

Supplement Table S3. List of genes downregulated in cells of the methylome M5b-Nb-231 cell lines as compared to control cells.

"classical" "symbol", "Accession": "Gene expression"; "logFC": "log fold change"; "FDR": "false discovery rate in the first and second cDEEP experiments, respectively; Average logFC": average log fold change; "FDR\_1": "FDR\_2": "FDR\_3": adjusted  $p$ -values of differential expression in the first and second cDEEP experiments, respectively.

| GeneID          | hg3.1   | chr | FDR_1  | FDR_2  | FDR_3  | Average logFC | symbol   | description  |
|-----------------|---------|-----|--------|--------|--------|---------------|----------|--|
| ENSG00000110002 | 11:3013 | 11  | 0.0013 | 0.0013 | 0.0013 | -3.78         | 10768    | ribosomal protein, large, member 10 (Source:HGNC Symbol;Acc:HGNC:11204)            |
| ENSG00000126207 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -3.78         | MARCKS   | Marcks protein containing 3 (Source:HGNC Symbol;Acc:HGNC:10325)                    |
| ENSG00000124521 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -3.71         | TRO2     | Trojan 2 (Source:HGNC Symbol;Acc:HGNC:11351)                                       |
| ENSG00000121316 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -3.69         | ANCL1    | annc1 protein - leukemias and/or other cancer (Source:HGNC Symbol;Acc:HGNC:21316)  |
| ENSG00000113377 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -3.62         | CATM4    | Catm4 (Source:HGNC Symbol;Acc:HGNC:14176)  |
| ENSG00000123224 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -3.60         | DVLP2    | dyx1c1-like protein 2 (Source:HGNC Symbol;Acc:HGNC:11284)                          |
| ENSG00000130857 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -3.59         | BBN17    | Brain biallelic neurogenesis 17 (Source:HGNC Symbol;Acc:HGNC:11188)                |
| ENSG00000121329 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -3.58         | SOX11    | sox11 protein - leukemia (Source:HGNC Symbol;Acc:HGNC:11188)                       |
| ENSG00000129832 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -3.55         | SLC16A11 | solute carrier family 16, member 11 (Source:HGNC Symbol;Acc:HGNC:11041)            |
| ENSG000001235   | 2:2111  | 2   | 0.2341 | 1.1811 | 0.2341 | -3.28         | PNP2     | perlecan (Source:HGNC Symbol;Acc:HGNC:12778)                                       |
| ENSG00000148332 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -3.28         | ADAM13   | ADAM13 (Source:HGNC Symbol;Acc:HGNC:13910)   |
| ENSG00000121889 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -3.25         | HPE2     | heterodimeric protein 2 (Source:HGNC Symbol;Acc:HGNC:14032)                        |
| ENSG00000127447 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -3.24         | TYROBP1  | transmembrane protein 37 (Source:HGNC Symbol;Acc:HGNC:12924)                       |
| ENSG00000120502 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -3.23         | POR1A1   | peroxyl oxidoreductase 1 (Source:HGNC Symbol;Acc:HGNC:11480)                       |
| ENSG00000117021 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -3.24         | MIR613   | microRNA-613 (Source:HGNC Symbol;Acc:HGNC:20566)                                   |
| ENSG00000124844 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -3.20         | PBL1     | pbl1 protein - leukemia (Source:HGNC Symbol;Acc:HGNC:8512)                         |
| ENSG00000129772 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -3.20         | RCE1     | RCE1 (Source:HGNC Symbol;Acc:HGNC:13312)   |
| ENSG0000012892  | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -3.15         | ANKK4    | ankk4 (Source:HGNC Symbol;Acc:HGNC:10417)  |
| ENSG00000127055 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -3.15         | PACT1    | PACT protein 1 (Source:HGNC Symbol;Acc:HGNC:12922)                                 |
| ENSG00000121726 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -3.15         | ANK3     | ank3 protein - leukemia (Source:HGNC Symbol;Acc:HGNC:10417)                        |
| ENSG00000124546 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -3.10         | KAP1     | Kap1 protein (Source:HGNC Symbol;Acc:HGNC:10417)                                   |
| ENSG00000117866 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -3.09         | USP98    | ubiquitin-specific protease 9, N-linked (Source:HGNC Symbol;Acc:HGNC:12452)        |
| ENSG0000012457  | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -3.08         | ANKRD42  | ankrd42 (Source:HGNC Symbol;Acc:HGNC:12020)  |
| ENSG00000121706 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -3.04         | ATN1     | attn1 (Source:HGNC Symbol;Acc:HGNC:10417)  |
| ENSG00000127068 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -3.02         | DPF1     | developmental protein kinase 1 (Source:HGNC Symbol;Acc:HGNC:11811)                 |
| ENSG00000125499 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -3.00         | SLC7A7   | solute carrier family 7, subfamily A, member 7 (Source:HGNC Symbol;Acc:HGNC:11218) |
| ENSG00000144657 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.93         | MYO7B    | myosin VIIb (Source:HGNC Symbol;Acc:HGNC:11811)                                    |
| ENSG00000125458 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.93         | CHOP     | transmembrane helix DNA binding protein 1 (Source:HGNC Symbol;Acc:HGNC:20626)      |
| ENSG00000146514 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | MAL2L1   | muscleblind-like protein 2 (Source:HGNC Symbol;Acc:HGNC:14136)                     |
| ENSG00000128489 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | ARHGAP3  | Rho GTPase activating protein 3 (Source:HGNC Symbol;Acc:HGNC:12796)                |
| ENSG00000144073 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | MLL2L1   | myeloid leukemia-associated protein 1 (Source:HGNC Symbol;Acc:HGNC:20661)          |
| ENSG00000121737 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | KLAF1    | kinase inhibitor of apoptosis, 13 (Source:HGNC Symbol;Acc:HGNC:11811)              |
| ENSG0000014408  | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1A    | heparin sulfate proteoglycan 1 (Source:HGNC Symbol;Acc:HGNC:11811)                 |
| ENSG00000144465 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1B    | heparin sulfate proteoglycan 2 (Source:HGNC Symbol;Acc:HGNC:11811)                 |
| ENSG00000144085 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1C    | heparin sulfate proteoglycan 3 (Source:HGNC Symbol;Acc:HGNC:11811)                 |
| ENSG00000138213 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HR23F    | human ribosome biogenesis factor 2 (Source:HGNC Symbol;Acc:HGNC:11811)             |
| ENSG00000125822 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1D    | heparin sulfate proteoglycan 4 (Source:HGNC Symbol;Acc:HGNC:11811)                 |
| ENSG00000144400 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1E    | heparin sulfate proteoglycan 5 (Source:HGNC Symbol;Acc:HGNC:11811)                 |
| ENSG00000125821 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1F    | heparin sulfate proteoglycan 6 (Source:HGNC Symbol;Acc:HGNC:11811)                 |
| ENSG00000125820 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1G    | heparin sulfate proteoglycan 7 (Source:HGNC Symbol;Acc:HGNC:11811)                 |
| ENSG00000125819 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1H    | heparin sulfate proteoglycan 8 (Source:HGNC Symbol;Acc:HGNC:11811)                 |
| ENSG00000125818 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1I    | heparin sulfate proteoglycan 9 (Source:HGNC Symbol;Acc:HGNC:11811)                 |
