 | 20.1 | 20.1 | 20.1        |
| UBR5    | chr8:103289351 | 22.9 | 22.9 | 22.9        |
| UBR5    | chr8:103297404 | 23   | 23   | 23          |
| UBR5    | chr8:103307466 | 51.5 | 51.5 | 51.5        |
| UBR5    | chr8:103354860 | 48.1 | 48.1 | 48.1        |
| CSMD3   | chr8:113254080 | 11.6 | 9.4  | 10.5        |
| CSMD3   | chr8:113301795 | 11.8 | 11.8 | 11.8        |
| CSMD3   | chr8:113323397 | 23.9 | 23.9 | 23.9        |
| CSMD3   | chr8:113516216 | 39.2 | 30.8 | 33.7        |
| CSMD3   | chr8:113568949 | 22.4 | 22.4 | 22.4        |
| EXT1    | chr8:118825146 | 59.6 | 59.6 | 59.6        |
| EXT1    | chr8:119122431 | 66   | 66   | 66          |
| MYC     | chr8:128753260 | 42.2 | 42.2 | 42.2        |
| RECQL4  | chr8:145737307 | 70.7 | 70.7 | 70.7        |
| WRN     | chr8:30938754  | 67.4 | 65   | 66.2        |
| WRN     | chr8:30989869  | 27.4 | 27.4 | 27.4        |
| WRN     | chr8:31004834  | 43.4 | 43.4 | 43.4        |
| WRN     | chr8:31024684  | 73.8 | 47.5 | 60.65       |
| GPR124  | chr8:37691418  | 41.4 | 41.4 | 41.4        |
| FGFR1   | chr8:38272357  | 41.4 | 16.6 | 27.38333333 |
| KAT6A   | chr8:41791041  | 97.4 | 97.4 | 97.4        |
| IKBKB   | chr8:42175297  | 28.1 | 28.1 | 28.1        |
| HOOK3   | chr8:42868456  | 9.1  | 9.1  | 9.1         |
| PRKDC   | chr8:48686929  | 24.8 | 24.8 | 24.8        |
| PRKDC   | chr8:48736499  | 40.9 | 40.9 | 40.9        |
| PRKDC   | chr8:48776046  | 23.5 | 23.5 | 23.5        |
| PRKDC   | chr8:48825021  | 20.2 | 20.2 | 20.2        |
| PRKDC   | chr8:48828031  | 44.7 | 32.6 | 38.65       |
| NCOA2   | chr8:71041018  | 25.8 | 25.8 | 25.8        |
| NCOA2   | chr8:71041202  | 40.8 | 40.8 | 40.8        |
| NCOA2   | chr8:71075661  | 56.2 | 56.2 | 56.2        |
| NCOA2   | chr8:71075779  | 93.2 | 93.2 | 93.2        |
| RUNX1T1 | chr8:92972668  | 97.2 | 97.2 | 97.2        |
| RUNX1T1 | chr8:93026955  | 53.4 | 53.4 | 53.4        |
| RUNX1T1 | chr8:93029480  | 35.5 | 35.5 | 35.5        |
| RALGDS  | chr9:135981338 | 27   | 27   | 27          |
| CDKN2A  | chr9:21994158  | 52   | 52   | 52          |
| TAF1L   | chr9:32631748  | 23.3 | 23.3 | 23.3        |
| PAX5    | chr9:37006542  | 21.2 | 21.2 | 21.2        |
| JAK2    | chr9:5081778   | 89.7 | 89.7 | 89.7        |
| JAK2    | chr9:5090443   | 31.8 | 31.8 | 31.8        |

|         |               |      |      |             |
|---------|---------------|------|------|-------------|
| PTPRD   | chr9:8485904  | 25.2 | 25.2 | 25.2        |
| PTPRD   | chr9:8485984  | 26.3 | 26.3 | 26.3        |
| SYK     | chr9:93606313 | 26.5 | 26.5 | 26.5        |
| PTCH1   | chr9:98212211 | 32.3 | 32.3 | 32.3        |
| PTCH1   | chr9:98241253 | 32.5 | 32.5 | 32.5        |
| USP9X   | chrX:41088723 | 30.6 | 26.7 | 28.56666667 |
| TFE3    | chrX:48896874 | 33.5 | 33.5 | 33.5        |
| KDM5C   | chrX:53245059 | 24.5 | 19.2 | 21.85       |
| FAM123B | chrX:63411640 | 10.9 | 10.9 | 10.9        |
| TAF1    | chrX:70597573 | 63.4 | 63.4 | 63.4        |
| TAF1    | chrX:70683793 | 44.9 | 44.9 | 44.9        |
| ATRX    | chrX:76849165 | 33.4 | 33.4 | 33.4        |
| TBX22   | chrX:79279609 | 48.2 | 48.2 | 48.2        |
| LIFR    | chr5:38482324 | 0    | 0    | 0           |
