Inversion region. Between exon 2 and 3.

* + Suggested target coordinates: Chr18:29098216 – 29099848

ATCTGCTTTAACGTTGGAAGTGGACTTCACTTACAGGTGAGGAAACAAAGGGATTATTTCTGCCTTCTGACTCAGGAGGGTTAATTCCATGGCAAACAGGTTGACTGGGCTTTACTAGATTGAAGACACATGTTGTATTAGACCCAGCCATTCCCATTCAAACAAGTGCAGAGGAGCTTATCCAGGGGTATTCAGTGCAGCAGTTTTTGACAATGTAAATATCCACCAATAGGTGAATGTTAAAACCATTTATGGTACATGAAAGAATGTCCATGACGAGGTGCTGAATGAAAATCGGGGCAAAATAAGATATATAGTGTAAGTCCATTTTTATAGCAAAAAGACCTTTATGCATCTGTGTATATATGTGCAACTGTATAGTTATGAAAAATCATAAAAGATATTAATCAAGCTGTTAATGAATACTTTGTGAGGTATAAATGAAAAAGTAATTTCAATTTTTTGTCATAGAAAATTTTGTTCAAGTaaaaaaaaaaaTCAATGACCTAGTGATAACCAGAGTACATATTTTGAAGTAAAATACCTATTACATAGAGCAACAAAATGAGTAAAATGATAAACCAAACCTAGTATAAGGATTATTTCTGATCTTAAGATCCCAGGTCAGCTGTATTGAAATTTCCCTTGGATAAAATATATATTCACCTGTAAAACCCAACTGGAAATTTATAGAATGGTTTTCTGCCTAAGGTTCTGAAAATGAAATGGGAAATTTAATTCTTTACCCAATCCTGAAAACAATAAATTCATTAACTGGCAGTTTCCCTGGTTTTAGTCAAGTTTATATCAATAGATTACTAAGATTTAGCCTTAAAAAACATTTAGTAATTTATTTTTAAACCACAAACCACCACAGAAAAATGAAACTTCATTTTCAGTTAATAAGAAAAAACGTTTTTGACATGATCTGTTATTTTTTACTTTGCCAATTTGTAAGGCTACTAAATGATTCTTTAAACTTTTCAAACTCTCACTCTGGGAAATCATTTCTTACAGTTAAAAACAAAATTCTACTGTctgggcacagtggctcacacttgtaatcccagcactttgggagactgaggcgggcggattgcttgaggcttgagtctaggagttcaaggccagcttaggcaacatggtgaaaccccatagctactaaaaatacaaaaattagccagatgtggtggtgcatgcctgtaatcccagcttcttaggaggctgaggcaggaagatggcttgatccggggaagtcaaggctacagtgagccaagatcatgccactgcactccagcctgggtgacaaagcaagaccctgtctcaaaagaaaaaataaaccagaaaaaaCCCTACACTTTTACTAGCTTGGAGACAATCTCTTGAGGCCCTATGCAGTTTGCTAGAATATATATATTCCCTTTTAGACAATGAAGCCTCATAGGAAATACGAAGCATACCTTAAAATTTGCACTATTTAAAAGTTTATTATGTTATAGGACAGCATACTAATGTTCTATATTTATGACACATAATAAATTTTGGCAATATTCTATTGTTATAGGTCTTAAGCACAAGAAATGAAAATAAGCTGCTTCCTAAACATCCTCATTTAGTGCGGCAAAAGCGCGCCTGGATCACCGCCCCCGTGGCTCTTCGGGAGGGAGAGGATCTGTCCAAGAAGAATCCAATTGCCAAG

