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| **Inner primer sets** | |
| Pck1\_For (set 1) | GGTTAATAATTGGGTTTGTAATTTTGAGTT |
| Pck1\_Rev\_5'Biotin (set 1) | TCTTCCCCAATAATAAATTCCCACCATATC |
| Pck1\_For (set 2) | TTGGAAGAGGATATGGTGGGAATTTATTA |
| Pck1\_Rev\_5'Biotin (set 2) | TCCCAAAATTCCCTAACCACATAC |
| Nr1d1\_For\_5'Biotin | ATGTTTGAGGAGGTAGAGTG |
| Nr1d1\_Rev | TCCCTAAACAACTACACAAAAATCTAC |
| Neat1\_For | GTAGAGGTAGGTAGGTTGTAGAA |
| Neat1\_Rev\_5'Biotin | CAAACCTCCATCCAACCTTTATA |
| Trib1\_For | AGGTAGTTGGAATGTTATTTATTTTTTTAT |
| Trib1\_Rev\_5'Biotin | ATACAACCCTATTAAAATATCATAAACTC |
| Cxcl12\_For | TAGTTTAGGTGGGTAAGGAGTAGT |
| Cxcl12\_Rev\_5'Biotin | AACTCACCCATTCATCTACCCATTAAAAA |
| Mab21l1\_For | GTGATAGTTATTTGGAGTTGTTAGGTTAGT |
| Mab21l1\_Rev\_5'Biotin | TAAATCATCCTCTAAAATTTTTCCAAACTT |
| Sox9\_For\_5'Biotin | ATAAAAGGAGTTTGTTTAGTGTGTAT |
| Sox9\_Rev | AACAAACCCTTTACAAAACCCCTACTCT |
| Tbx1\_For\_5'Biotin | GTTAAGGAGGTTTAGGGTTTGTTTGTAAAG |
| Tbx1\_Rev | CTCTCCTCTAAATCCCTCCAATAAC |
| Dos\_For | GAGGGTTATGGAGTAGGAATTTATGGA |
| Dos\_Rev\_5'Biotin | CCAACCCCCAATCCTCCCC |
| Espn\_For | GTGTTTGAGGAGGTAGAGGT |
| Espn\_Rev\_5'Biotin | CCTCCCCTTCTTCCTCTTC |
| Trim7\_For | GGTTATTATTGAAGAGTTGGGGAAAGA |
| Trim7\_Rev\_5'Biotin | AATAAACCTTCAAACCAACCAAAAACTAAA |
| Apcdd1\_For (set 1 ) | GGGTAGAGAGATAGTAGTGTTGTTAAG |
| Apcdd1\_Rev\_5'Biotin (set 1) | AACCAATAAAAAAACTTTCCCAAATC |
| Apcdd1\_For (set 2) | GATTATTTTATGGGATTTGGGAAAGTT |
| Apcdd1\_Rev\_5'Biotin (set 2) | CAAACTCTTCAAACCTCCCTTTTTATCTAA |
| Prtg\_For | TGTTTGGTTTTAGGTTTTTTAGAAGG |
| Prtg\_Rev\_5'Biotin | ATTTCACTAATACCCCTAAAACCTCC |
| Cacnb4\_For (set 1) | AAGGAAGAGAGGGGAGAG |
| Cacnb4\_Rev1\_5'Biotin (set 1) | AAACATTATTAACAAAACAACCAACTCTA |
| Cacnb4\_For (set 2) | GAGTAGTAGAAGATGGATAGTGTATAGTGA |
| Cacnb4\_Rev\_5'Biotin (set 2) | CACCTTCACACCTAAACACTAAC |
| Ifng\_For | GAGGTTTAATGTAGAGTTTTTGTAATG |
| Ifng\_Rev\_5'Biotin | CCTTTCTTCTCCAAATTACTTTTAATCATA |
| Gm5626\_For (set 1) | ATGTGGTATAGGGGAAGAAATAGG |
| Gm5626\_Rev\_5'Biotin (set 1) | CCAAAACTACACTAACTTCTCCTACT |
| Gm5626\_For (set 2) | GTGGTATAGGGGAAGAAATAGG |
| Gm5626\_Rev2\_5'Biotin (set 2) | ACAAACTACTCAACCACAATAAAC |
| Pot1\_For | GATATAGATTAGATGGGGGATTAATTTTGA |
| Pot1\_Rev\_5'Biotin | AACAACCCTTTTTCTAAATAAAATACAC |
| Cmtm1\_For | TTTTTGGTGAGGTGGAGTAGAG |