| NOTCH4  | chr6:32164107 | 0    | 0    | 0           |

| Count of patients with this variant | Number of patient with VAF 100 or 50 | A1    | A2       |
|-------------------------------------|--------------------------------------|-------|----------|
| 39                                  | 24                                   | -     | CG       |
| 21                                  | 21                                   | G     | T        |
| 31                                  | 18                                   | -     | CCCCAGGC |
| 87                                  | 15                                   | T     | C        |
| 18                                  | 15                                   | -     | C        |
| 14                                  | 13                                   | C     | -        |
| 13                                  | 13                                   | -     | A        |
| 11                                  | 11                                   | -     | G        |
| 87                                  | 10                                   | A     | C        |
| 10                                  | 10                                   | -     | T        |
| 26                                  | 9                                    | T     | C        |
| 9                                   | 8                                    | T     | -        |
| 11                                  | 8                                    | G     | T        |
| 11                                  | 7                                    | G     | C        |
| 11                                  | 6                                    | -     | T        |
| 9                                   | 5                                    | T     | G        |
| 13                                  | 4                                    | -     | CT       |
| 7                                   | 4                                    | CA    | AT       |
| 4                                   | 4                                    | A     | -        |
| 10                                  | 4                                    | GCCTT | -        |
| 12                                  | 4                                    | -     | A        |
| 23                                  | 3                                    | C     | G        |
| 2                                   | 2                                    | G     | A        |
| 2                                   | 2                                    | C     | T        |
| 7                                   | 1                                    | T     | C        |
| 5                                   | 1                                    | -     | C        |
| 3                                   | 1                                    | GAC   | ACT      |
| 2                                   | 1                                    | C     | G        |
| 54                                  | 1                                    | T     | A        |
| 3                                   | 1                                    | G     | T        |
