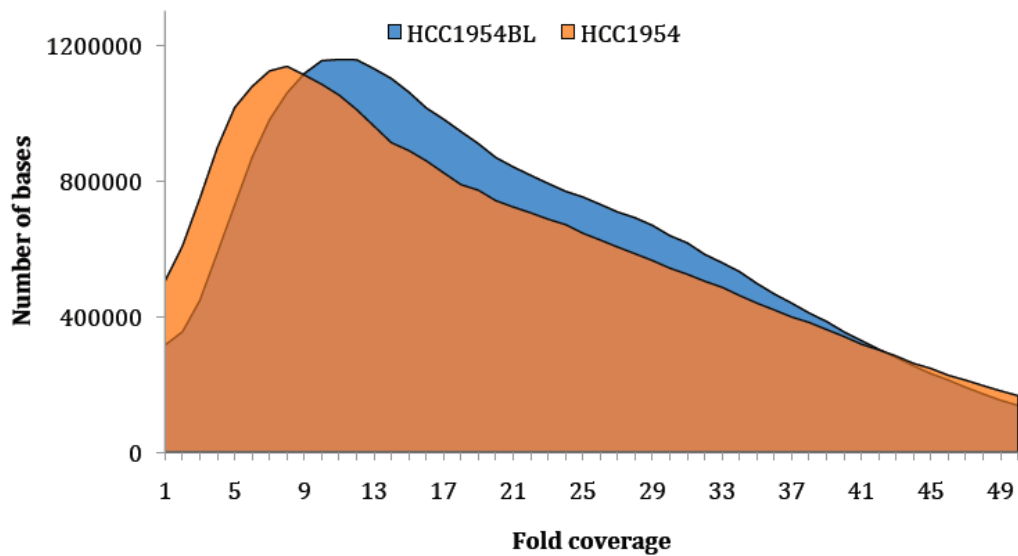


**Figure S1. Insert size distribution for Illumina genomic DNA paired-end libraries.** Only reads mapped in the expected orientation were used to calculate these distributions.



**Figure S2. Histogram of the actual coverage of captured sequences for the HCC1954 (orange) and HCC1954BL (blue) exomes.**

| Gene Name | Position<br>(Chr:coord) | Allele change<br>(ref > var) | Aminoacid<br>change<br>(ref > var) | Novel | Sanger<br>Validated |
|-----------|-------------------------|------------------------------|------------------------------------|-------|---------------------|
| DIP2C     | 10:508430               | G>A                          | R>C                                | Yes   | Yes                 |
| KIAA1274  | 10:71970891             | C>T                          | R>W                                | Yes   | SNP                 |
| CAPRIN1   | 11:34064263             | C>T                          | A>V                                | Yes   | Yes                 |
| CLIP1     | 12:121392038            | G>A                          | Q>*                                | Yes   | Yes                 |
| MYH7      | 14:22970484             | G>A                          | S>F                                | Yes   | Yes                 |
| CBLN1     | 16:47872714             | A>C                          | V>G                                | Yes   | Yes                 |
| ABCA10    | 17:64698971             | G>A                          | T>I                                | Yes   | Yes                 |
| SERPINB4  | 18:59456160             | C>T                          | G>S                                | Yes   | Yes                 |
| NWD1      | 19:16779828             | C>T                          | R>*                                | Yes   | Yes                 |
| ITGA6     | 2:173042234             | T>G                          | C>G                                | Yes   | Yes                 |
| SRBD1     | 2:45493931              | T>C                          | Q>R                                | Yes   | Yes                 |
| GPRC6A    | 6:117228537             | C>T                          | I>M                                | Yes   | Yes                 |
| C6ORF118  | 6:165623368             | T>C                          | I>M                                | Yes   | Yes                 |
| SLC25A5   | X:118487757             | G>A                          | G>S                                | Yes   | No                  |
| KCNT2     | 1:194728093             | C>T                          | V>I                                | No    | NA                  |
| ZNF281    | 1:198643877             | A>G                          | I>T                                | No    | NA                  |
| CLSPN     | 1:35998793              | T>C                          | H>R                                | No    | NA                  |
| DPYD      | 1:97611752              | A>C                          | C>G                                | No    | NA                  |
| CUTC      | 10:101492936            | C>T                          | P>L                                | No    | NA                  |
| OR10A2    | 11:6848309              | A>G                          | K>E                                | No    | NA                  |
| ARRB1     | 11:74656380             | G>C                          | T>R                                | No    | NA                  |
| TMTC4     | 13:100062697            | T>C                          | M>V                                | No    | NA                  |
| SLC7A7    | 14:22313411             | G>A                          | P>S                                | No    | NA                  |
| C14ORF21  | 14:23844107             | G>A                          | R>Q                                | No    | NA                  |
| CFL2      | 14:34252381             | T>C                          | I>M                                | No    | NA                  |
| TC2N      | 14:91348597             | T>C                          | N>S                                | No    | NA                  |
| MAPKBP1   | 15:39898768             | C>T                          | P>L                                | No    | NA                  |
| DGKE      | 17:52267451             | T>G                          | L>R                                | No    | NA                  |
| C17ORF64  | 17:55858953             | A>T                          | K>M                                | No    | NA                  |
| TP53      | 17:7519167              | T>C                          | Y>C                                | No    | NA                  |
| C18ORF19  | 18:13671832             | C>T                          | R>H                                | No    | NA                  |
| ZNF532    | 18:54752763             | C>T                          | S>L                                | No    | NA                  |
| SMC6      | 2:17765758              | G>A                          | A>V                                | No    | NA                  |
| PCNT      | 21:46661077             | G>C                          | G>R                                | No    | NA                  |
| ARFGAP3   | 22:41543751             | T>C                          | E>G                                | No    | NA                  |
| RFC4      | 3:187990484             | T>A                          | T>S                                | No    | NA                  |
| FEM1C     | 5:114888374             | C>T                          | D>N                                | No    | NA                  |
| FEM1C     | 5:114888458             | C>T                          | D>N                                | No    | NA                  |
| LNPEP     | 5:96357919              | A>G                          | M>V                                | No    | NA                  |
| MYLK4     | 6:2638020               | C>A                          | A>S                                | No    | NA                  |
| BAT2      | 6:31707884              | G>A                          | R>H                                | No    | NA                  |
| ZDHHC4    | 7:6588347               | C>T                          | P>S                                | No    | NA                  |
| SEMA3A    | 7:83577784              | C>T                          | A>T                                | No    | NA                  |
| ASTN2     | 9:118228094             | C>G                          | V>L                                | No    | NA                  |
| TRAF2     | 9: 138940038            | A>T                          | Q>L                                | No    | NA                  |
| MAGEC2    | X:141119424             | C>A                          | G>C                                | No    | NA                  |
| CNGA2     | X:150658776             | G>A                          | R>H                                | No    | NA                  |