Reverse

CTTGGCAATTGGATTCTTCTTGGACAGATCCTCTCCCTCCCGAAGAGCCACGGGGGCGGTGATCCAGGCGCGCTTTTGCCGCACTAAATGAGGATGTTTAGGAAGCAGCTTATTTTCATTTCTTGTGCTTAAGACCTATAACAATAGAATATTGCCAAAATTTATTATGTGTCATAAATATAGAACATTAGTATGCTGTCCTATAACATAATAAACTTTTAAATAGTGCAAATTTTAAGGTATGCTTCGTATTTCCTATGAGGCTTCATTGTCTAAAAGGGAATATATATATTCTAGCAAACTGCATAGGGCCTCAAGAGATTGTCTCCAAGCTAGTAAAAGTGTAGGGttttttctggtttattttttcttttgagacagggtcttgctttgtcacccaggctggagtgcagtggcatgatcttggctcactgtagccttgacttccccggatcaagccatcttcctgcctcagcctcctaagaagctgggattacaggcatgcaccaccacatctggctaatttttgtatttttagtagctatggggtttcaccatgttgcctaagctggccttgaactcctagactcaagcctcaagcaatccgcccgcctcagtctcccaaagtgctgggattacaagtgtgagccactgtgcccagACAGTAGAATTTTGTTTTTAACTGTAAGAAATGATTTCCCAGAGTGAGAGTTTGAAAAGTTTAAAGAATCATTTAGTAGCCTTACAAATTGGCAAAGTAAAAAATAACAGATCATGTCAAAAACGTTTTTTCTTATTAACTGAAAATGAAGTTTCATTTTTCTGTGGTGGTTTGTGGTTTAAAAATAAATTACTAAATGTTTTTTAAGGCTAAATCTTAGTAATCTATTGATATAAACTTGACTAAAACCAGGGAAACTGCCAGTTAATGAATTTATTGTTTTCAGGATTGGGTAAAGAATTAAATTTCCCATTTCATTTTCAGAACCTTAGGCAGAAAACCATTCTATAAATTTCCAGTTGGGTTTTACAGGTGAATATATATTTTATCCAAGGGAAATTTCAATACAGCTGACCTGGGATCTTAAGATCAGAAATAATCCTTATACTAGGTTTGGTTTATCATTTTACTCATTTTGTTGCTCTATGTAATAGGTATTTTACTTCAAAATATGTACTCTGGTTATCACTAGGTCATTGAtttttttttttACTTGAACAAAATTTTCTATGACAAAAAATTGAAATTACTTTTTCATTTATACCTCACAAAGTATTCATTAACAGCTTGATTAATATCTTTTATGATTTTTCATAACTATACAGTTGCACATATATACACAGATGCATAAAGGTCTTTTTGCTATAAAAATGGACTTACACTATATATCTTATTTTGCCCCGATTTTCATTCAGCACCTCGTCATGGACATTCTTTCATGTACCATAAATGGTTTTAACATTCACCTATTGGTGGATATTTACATTGTCAAAAACTGCTGCACTGAATACCCCTGGATAAGCTCCTCTGCACTTGTTTGAATGGGAATGGCTGGGTCTAATACAACATGTGTCTTCAATCTAGTAAAGCCCAGTCAACCTGTTTGCCATGGAATTAACCCTCCTGAGTCAGAAGGCAGAAATAATCCCTTTGTTTCCTCACCTGTAAGTGAAGTCCACTTCCAACGTTAAAGCAGAT

1. Forward primer: AGATTTCTCCTCGGGCACTTCC
2. Reverse primer: TCTTGGACAGATCCTCTCCCTCC

Annealing temp: 58,2 (67) (; product size 1874bp

1. Target forward primer for inversion: TGCAGAGGAGCTTATCCAGG annealing temp: 58,87 (64)

With reverse primer (2) above the product size is 1516bp……………………………………..

1. Target reverse primer for inversion: CCTGGATAAGCTCCTCTGCA annealing temp? 64?

With forward primer (1) above the product size is 378bp.

Large insert in in exon 8

The sequence is: AGTCGCCGATCTGTTTCTGGCCGCCAAGAACCTGTCCGACGCCATCCTGCTGAGCGACATCCTGAGAGTGAACACCGAGATCACCAAGGCCCCCCTGAGCGCCTCTATGATCAAGAGATACGACGAGCACCACCAGGACCTGACCCTGCTGAAAGCTCTCGTGCGGCAGCAGCTGCCTGAGAAGTACAAAGAGATTTTCTTCGACCAGAGCAAGAACGGCTACGCC

Sequence of exon7 to exon 8, potentially inserted seq. Also use for cDNA.

Forward

GAACACAGCAGCTACACTTTGACAGTAGAAGCAAGAGATGGCAATGGAGAAGTTACAGACAAACCTGTAAAACAAGCTCAAGTTCAGATTCGTATTTTGGATGTCAATGACAATATACCTGTAGTAGAAAATAAAGTGGTAACTATTATTCTTCTAATAACTGTACCTATTTATTTATATTTCAGTCCTAATTAAAAATATATCACTTATATTTGTATTTCATTGAAATAAAAATCATGTGTTCATGTTTTGCAGCTTGAAGGGATGGTTGAAGAAAATCAAGTCAACGTAGAAGTTACGCGCATAAAAGTGTTCGATGCAGATGAAATAGGTTCTGATAATTGGCTGGCAAATTTTACATTTGCATCAGGAAATGAAGGAGGTTATTTCCACATAGAAACAGATGCTCAAACTAAAGTCGCCGATCTGTTTCTGGCCGCCAAGAACCTGTCCGACGCCATCCTGCTGAGCGACATCCTGAGAGTGAACACCGAGATCACCAAGGCCCCCCTGAGCGCCTCTATGATCAAGAGATACGACGAGCACCACCAGGACCTGACCCTGCTGAAAGCTCTCGTGCGGCAGCAGCTGCCTGAGAAGTACAAAGAGATTTTCTTCGACCAGAGCAAGAACGGCTACGCCCGAAGGAATTGTGACCCTTATTAAGG

Reverse (without the large insert)