| 1                                   | 1                                    | T     | A        |
| 4                                   | 1                                    | A     | T        |
| 45                                  | 1                                    | -     | TA       |
| 1                                   | 1                                    | C     | A        |
| 25                                  | 1                                    | CGC   | -        |
| 1                                   | 1                                    | C     | T        |
| 2                                   | 1                                    | G     | C        |
| 3                                   | 1                                    | T     | -        |
| 47                                  | 1                                    | T     | G        |
| 1                                   | 1                                    | G     | T        |
| 1                                   | 1                                    | C     | T        |
| 1                                   | 1                                    | G     | C        |
| 7                                   | 1                                    | -     | C        |
| 1                                   | 1                                    | C     | -        |
| 1                                   | 1                                    | GC    | AA       |

|    |  |   |     |      |
|----|--|---|-----|------|
| 1  |  | 1 | G   | C    |
| 1  |  | 1 | C   | T    |
| 1  |  | 1 | T   | A    |
| 1  |  | 1 | T   | -    |
| 1  |  | 1 | G   | T    |
| 1  |  | 1 | T   | -    |
| 1  |  | 1 | C   | T    |
| 5  |  | 1 | -   | A    |
| 1  |  | 1 | C   | T    |
| 1  |  | 1 | G   | T    |
| 3  |  | 1 | -   | T    |
| 1  |  | 1 | C   | T    |
| 30 |  | 1 | T   | A    |
| 2  |  | 1 | A   | C    |
| 1  |  | 1 | -   | GAAA |
| 1  |  | 1 | A   | G    |
| 2  |  | 1 | -   | AAA  |
| 12 |  | 1 | T   | A    |
| 1  |  | 1 | G   | A    |
| 3  |  | 1 | -   | T    |
| 1  |  | 1 | TGA | -    |
| 1  |  | 1 | G   | A    |
| 1  |  | 1 | G   | A    |
| 1  |  | 1 | T   | G    |
| 1  |  | 0 | C   | A    |
| 1  |  | 0 | A   | G    |
| 1  |  | 0 | T   | C    |
| 1  |  | 0 | A   | G    |
| 1  |  | 0 | C   | G    |
| 7  |  | 0 | T   | C    |
| 6  |  | 0 | C   | T    |
| 1  |  | 0 | A   | G    |
| 1  |  | 0 | A   | C    |
| 1  |  | 0 | TT  | GA   |
| 1  |  | 0 | T   | G    |
| 2  |  | 0 | A   | G    |
| 9  |  | 0 | C   | T    |
| 1  |  | 0 | -   | T    |
| 5  |  | 0 | T   | C    |
| 11 |  | 0 | A   | G    |
| 4  |  | 0 | T   | G    |
| 1  |  | 0 | C   | T    |
| 4  |  | 0 | C   | A    |
| 1  |  | 0 | C   | T    |
| 3  |  | 0 | T   | C    |
| 9  |  | 0 | A   | C    |
| 1  |  | 0 | C   | T    |

|   |  |   |    |    |
|---|--|---|----|----|
| 1 |  | 0 | T  | G  |
| 2 |  | 0 | A  | G  |
| 1 |  | 0 | T  | C  |
| 1 |  | 0 | T  | A  |
| 1 |  | 0 | G  | A  |
| 1 |  | 0 | A  | G  |
| 1 |  | 0 | G  | A  |
| 1 |  | 0 | A  | G  |
| 6 |  | 0 | CG | GT |
| 1 |  | 0 | T  | G  |
| 1 |  | 0 | -  | T  |
| 1 |  | 0 | T  | A  |
| 1 |  | 0 | G  | A  |
| 3 |  | 0 | T  | -  |
