S4 Table. Top 100 genes with a DMR. Top 100 genes that contain at least one differentially methylated DNA region (DMR) after Bonferroni correction, excluding genes/DMRs located on the sex chromosomes, found by MeD-seq on 27 paired primary and recurrent WDLPS tumor samples.

| No. | Gene          | No. of DMRs | Fold Change* | Hypermethylated in | Location |
|-----|---------------|-------------|--------------|--------------------|----------|
| 1   | RP11-611E13.2 | 3           | 2.033        | Recurrence         | chr12    |
| 2   | CENPIP1       | 1           | 1.661        | Primary            | chr13    |
| 3   | FLG-AS1       | 3           | 1.590        | Primary            | chr1     |
| 4   | HRNR          | 3           | 1.590        | Primary            | chr1     |
| 5   | MYRFL         | 3           | 1.526        | Recurrence         | chr12    |
| 6   | RP11-571M6.17 | 1           | 1.512        | Recurrence         | chr12    |
| 7   | TSFM          | 2           | 1.512        | Recurrence         | chr12    |
| 8   | AVIL          | 3           | 1.512        | Recurrence         | chr12    |
| 9   | LYRM4         | 1           | 1.376        | Recurrence         | chr6     |
| 10  | SLC35E3       | 5           | 1.350        | Recurrence         | chr12    |
| 11  | OS9           | 2           | 1.298        | Recurrence         | chr12    |
| 12  | RP11-571M6.7  | 3           | 1.298        | Recurrence         | chr12    |
| 13  | NOC4L         | 1           | 1.293        | Primary            | chr12    |
| 14  | MDM2          | 8           | 1.293        | Recurrence         | chr12    |
| 15  | AC133749.1    | 1           | 1.289        | Primary            | chr12    |
| 16  | CPM           | 5           | 1.289        | Primary            | chr12    |
| 17  | CYP27B1       | 2           | 1.279        | Recurrence         | chr12    |
| 18  | AL671532.6    | 1           | 1.278        | Recurrence         | chr14    |
| 19  | AC025263.3    | 3           | 1.278        | Recurrence         | chr12    |
| 20  | MIR26A2       | 2           | 1.276        | Recurrence         | chr12    |
| 21  | CTDSP2        | 1           | 1.276        | Recurrence         | chr12    |
| 22  | RP11-159A18.1 | 1           | 1.244        | Recurrence         | chr12    |
| 23  | AC126281.1    | 7           | 1.239        | Primary            | chr4     |
| 24  | DUX4L8        | 6           | 1.239        | Primary            | chr4     |
| 25  | AL671532.5    | 1           | 1.239        | Recurrence         | chr14    |
| 26  | SHC2          | 2           | 1.234        | Recurrence         | chr19    |
| 27  | TBC1D22A      | 1           | 1.233        | Recurrence         | chr22    |
| 28  | RP11-571M6.18 | 1           | 1.227        | Recurrence         | chr12    |
| 29  | EXOC2         | 1           | 1.227        | Primary            | chr6     |
| 30  | LRP8          | 1           | 1.225        | Recurrence         | chr1     |
| 31  | LINC00854     | 6           | 1.225        | Primary            | chr17    |
| 32  | RP3-470B24.5  | 1           | 1.215        | Recurrence         | chr6     |
| 33  | AL671532.1    | 4           | 1.209        | Recurrence         | chr14    |
| 34  | RNA5S9        | 3           | 1.203        | Primary            | chr1     |
| 35  | AL713899.1    | 3           | 1.203        | Primary            | chr1     |
| 36  | GRTPI         | 1           | 1.192        | Recurrence         | chr13    |
| 37  | SCNN1D        | 1           | 1.191        | Primary            | chr1     |
| 38  | EXD3          | 1           | 1.190        | Primary            | chr9     |
| 39  | DUX4L2        | 6           | 1.182        | Primary            | chr4     |
| 40  | AC126281.4    | 3           | 1.182        | Primary            | chr4     |
| No. | Gene                        | No. of DMRs | Fold Change* | Hypermethylated in | Location |
|-----|-----------------------------|-------------|--------------|--------------------|----------|
| 41  | AGAP2-AS1                   | 2           | 1.182        | Recurrence         | chr12    |
| 42  | AGAP2                       | 3           | 1.182        | Recurrence         | chr12    |
| 43  | AL845259.5                  | 4           | 1.178        | Primary            | chr10    |
| 44  | DUX4L20                     | 2           | 1.178        | Primary            | chr10    |
| 45  | TSPAN31                     | 3           | 1.170        | Recurrence         | chr12    |
| 46  | CFAP46                      | 1           | 1.164        | Primary            | chr10    |
| 47  | ABCC5                       | 3           | 1.160        | Recurrence         | chr3     |
| 48  | RAB83IP                     | 1           | 1.157        | Recurrence         | chr12    |
| 49  | TCEB3CL2                    | 2           | 1.153        | Recurrence         | chr18    |