CCTTAATAAGGGTCACAATTCCTTCGTTAGTTTGAGCATCTGTTTCTATGTGGAAATAACCTCCTTCATTTCCTGATGCAAATGTAAAATTTGCCAGCCAATTATCAGAACCTATTTCATCTGCATCGAACACTTTTATGCGCGTAACTTCTACGTTGACTTGATTTTCTTCAACCATCCCTTCAAGCTGCAAAACATGAACACATGATTTTTATTTCAATGAAATACAAATATAAGTGATATATTTTTAATTAGGACTGAAATATAAATAAATAGGTACAGTTATTAGAAGAATAATAGTTACCACTTTATTTTCTACTACAGGTATATTGTCATTGACATCCAAAATACGAATCTGAACTTGAGCTTGTTTTACAGGTTTGTCTGTAACTTCTCCATTGCCATCTCTTGCTTCTACTGTCAAAGTGTAGCTGCTGTGTTC

Primer to characterize

Forward primer in exon 7: GGATGTCAATGACAATATACCTG

Reverse primer in inserted seq: gttcttgctctggtcgaa

Annealing temp: 60.

Product length: 535

Sequencing Exon 1- exon 8 cDNA

**Homo sapiens desmoglein 2 (DSG2), mRNA**

NCBI Reference Sequence: NM\_001943.5

[GenBank](https://www.ncbi.nlm.nih.gov/nuccore/NM_001943.5?report=genbank) [Graphics](https://www.ncbi.nlm.nih.gov/nuccore/NM_001943.5?report=graph)

>NM\_001943.5 Homo sapiens desmoglein 2 (DSG2), mRNA

GAGGAGCCGAGTGCGCGCTCGGGGCAGGCGGCGGCGCGGAGCGGTGCGGCGGCGGGAGGCGGAGGCGAGG

GTGCGATGGCGCGGAGCCCGGGACGCGCGTACGCCCTGCTGCTTCTCCTGATCTGCTTTAACGTTGGAAG

TGGACTTCACTTACAGGTCTTAAGCACAAGAAATGAAAATAAGCTGCTTCCTAAACATCCTCATTTAGTG

CGGCAAAAGCGCGCCTGGATCACCGCCCCCGTGGCTCTTCGGGAGGGAGAGGATCTGTCCAAGAAGAATC

CAATTGCCAAGATACATTCTGATCTTGCAGAAGAAAGAGGACTCAAAATTACTTACAAATACACTGGAAA

AGGGATTACAGAGCCACCTTTTGGTATATTTGTCTTTAACAAAGATACTGGAGAACTGAATGTTACCAGC

ATTCTTGATCGAGAAGAAACACCATTTTTTCTGCTAACAGGTTACGCTTTGGATGCAAGAGGAAACAATG

TAGAGAAACCCTTAGAGCTACGCATTAAGGTTCTTGATATCAATGACAACGAACCAGTGTTCACACAGGA

TGTCTTTGTTGGGTCTGTTGAAGAGTTGAGTGCAGCACATACTCTTGTGATGAAAATCAATGCAACAGAT

GCAGATGAGCCCAATACCCTGAATTCGAAAATTTCCTATAGAATCGTATCTCTGGAGCCTGCTTATCCTC

CAGTGTTCTACCTAAATAAAGATACAGGAGAGATTTATACAACCAGTGTTACCTTGGACAGAGAGGAACA

CAGCAGCTACACTTTGACAGTAGAAGCAAGAGATGGCAATGGAGAAGTTACAGACAAACCTGTAAAACAA

GCTCAAGTTCAGATTCGTATTTTGGATGTCAATGACAATATACCTGTAGTAGAAAATAAAGTGCTTGAAG

GGATGGTTGAAGAAAATCAAGTCAACGTAGAAGTTACGCGCATAAAAGTGTTCGATGCAGATGAAATAGG

TTCTGATAATTGGCTGGCAAATTTTACATTTGCATCAGGAAATGAAGGAGGTTATTTCCACATAGAAACA

GATGCTCAAACTAACGAAGGAATTGTGACCCTTATTAAGGAAGTAGATTATGAAGAAATGAAGAATCTTG

ACTTCAGTGTTATTGTCGCTAATAAAGCAGCTTTTCACAAGTCGATTAGGAGTAAATACAAGCCTACACC

CATTCCCATCAAGGTCAAAGTGAAAAATGTGAAAGAAGGCATTCATTTTAAAAGCAGCGTCATCTCAATT

TATGTTAGCGAGAGCATGGATAGATCAAGCAAAGGCCAAATAATTGGAAATTTTCAAGCTTTTGATGAGG

ACACTGGACTACCAGCCCATGCAAGATATGTAAAATTAGAAGATAGAGATAATTGGATCTCTGTGGATTC

TGTCACATCTGAAATTAAACTTGCAAAACTTCCTGATTTTGAATCTAGATATGTTCAAAATGGCACATAC

ACTGTAAAGATTGTGGCCATATCAGAAGATTATCCTAGAAAAACCATCACTGGCA

Do cDNA first, then send to sequencing if cDNA is created for this sequence.

Forward primer(ex1):

TACGCCCTGCTGCTTCTC

Reverse primer(ex8):

TTAATAAGGGTCACAATTCCTTCG

Annealing temp: 62

Product length:990bp