| 1 |  | 0 | A  | C  |
| 1 |  | 0 | C  | A  |
| 1 |  | 0 | T  | C  |
| 1 |  | 0 | G  | A  |
| 1 |  | 0 | A  | G  |
| 1 |  | 0 | G  | A  |
| 2 |  | 0 | GC | TT |
| 6 |  | 0 | TT | GG |
| 1 |  | 0 | A  | C  |
| 2 |  | 0 | T  | A  |
| 1 |  | 0 | G  | A  |
| 1 |  | 0 | -  | T  |
| 1 |  | 0 | -  | A  |
| 1 |  | 0 | T  | A  |
| 1 |  | 0 | T  | C  |
| 1 |  | 0 | A  | C  |
| 1 |  | 0 | T  | C  |
| 1 |  | 0 | T  | C  |
| 1 |  | 0 | T  | G  |
| 1 |  | 0 | C  | A  |
| 1 |  | 0 | T  | G  |
| 1 |  | 0 | G  | T  |
| 1 |  | 0 | T  | A  |
| 1 |  | 0 | C  | A  |
| 1 |  | 0 | A  | C  |
| 1 |  | 0 | A  | C  |
| 2 |  | 0 | T  | C  |
| 1 |  | 0 | T  | G  |
| 1 |  | 0 | T  | C  |
| 1 |  | 0 | C  | T  |
| 4 |  | 0 | T  | -  |
| 5 |  | 0 | T  | G  |
| 1 |  | 0 | T  | A  |

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| 1  | 0 | C    | T   |
| 2  | 0 | A    | G   |
| 1  | 0 | ATAT | -   |
| 1  | 0 | G    | A   |
| 2  | 0 | A    | C   |
| 1  | 0 | A    | T   |
| 21 | 0 | -    | T   |
| 1  | 0 | C    | T   |
| 1  | 0 | -    | A   |
| 1  | 0 | T    | A   |
| 3  | 0 | G    | A   |
| 1  | 0 | G    | A   |
| 1  | 0 | C    | A   |
| 1  | 0 | T    | G   |
| 1  | 0 | C    | T   |
| 2  | 0 | A    | C   |
| 1  | 0 | C    | A   |
| 1  | 0 | A    | G   |
| 2  | 0 | TTA  | ATT |
| 1  | 0 | G    | T   |
| 1  | 0 | C    | T   |
| 1  | 0 | T    | G   |
| 1  | 0 | A    | G   |
| 3  | 0 | -    | TT  |
| 1  | 0 | A    | T   |
| 1  | 0 | -    | A   |
| 1  | 0 | A    | G   |
| 1  | 0 | G    | T   |
| 1  | 0 | C    | T   |
| 1  | 0 | A    | G   |
| 1  | 0 | A    | G   |
| 4  | 0 | A    | -   |
| 1  | 0 | A    | G   |
| 1  | 0 | A    | G   |
| 1  | 0 | T    | C   |
| 1  | 0 | C    | A   |
| 1  | 0 | G    | A   |
| 1  | 0 | T    | G   |
| 1  | 0 | C    | A   |
| 1  | 0 | C    | -   |
| 1  | 0 | T    | C   |
| 1  | 0 | -    | AGG |
| 1  | 0 | T    | C   |
| 1  | 0 | C    | A   |
| 1  | 0 | G    | T   |
| 1  | 0 | C    | G   |
| 1  | 0 | C    | T   |

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| 1  | 0 | C   | T    |
| 2  | 0 | G   | T    |
| 1  | 0 | A   | G    |
| 3  | 0 | T   | A    |
| 1  | 0 | T   | C    |
| 1  | 0 | A   | G    |
| 1  | 0 | T   | G    |
| 2  | 0 | -   | TTTT |
| 1  | 0 | T   | C    |
| 1  | 0 | A   | G    |
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| 2  | 0 | T   | A    |
| 1  | 0 | A   | C    |
| 1  | 0 | C   | A    |
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| 1  | 0 | G   | A    |
| 1  | 0 | A   | G    |
| 1  | 0 | G   | T    |
| 1  | 0 | T   | C    |
| 1  | 0 | C   | G    |
| 1  | 0 | A   | C    |
| 1  | 0 | A   | G    |
| 8  | 0 | TTG | -    |
| 1  | 0 | G   | T    |
| 2  | 0 | G   | T    |
| 1  | 0 | A   | G    |
| 1  | 0 | C   | G    |
| 1  | 0 | T   | C    |
| 1  | 0 | C   | T    |
| 1  | 0 | G   | C    |
| 1  | 0 | A   | C    |
| 1  | 0 | T   | G    |
| 2  | 0 | C   | T    |
| 1  | 0 | A   | C    |
| 2  | 0 | A   | T    |
| 1  | 0 | T   | G    |
| 1  | 0 | A   | T    |
| 1  | 0 | A   | G    |
| 17 | 0 | T   | C    |
| 1  | 0 | T   | A    |
| 5  | 0 | G   | T    |
| 1  | 0 | T   | A    |
| 5  | 0 | T   | C    |
| 6  | 0 | T   | A    |
| 1  | 0 | C   | T    |
| 1  | 0 | A   | G    |
| 1  | 0 | A   | C    |



