**S1 Table. Real-time qPCR and ChIP primer sequences.**

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| --- | --- | --- | --- |
| *Gene*  | Forward Primer | Reverse Primer | Tm (°C)  |
| *βactin* | AGATGTGGATCAGCAAGCAG | GCGCAAGTTAGGTTTTGTCA | 58 |
| *Hes1* | TACCCCAGCCAGTGTCAACA | TCCATGATAGGCTTTGATGACTTTC | 58 |
| *Hey1* | GAAACTTGAGTTCGGCGCTGTGTT | AGATCCCTGCTTCTCAAAGGCACT | 58 |
| *Pax9*  | TGGATGCTGAGACGAAACTG | ACGCAGTGAATGGATTGGAG | 60 |
| *Grem1* | CAGTGTATGCGGTGCGAT | GCTCTCCTTCGTCTTCCTC | 58 |
| *Hand1* | CGCCCTTTAATCCTCTTCTCG | GCTGAACTCAAAAAGACGGATG | 60 |
| *Acan1*  | CGTGTTTCCAAGGAAAAGGA | TGTGCTGATCAAAGTCCA | 58 |
| *Col2a1* | ACTGGTAAGTGGGGCAAGAC | CCACACCAAATTCCTGTTCA | 58 |
| *Sox9* | AGGAAGCTGGCAGACCAGTA | CGTTCTTCACCGACTTCCTC | 58 |
| *Alx4* | ACCCAGGTTGCTCTCTTTG | GCGCATCTCTAACTTGCAGA | 58 |
| *Hand2* | CTTCACTGCTTGAGCTCCCA | GAGGAGAAGAGGAAGAAAGAG | 58 |
| *Shh* | GCATTTAACTTGTCTTTGCACCT | GATCACAAGAAACTCCGAACGA | 58 |
| *Ptch1* | GCACAAATCTTCCAACTTCCAT | CTCAACTCATGATACAGACTCCAA | 58 |
| *Cdkn1b* | GCAGTGATGTATCTAATAAACAAGGA | GAGCAGACGCCCAAGAAG | 58 |
| *Ccnd1* | GCTTCAATCTGTTCCTGGCA | CAACAACTTCCTCTCCTGCTAC | 58 |
| *Cdk6* | GACTCCACGTCTGAACTTCCAC | AAGTCCTGCTCCAGTCCA | 58 |
| *Gli3* | GCTGCATGAAGACTCACCA | AGCAACACTACCTCAAAGCG | 58 |
| *Gli1* | GGAAGTCCTATTCACGCCTTGA | CAACCTTCTTGCTCACACATGTAA | 58 |
| *Sox5* | AGCCGCAATGCAGGTTTCT | TTGTGCTCTTGTCTGTGTGAAT | 58 |
| *Sox6* | GGTCATGTTTCCCACCCACAA | TTCAGAGGGGTCCAAATTCCT | 58 |
| *Pax9* *ChIP* *(E-box)* | GCGCTCTGTGCTCCTTTTG | CCAGGATCTTGCTGACGCA | 60 |
| *Cdkn1b**ChIP* *(E-box)* | CGGCCGTTTGGCTAGTTTGTTTGT | AACCCAGCCGCTCTC CAAACCTTG | 58 |
| *Col2a1 ChIP* *(N-box)* | ACACCCCTCCTCTCCATCTT | TCATGAATGGGGCTTTTCTC | 58 |
| *Pax9* *ChIP* *(non-target)* | TGGAAAACCGTGTTGGCAAT | GCAATCGGGCATCTTTGCAG | 58 |
| *Cdkn1b* *ChIP* *(non-target)* | AAGGCCCCAAAGGATAGGGA | GCCACGGCAGCTCTATTCA | 58 |
| *Col2a1**ChIP* *(non-target)* | ATGGTTGTCGTCATCCCTTCTGG | CACCCGGTTGTATCTGGACT | 58 |
| *Hes1 ChIP* *(N-box)* | TGGGAAGTTTCACACGAGCC | ATCTGCCATTTCACCCCGAG | 58 |