**Supplementary Table 4. Details of all datasets used in the study.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Datasets | Sample size | Normal | Cancer | Data type | Source |
| PRJNA984754 | 24 | 12 | 12 | WGBS | Custom |
| GSE70090 | 8 | 4 | 4 | WGBS | GEO |
| PRJNA762641 | 66 | 33 | 33 | WGBS/RNA-seq | GEO |
| TCGA-HCC | 415 | 50 | 365 | WES/450k/RNA-seq | TCGA |
| ICGC-LIHC | 439 | 202 | 237 | RNA-seq | ICGC |
| GSE151530 | 25 |  | 25 | scRNA-seq | GEO |