**Supplementary table 1. Primers used in qPCR analysis**

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| ***Probe*** | *Designation* | ***Primer sequence (5’🡪3’)*** | ***Primer localizationa*** | ***Genomic position*** |
| *ZNF331\_1* | ZNF331-5FW | ATCCAGTCACACCCACCAAT | chr19:54022485-54022504 | Upstream *ZNF331* (NM\_018555) |
| ZNF331-5RW | TGAGATGCTTTGCCCTAAAAA | chr19:54022531-54022551 |
| *ZNF331\_2* | ZNF331-6FW | GAGAGAGCCTTGGCACAGAC | chr19:54022994-54023013 | Upstream *ZNF331* (NM\_018555) |
| ZNF331-6RW | GGCATGTGTGTAGGGACCTT | chr19:54023050-54023069 |
| *ZNF331\_3* | ZNF331-7FW | GGATTTCCGGGTTATGGACT | chr19:54024125-54024144 | *ZNF331* exon 1 (NM\_018555) |
| ZNF331-7RW | CAACTCTACACGGCGCAAA | chr19:54024177-54024196 |
| *ZNF331\_4* | ZNF331-8FW  | GGTCCTGGTGCCTCATTCT | chr19:54025827-54025846 | *ZNF331* IVS 1 (NM\_018555) |
| ZNF331-8RW  | CGGGATGCTTTTCCTGAAG | chr19:54025875-54025894 |
| *Pt20qPCR\_1* | Pt20qPCR-1F | TATGCCAAGATTCCGGTAGG | chr7:20819780-20819799 | Inside 7p21.1 pt’s deletion |
| Pt20qPCR-1R | GATGCTGGAAAAAGCTCCTG | chr7:20819828-20819847 |
| *Pt20qPCR\_2* | Pt20qPCR-2F | GAAGAGGGGCAGAAACAGAA | chr7:20823771-20823790 | Inside 7p21.1 pt’s deletion |
| Pt20qPCR-2R | TCAACTCCAGCCTTTCCCTA | chr7:20823817-20823836 |
| aPrimer physical localization is based on GRCh37/hg19 human genome assembly. |  |