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| 14 |  | 0 | G    | A      |
| 2  |  | 0 | C    | A      |
| 1  |  | 0 | T    | A      |
| 1  |  | 0 | C    | T      |
| 1  |  | 0 | G    | T      |
| 1  |  | 0 | C    | G      |
| 1  |  | 0 | T    | G      |
| 1  |  | 0 | C    | A      |
| 9  |  | 0 | A    | G      |
| 1  |  | 0 | A    | G      |
| 1  |  | 0 | T    | C      |
| 2  |  | 0 | CGAG | -      |
| 1  |  | 0 | A    | G      |
| 1  |  | 0 | T    | C      |
| 1  |  | 0 | G    | A      |
| 1  |  | 0 | A    | T      |
| 1  |  | 0 | T    | C      |
| 1  |  | 0 | G    | T      |
| 1  |  | 0 | G    | C      |
| 1  |  | 0 | T    | C      |
| 1  |  | 0 | C    | A      |
| 1  |  | 0 | C    | A      |
| 1  |  | 0 | T    | C      |
| 1  |  | 0 | A    | G      |
| 1  |  | 0 | C    | A      |
| 1  |  | 0 | TA   | GG     |
| 1  |  | 0 | T    | G      |
| 1  |  | 0 | A    | G      |
| 1  |  | 0 | G    | A      |
| 1  |  | 0 | C    | A      |
| 1  |  | 0 | A    | G      |
| 1  |  | 0 | G    | T      |
| 1  |  | 0 | T    | G      |
| 1  |  | 0 | T    | G      |
| 1  |  | 0 | T    | G      |
| 1  |  | 0 | G    | A      |
| 1  |  | 0 | C    | G      |
| 1  |  | 0 | A    | C      |
| 1  |  | 0 | T    | C      |
| 1  |  | 0 | G    | T      |
| 1  |  | 0 | A    | G      |
| 1  |  | 0 | -    | A      |
| 1  |  | 0 | T    | A      |
| 14 |  | 0 | G    | A      |
| 3  |  | 0 | C    | A      |
| 1  |  | 0 | -    | ACTTCT |
| 1  |  | 0 | G    | A      |

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|----|---|----|------|
| 7  | 0 | -  | A    |
| 7  | 0 | G  | A    |
| 1  | 0 | -  | GAGG |
| 1  | 0 | T  | C    |
| 3  | 0 | G  | C    |
| 31 | 0 | G  | C    |
| 25 | 0 | C  | T    |
| 1  | 0 | CC | GT   |
| 2  | 0 | A  | T    |
| 1  | 0 | T  | C    |
| 1  | 0 | G  | A    |
| 1  | 0 | T  | C    |
| 1  | 0 | A  | G    |
| 2  | 0 | GG | AA   |
| 1  | 0 | T  | C    |
| 1  | 0 | G  | A    |
| 1  | 0 | -  | T    |
| 1  | 0 | A  | C    |
| 1  | 0 | -  | T    |
| 1  | 0 | G  | C    |
| 4  | 0 | A  | T    |
| 1  | 0 | A  | C    |
| 1  | 0 | A  | C    |
| 2  | 0 | AA | CC   |
| 1  | 0 | C  | T    |
| 1  | 0 | A  | G    |
| 1  | 0 | C  | A    |
| 1  | 0 | G  | C    |
| 1  | 0 | A  | T    |
| 1  | 0 | C  | A    |
| 1  | 0 | A  | C    |
| 1  | 0 | A  | C    |
| 1  | 0 | A  | C    |
| 1  | 0 | A  | G    |
| 1  | 0 | G  | A    |
| 1  | 0 | C  | A    |
| 1  | 0 | G  | A    |
| 1  | 0 | T  | C    |
| 1  | 0 | C  | T    |
| 1  | 0 | G  | T    |
| 3  | 0 | C  | -    |
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| 1  | 0 | C  | A    |
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|---|---|----|----------|
| 1 | 0 | A  | C        |
| 1 | 0 | -  | C        |
| 6 | 0 | -  | C        |
| 1 | 0 | T  | C        |
| 1 | 0 | GG | AC       |
| 1 | 0 | G  | C        |
| 1 | 0 | G  | T        |
| 1 | 0 | A  | C        |
| 1 | 0 | T  | -        |
| 1 | 0 | G  | A        |
| 1 | 0 | A  | C        |
| 1 | 0 | C  | A        |
| 1 | 0 | T  | C        |
| 1 | 0 | A  | G        |
| 1 | 0 | -  | T        |
| 1 | 0 | TA | GT       |
| 1 | 0 | -  | A        |
| 1 | 0 | -  | ACCACCTC |
| 1 | 0 | A  | C        |
| 1 | 0 | G  | A        |
| 1 | 0 | -  | AGA      |