| 50  | KATNAL2                     | 3           | 1.153        | Recurrence         | chr18    |
| 51  | AL732375.7                  | 3           | 1.151        | Primary            | chr10    |
| 52  | DIP2C                       | 1           | 1.150        | Primary            | chr10    |
| 53  | PCNT                        | 1           | 1.146        | Primary            | chr21    |
| 54  | DUX4L4                      | 4           | 1.144        | Primary            | chr4     |
| 55  | AC126281.5                  | 3           | 1.144        | Primary            | chr4     |
| 56  | CDK4                        | 2           | 1.144        | Recurrence         | chr12    |
| 57  | RNA5S17                     | 2           | 1.140        | Primary            | chr1     |
| 58  | BEST3                       | 2           | 1.138        | Recurrence         | chr12    |
| 59  | NLRP4                       | 2           | 1.135        | Recurrence         | chr19    |
| 60  | TCEB3CL                     | 3           | 1.133        | Recurrence         | chr18    |
| 61  | TCEB3C                      | 2           | 1.133        | Recurrence         | chr18    |
| 62  | MIR8078                     | 1           | 1.132        | Recurrence         | chr18    |
| 63  | ROCK1P1                     | 1           | 1.132        | Recurrence         | chr18    |
| 64  | ANKRD33B                    | 1           | 1.114        | Recurrence         | chr5     |
| 65  | MARCH9                      | 2           | 1.114        | Primary            | chr12    |
| 66  | CTD-3220F14.1               | 7           | 1.113        | Primary            | chr19    |
| 67  | METTL21B                    | 2           | 1.109        | Recurrence         | chr12    |
| 68  | RP11-571M6.15               | 2           | 1.109        | Recurrence         | chr12    |
| 69  | RP11-49K24.9                | 2           | 1.109        | Recurrence         | chr18    |
| 70  | HMGA2                       | 2           | 1.109        | Recurrence         | chr12    |
| 71  | LMF1                        | 1           | 1.105        | Primary            | chr16    |
| 72  | RP11-611O2.1                | 1           | 1.102        | Primary            | chr12    |
| 73  | SLC16A3                     | 1           | 1.102        | Recurrence         | chr17    |
| 74  | CSNK1D                      | 1           | 1.102        | Recurrence         | chr17    |
| 75  | RP13-638C3.3                | 2           | 1.101        | Primary            | chr17    |
| 76  | FOXK2                       | 1           | 1.101        | Primary            | chr17    |
| 77  | YBEY                        | 1           | 1.100        | Primary            | chr21    |
| 78  | AL845259.7                  | 3           | 1.100        | Recurrence         | chr10    |
| 79  | LRRC10                      | 2           | 1.097        | Recurrence         | chr12    |
| 80  | EHMT1                       | 1           | 1.097        | Primary            | chr9     |
| 81  | TMTC2                       | 1           | 1.092        | Primary            | chr12    |
| 82  | TERT                        | 1           | 1.092        | Recurrence         | chr5     |
| 83  | PLEKHG4B                    | 2           | 1.090        | Primary            | chr5     |
| No. | Gene       | No. of DMRs | Fold Change* | Hypermethylated in | Location |
|-----|------------|-------------|--------------|---------------------|----------|
| 84  | RP11-620J15.2 | 1           | 1.088        | Primary             | chr12    |
| 85  | DBET       | 3           | 1.087        | Primary             | chr4     |
| 86  | RNA5510    | 2           | 1.085        | Primary             | chr1     |
| 87  | RNA5511    | 2           | 1.085        | Primary             | chr1     |
| 88  | RNA5512    | 2           | 1.085        | Primary             | chr1     |
| 89  | RNA55P19   | 1           | 1.082        | Primary             | chr1     |
| 90  | RNA55P162  | 1           | 1.082        | Primary             | chr1     |
| 91  | DUX4L23    | 1           | 1.082        | Primary             | chr10    |
| 92  | CTD-3162L10.1 | 5         | 1.080        | Primary             | chr19    |
| 93  | TMEM242    | 2           | 1.078        | Recurrence          | chr6     |
| 94  | AL671532.2 | 1           | 1.076        | Recurrence          | chr14    |
| 95  | DLGAP2     | 1           | 1.076        | Recurrence          | chr8     |
| 96  | CPSF6      | 1           | 1.074        | Primary             | chr12    |
| 97  | RNA551     | 2           | 1.072        | Primary             | chr1     |
| 98  | RNA552     | 2           | 1.072        | Primary             | chr1     |
| 99  | RNA553     | 2           | 1.072        | Primary             | chr1     |
| 100 | RNA554     | 3           | 1.072        | Primary             | chr1     |

*Fold change of first/top DMR of the relevant gene