| Cmtm1\_Rev\_5'Biotin | AAACCCACCATAAATCCTACATC |
| Msx1\_Rev | ACCATTTAAAAAATTTATTTCCATTTCTAT |
| Msx1\_For\_5'Biotin | TATGTGTATGGGAAGTAGAAGTTATAT |
| Gm13445\_Rev | CCAAAACCCTACCCTACCCCATAACTATAA |
| Gm13445\_For\_5'Biotin | AGTGTAAGTTTGTGTTTGGATATTGAGTA |

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| **Pyrosequencing primers** | |
| Pck1 (set 1) | GGTTTGTAATTTTGAGTTGA |
| Pck1 (set 2) | TTATTATTAGGGAAGAAATGTTTT |
| Nr1d1 | CAAAAAACAACCAATACTTAATCC |
| Neat1 | ATTGGGGTTTAGATTTATAGTG |
| Trib1 | AATTGTAATAAATGTTTGTAAAGTA |
| Cxcl12 | TGTTTAATGGTTGTTTGAG |
| Mab21l1 | GAGAGTAGGATTGGG |
| Sox9 | CCCTAATTACCAAAATATCAT |
| Tbx1 | ATCCCTCCAATAACATT |
| Dos | AGGAATTTATGGAAAAGAG |
| Espn | GGAGGTAGAGGTTGGTA |
| Trim7\_seq 1 | GGGAGTGTTTGGTTGAAA |
| Trim7\_seq 2 | AGAGGTTAAAAAGAGGTATTATTT |
| Trim7\_seq 3 | AGATAGAAGTATGTAGGGAGTAAG |
| Trim7\_seq 4 | TTGGGGAAAGAGATTAG |
| Apcdd1\_seq 1 (set 1) | ATTGAGATAGGAGTGG |
| Apcdd1\_seq 2 (set 1) | AGTGGTTGGTAGGTATATATAAG |
| Apcdd1\_seq 3 (set 2) | GTAGTTTGGGTTGTAAGTA |
| Apcdd1\_seq 4 (set 2) | GTAGGAAAGGGGTTAGAGA |
| Prtg\_seq 1 | GGGAGTTTTATAATTTGGAT |
| Prtg\_seq 2 | GTTTAGGAGGAAGGATAGG |
| Prtg\_seq 3 | GGATTGGTAGTTAGGAGA |
| Cacnb4\_seq 1 (set 1) | GTGAGATTTTGTGATTTGTAGTT |
| Cacnb4\_seq 2 (set 1) | GTTAGTGTTTAGGTGTGAA |
| Cacnb4\_seq 3 (set 2) | GAAATTTATAAAAGGGGAGT |
| Cacnb4\_seq 4 (set 2) | AGTTTGGTGGGTTTTA |
| Cacnb4\_seq 5 (set 2) | GGTTTTGTGAATTATTTTTTTGTA |
| Cacnb4\_seq 6 (set 2) | AAAGGAAGAGAGGGG |
| Cacnb4\_seq 7 (set 2) | GGGTGTGGTGGTTTG |
| Ifng\_Seq 1 | TTTGTAATGTTAAGTTTGTAAA |
| Ifng\_Seq 2 | ATTGTTTAGTTAGGTATATGGATG |
| Ifng\_Seq 3 | TTTTTTAGAGTTTTTAGTAATATTT |
| Ifng\_Seq 4 | GTTTTTTTAGAGTTTATAGTAGGTA |
| Gm5626\_Seq 1 (set 1) | AAATAGGTTTAGATTTTGGTTTT |
| Gm5626\_Seq 2 (set 2) | TTTGGTTAAGGTTAAGGA |
| Gm5626\_Seq 3 (set 2) | GTTGGGGTTTTGATTTAATAT |
| Pot1\_Seq 1 | GGGGGATTAATTTTGAAG |
| Pot1\_Seq 2 | ATAAGTATAGTAGTTTATTTAATAG |
| Cmtm1\_seq 1 | GGTAGTATAAGTTTGTGAAT |
| Cmtm1\_seq 2 | AGGTGAGGAAGTATTTAATAT |
| Cmtm1\_seq 3 | ATTAGAGGTAGTAAAGTTAAG |
| Msx1\_seq 1 | CTTAACTTTCCTTTACAAAACT |
| Msx1\_seq 2 | AAACTTCCAACTAAAAATTTAACC |
| Msx1\_seq 3 | ATTAATTCTTAAACTACAATTCTC |
| Gm13445\_Seq 1 | AAACATAATAAAAAAATATACAACT |
| Gm13445\_Seq 2 | CCAAAAACCCCTCACCAAATAC |

**Supplementary Table 1. Primers used for nested PCR and bisulfite pyrosequencing**