| 1 | 0 | A  | C        |
| 1 | 0 | A  | G        |
| 2 | 0 | C  | T        |
| 1 | 0 | G  | C        |
| 8 | 0 | C  | T        |
| 1 | 0 | G  | T        |
| 1 | 0 | T  | A        |
| 1 | 0 | A  | G        |
| 1 | 0 | C  | G        |
| 1 | 0 | C  | A        |
| 1 | 0 | T  | C        |
| 1 | 0 | G  | T        |
| 1 | 0 | T  | G        |
| 1 | 0 | T  | G        |
| 1 | 0 | G  | A        |
| 1 | 0 | G  | T        |
| 1 | 0 | T  | C        |
| 1 | 0 | A  | G        |
| 1 | 0 | T  | G        |
| 1 | 0 | T  | G        |
| 2 | 0 | C  | T        |
| 1 | 0 | C  | G        |
| 1 | 0 | A  | G        |
| 1 | 0 | A  | C        |
| 1 | 0 | A  | C        |
| 1 | 0 | A  | C        |

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| 1  | 0 | C   | A      |
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| 1  | 0 | T   | A      |
| 11 | 0 | T   | A      |
| 1  | 0 | G   | A      |
| 2  | 0 | T   | C      |
| 1  | 0 | A   | G      |
| 1  | 0 | T   | C      |
| 1  | 0 | T   | C      |
| 1  | 0 | T   | A      |
| 1  | 0 | T   | G      |
| 1  | 0 | A   | T      |
| 1  | 0 | A   | C      |
| 1  | 0 | T   | C      |
| 41 | 0 | A   | T      |
| 1  | 0 | C   | A      |
| 1  | 0 | C   | A      |
| 2  | 0 | G   | T      |
| 1  | 0 | C   | A      |
| 1  | 0 | C   | G      |
| 1  | 0 | -   | TTACTC |
| 1  | 0 | A   | G      |
| 1  | 0 | G   | A      |
| 15 | 0 | C   | T      |
| 1  | 0 | G   | T      |
| 1  | 0 | C   | T      |
| 1  | 0 | G   | A      |
| 1  | 0 | G   | T      |
| 11 | 0 | G   | C      |
| 1  | 0 | G   | T      |
| 1  | 0 | T   | G      |
| 3  | 0 | A   | T      |
| 1  | 0 | A   | G      |
| 10 | 0 | T   | A      |
| 12 | 0 | -   | TT     |
| 1  | 0 | T   | C      |
| 1  | 0 | A   | G      |
| 1  | 0 | C   | T      |
| 1  | 0 | C   | A      |
| 3  | 0 | T   | A      |
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| 1  | 0 | G   | T        |
| 1  | 0 | A   | C        |
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| 1  | 0 | T   | C        |
| 1  | 0 | T   | C        |
| 1  | 0 | T   | C        |
| 1  | 0 | T   | C        |
| 1  | 0 | C   | T        |
| 1  | 0 | G   | T        |
| 1  | 0 | C   | T        |
| 1  | 0 | C   | G        |
| 2  | 0 | -   | CACACACG |
| 1  | 0 | TTA | ATT      |
| 1  | 0 | G   | T        |
| 3  | 0 | G   | A        |
| 1  | 0 | G   | T        |
| 1  | 0 | A   | T        |
| 1  | 0 | A   | G        |
| 1  | 0 | T   | G        |
| 1  | 0 | A   | G        |
| 2  | 0 | -   | T        |
| 1  | 0 | C   | A        |
| 1  | 0 | A   | T        |
| 2  | 0 | T   | G        |
| 1  | 0 | A   | C        |
| 12 | 0 | A   | T        |
| 1  | 0 | A   | -        |
| 1  | 0 | C   | T        |
| 1  | 0 | -   | TTTTTT   |
| 1  | 0 | C   | T        |
| 1  | 0 | G   | C        |
| 1  | 0 | G   | A        |
| 1  | 0 | C   | G        |
| 2  | 0 | C   | A        |
| 1  | 0 | A   | C        |
| 1  | 0 | C   | T        |
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| 1  | 0 | A   | G        |
| 1  | 0 | A   | C        |
| 1  | 0 | T   | C        |
| 1  | 0 | C   | T        |
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| 1 |  | 0 | T          | A |
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