**Table S1. Non-synonymous point mutations in the HCC1954 genome.** Genomic coordinates are indexed to the reference genome sequence NCBI 36.1/hg18. Novel, not previously described in the literature; NA, not analyzed by capillary sequencing but previously described in the literature.

| Gene Name | Position<br>(Chr:coord) | Allele change<br>(ref > var) | Aminoacid<br>Change<br>(ref > var) | Sanger<br>Validated |
|-----------|-------------------------|------------------------------|------------------------------------|---------------------|
| APPL2     | 12:104117284            | C>T                          | R>K                                | Yes                 |
| ARHGEF11  | 1:155220820             | T>C                          | D>G                                | No                  |
| C15ORF33  | 15:47446998             | C>G                          | A>P                                | Yes                 |
| COL27A1   | 9:115969808             | G>A                          | R>Q                                | SNP                 |
| DOLK      | 9:130748514             | C>T                          | R>H                                | Yes                 |
| EME1      | 17:45808135             | T>A                          | N>K                                | Yes                 |
| EPHA3     | 13:89472813             | C>A                          | P>Q                                | Yes                 |
| FCRL2     | 1:156003894             | T>A                          | R>W                                | Yes                 |
| HNRNPUL1  | 19:46501943             | C>A                          | S>R                                | No                  |
| MECP2     | X:152949611             | C>T                          | V>M                                | Yes                 |
| NOC2L     | 1:870881                | A>G                          | F>L                                | No                  |
| OR2D2     | 11:6870019              | A>G                          | C>R                                | No                  |
| OR51E2    | 11:4659812              | C>A                          | A>S                                | Yes                 |
| SETD2     | 3:47073875              | G>A                          | Q>*                                | Yes                 |
| SLC24A2   | 9:19510939              | C>A                          | M>I                                | Yes                 |
| SORL1     | 11:120925965            | C>G                          | P>R                                | No                  |
| TET2      | 4:106375929             | C>T                          | Q>*                                | Yes                 |
| VCAM1     | 1:100961236             | C>A                          | S>*                                | Yes                 |

**Table S2. Non-synonymous point mutations in the HCC1054BL genome.** Genomic coordinates are indexed to the reference genome sequence NCBI 36.1/hg18.