

## **Tight junction *CLDN2* gene is a direct target of the vitamin D receptor**

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## Supplementary Figure Legends

**Supplementary Figure 1.** Sequence analysis of the 5'-flanking region of the human Claudin-2 gene. Potential binding sites are underlined.

1 GAATCTTGGC AACACCGAGG GCTCCTTGAA CACGGCAAAA TCTTATATGG CTCTGAGATT  
 61 CCAAAGCATT GACTCAGATA CCTGCCTCAT GCAAAGCCCT ATATTCTAGA GCAGTTTCCC  
 121 TTTCTCTGT GGCAGACTCT TGTCCCCCT AACAGATGGC CCAGGGAAAT TCAGGGCCCC  
 181 CTCTCAGTCC TGGAACCCCT GTTCCAGAGT GCTCCCTCAT CATCCAAGAG GCTGATGATG  
 241 GGAGCATCTA TTAGGAGACT GGACAGGAAA TGTCTGGGCA TGTTATACAT GCAGGAGGCC  
 301 TTAGACTAGG CTGCAGAGGG GGATTTGGGC ATGGCTGGGA GGATCTGAAC TCTCAGAGTA  
 361 TGGACAGAAG GCTTTGCTGC CCACCCCAT CTACCCTGGA GTAGATTTTC ACCATGGGCA  
 421 GAATGATCCA GGGCTAGGCC ACTACTCTCT AGGCCCTGG AGATTCAAGA GGCCTCTAAC  
 481 AAACCTGGAGT CCAAGACTAC ATTCTAGGAT CTGTTCTCTC TGATGTAGTC TGCAGTTTGG  
 541 CCTCAGTCTG CAATTGAGGG GCCCTATGGC ACTGTTGCTT GGCAATGTAT TAAACAGCAG  
 601 GCCTTGAGAG CTAGCACTTG AGTTAACACA GCCACCACAA CCACCACTGC CATCATCACC  
 661 TTCCCGGAAA GCAGCCACCT GTCTGGCTCC TGGCTTTGTC CAGCTGCCAA CCTAAGGCAT  
 STAT  
 721 GTGCCTACGC AGGAGGCGAT GACATTTTGG CTCCACGTTT AAAGTTGTTT TTTTTTTCCT  
 781 TTCTCATGTG TTATTTCTAA AGATAACAAA GGTCAAAAGG CATCCAGCGT TTCTGGTTT  
 Cdx-A VDRE Cdx-B  
 841 CTCATAAGCT TCTGGTCAAT ATTTAATCTG GTTTATGGAT TTTTTTTAGG TCTTCTAGAT  
 Cdx-C Cdx-D  
 901 GCCTTCTTGA GGCTGCTTGT GGCACCCAC AGACACTTGT AAGGAGGAGA GAAGTCAGCC  
 Start of Transcription  
 961 TGGCAGAGAG ACTCTGAAAT GAGGGATTAG AGGTGTTCAA GGAGCAAGAG CTTCAGCCTG  
 1021 AAGACAAGGG AGCAGTCCCT GAAGACGCTT CTA CTGAGAG GTCTGCCATG  
 Start of Translation

**Supplement Table1: CHIP Primers**

<b>Primers name</b>	<b>Sequence</b>
CMC2F	5'-TGCCAGCCTAAAACATGTGC-3'
CMC2R	5'-AGATTAAATATTGACCAGAAG-3'
CMC1F	5'-GGGATGCCTGATTCTCTTCA-3'
CMC1R	5'-TGGAAGTGAGAAGTGGCAGA-3'
CMactinF	5'-TCGATATCCACGTGACATCCA-3'
CMactinR	5'-GCAGCATTTTTTTTACCCCCTC-3'
CHC2F	5'-GTCCAGCTGCCAACCTAAGGCA-3'
CHC2R	5'-CAGATTAAATATTGACCAGAAG-3'
CHC1F	5'-TGGAGGCATCGCTTGTTTTTC-3'
CHC1R	5'-TAGCTGTCCTCTCTGCGTCT-3'
CHactinF	5'-GAGCACAGAGCCTCGCCTTT-3'
CHactinR	5'-AGACAAAGACCCCGCCGGTT-3'

**Supplement Table 2: VDRE construct PCR Primers**

<b>Primers name</b>	<b>Sequence</b>
$\Delta$ VDREF	5'-ATTACGCGTGGGTCTTGGCAACACCGA-3'
$\Delta$ D1F	5'-CCAGAAAACGCTGGATGCCGAAATAACACATGA-3'
$\Delta$ D1R	5'-CTCATGTGTTATTTCCGGCATCCAGCGTTTTCTGG-3'
$\Delta$ D2F	5'-GACCAGAAGCTTATGAGAAACAACACATGAGAAAGG-3'
$\Delta$ D2R	5'-CCTTTCTCATGTGTTGTTTCTCATAAGCTTCTGGTC-3'
$\Delta$ D3F	5'-GAAGGCATCTAGAAGACGATTAATATTGACCAG-3'
$\Delta$ D3R	5'-CTGGTCAATATTTAATCGTCTTCTAGATGCCTTC-3'
$\Delta$ D4F	5'-CATCTACCCTGGAGTAGATCCAGGGCTAGGCCACTA-3'
$\Delta$ D4R	5'-TAGTGGCCTAGCCCTGGATCTACTCCAGGGTAGATG-3'
$\Delta$ VDRER	5'-GCAGATCTGGCAGACCTCTCAGTAGAAG-3'

**Supplement Table 3: Real-time PCR Primers**

<b>Primers name</b>	<b>Sequence</b>
m $\beta$ -actinF	5'-TGTTACCAACTGGGACGACA-3'
m $\beta$ -actinR	5'-CTGGGTCATCTTTTCACGGT-3'
mVDRF	5'-GAATGTGCCTCGGATCTGTGG-3'
mVDRR	5'-ATGCGGCAATCTCCATTGAAG-3'
mClaudin2F	5'-GCAAACAGGCTCCGAAGATACT-3'
mClaudin2R	5'-GAGATGATGCCCAAGTACAGAG-3'
mClaudin7F	5'-GCGACAACATCATCACAGCC-3'
mClaudin7R	5'-CCTTGGAGGAATTGGACTTGG-3'
h $\beta$ -actinF	5'-AGAGCAAGAGAGGCATCCTC-3'
h $\beta$ -actinR	5'-CTCAAACATGATCTGGGTCA-3'
hVDRF	5'-GGACTGCCGCATCACCAA-3'
hVDRR	5'-TCATCTCCCGCTTCCTCT-3'
hClaudin2F	5'-ACCTGCTACCGCCACTCTGT-3'
hClaudin2R	5'-CTCCCTGGCCTGCATTATCTC-3'
hClaudin7F	5'-CATCGTGGCAGGTCTTGCC-3'
hClaudin7R	5'-GATGGCAGGGCCAAACTCATAC-3'

**Supplement Table 4: Binding sites sequences for VDRE deletion constructs**

<b>Binding sites name</b>	<b>Sequence</b>
VDRE	AGATAACAAAGGTCA
D2	TAAAGATAACAAAGGTCAAAA
D3	TGGTTTATGGATTTTTTTTAG
D4	CCTGGAGTAGATTTTCACC