| ENSG00000125817 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1J    | heparin sulfate proteoglycan 10 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125816 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1K    | heparin sulfate proteoglycan 11 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125815 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1L    | heparin sulfate proteoglycan 12 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125814 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1M    | heparin sulfate proteoglycan 13 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125813 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1N    | heparin sulfate proteoglycan 14 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125812 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1O    | heparin sulfate proteoglycan 15 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125811 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1P    | heparin sulfate proteoglycan 16 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125810 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1Q    | heparin sulfate proteoglycan 17 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125809 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1R    | heparin sulfate proteoglycan 18 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125808 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1S    | heparin sulfate proteoglycan 19 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125807 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1T    | heparin sulfate proteoglycan 20 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125806 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1U    | heparin sulfate proteoglycan 21 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125805 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1V    | heparin sulfate proteoglycan 22 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125804 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1W    | heparin sulfate proteoglycan 23 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125803 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1X    | heparin sulfate proteoglycan 24 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125802 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1Y    | heparin sulfate proteoglycan 25 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125801 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF1Z    | heparin sulfate proteoglycan 26 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125800 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF2     | heparin sulfate proteoglycan 27 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125799 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF3     | heparin sulfate proteoglycan 28 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125798 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF4     | heparin sulfate proteoglycan 29 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125797 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF5     | heparin sulfate proteoglycan 30 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125796 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF6     | heparin sulfate proteoglycan 31 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125795 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF7     | heparin sulfate proteoglycan 32 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125794 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF8     | heparin sulfate proteoglycan 33 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125793 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF9     | heparin sulfate proteoglycan 34 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125792 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF10    | heparin sulfate proteoglycan 35 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125791 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF11    | heparin sulfate proteoglycan 36 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125790 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF12    | heparin sulfate proteoglycan 37 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125789 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF13    | heparin sulfate proteoglycan 38 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125788 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF14    | heparin sulfate proteoglycan 39 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125787 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF15    | heparin sulfate proteoglycan 40 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125786 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF16    | heparin sulfate proteoglycan 41 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125785 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF17    | heparin sulfate proteoglycan 42 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125784 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF18    | heparin sulfate proteoglycan 43 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125783 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF19    | heparin sulfate proteoglycan 44 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125782 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF20    | heparin sulfate proteoglycan 45 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125781 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF21    | heparin sulfate proteoglycan 46 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125780 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF22    | heparin sulfate proteoglycan 47 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125779 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF23    | heparin sulfate proteoglycan 48 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125778 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF24    | heparin sulfate proteoglycan 49 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125777 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF25    | heparin sulfate proteoglycan 50 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125776 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF26    | heparin sulfate proteoglycan 51 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125775 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF27    | heparin sulfate proteoglycan 52 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125774 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF28    | heparin sulfate proteoglycan 53 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125773 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF29    | heparin sulfate proteoglycan 54 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125772 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF30    | heparin sulfate proteoglycan 55 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125771 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF31    | heparin sulfate proteoglycan 56 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125770 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF32    | heparin sulfate proteoglycan 57 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125769 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF33    | heparin sulfate proteoglycan 58 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125768 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF34    | heparin sulfate proteoglycan 59 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125767 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF35    | heparin sulfate proteoglycan 60 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125766 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF36    | heparin sulfate proteoglycan 61 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125765 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF37    | heparin sulfate proteoglycan 62 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125764 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF38    | heparin sulfate proteoglycan 63 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125763 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF39    | heparin sulfate proteoglycan 64 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125762 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF40    | heparin sulfate proteoglycan 65 (Source:HGNC Symbol;Acc:HGNC:11811)                |
| ENSG00000125761 | 10:3159 | 10  | 0.0013 | 0.0013 | 0.0013 | -2.92         | HNF41    |  |