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4242 bp

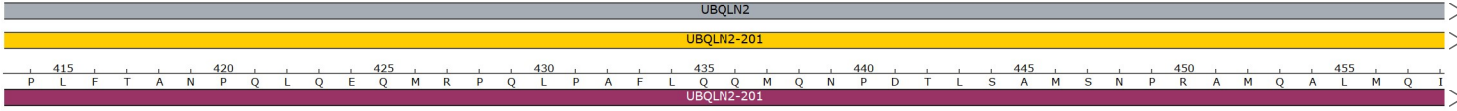


Sanger Sequencing Primer  
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PCR Forward  
AGATGCAGAATCCAGACACACTATC

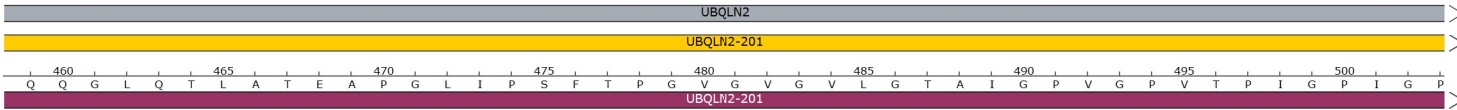
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GGG CGA CAA AT GAC G T T A G G A G T C G A C G T C C T C G T C T A C G C C G G T G T C G A G G G T C G G A A G A C G T C G T C T A C G T C T T A G G T C T G T G A T A G T C G G T A C A G T T T G G G T T C G T T A C G T C C G A A A T T A C G T C T A

1620



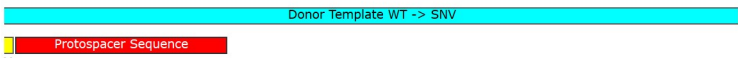
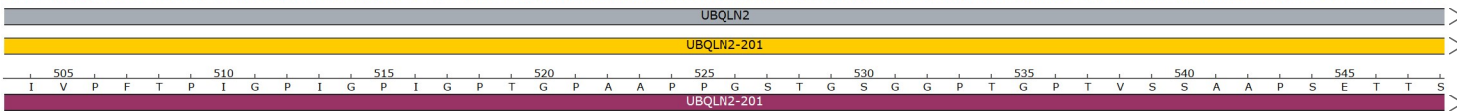
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1755



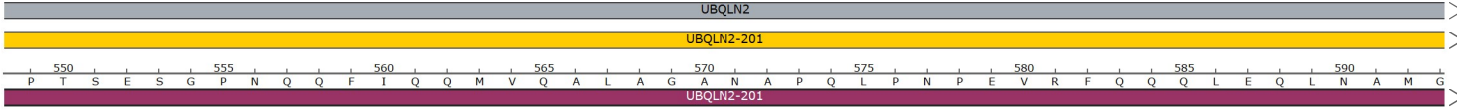
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1890



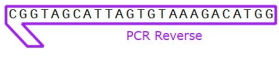
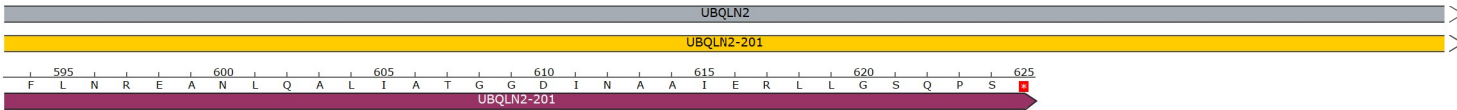
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A G G A T G T A G T C T T A G A C C T G G G T T G G T C G T C A A G T A A G T C G T T A C C A C G T C C G G A C C G A C C T C G T T T A C G A G G T G T C G A C G G C T A G G T C T C A G T C T A A A G T C G T T G T G A C C T T G T C G A G T T G C G T T A C C C

2025



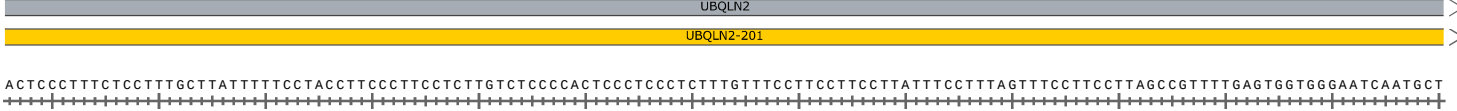
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C A A G A A T T T G G C A C T T C G T T T G A A C G T C C G G A T T A T C G T T G T C C C G T G T A G T T A C G T C G G T A A C T T T C G A C A C C C G A G G G T C G G T A G C A T T A G T G T A A A G A C A T G G A C C T T T T T T T A C A T A G A A T A A A

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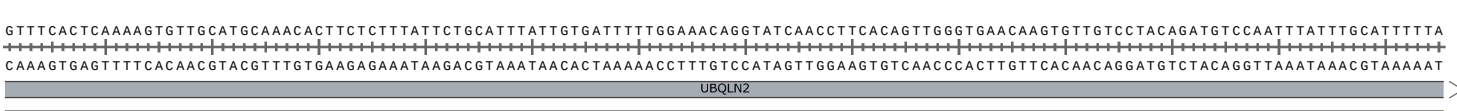
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A A C T A T T A C C G A G A A T T T A G A A T T T G T G T G T T T T A G C A A G A A T G A A G T A A A C T A A G A A A T T T A G A C A G A T C A A C A T T C A G A T T A C T A C G T A A A A T T C A C T C A G G G A G G A T G A A G G A G

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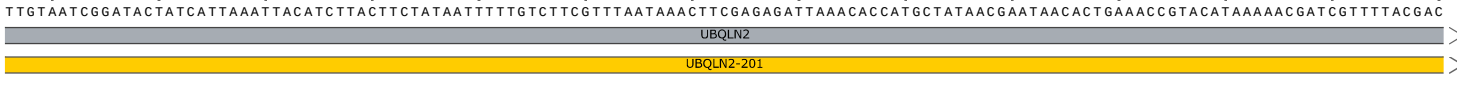
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T G A G G A A A G A G G A A C G A A T A A A A A G G A T G A A G G G A G G A G A C A G A G G G T G A G G G A G G A A A C A A A G A A G A A G A A T A A A G A A A T C A A A G G A A G G A A T C G G C A A A A C T A C C A C C C T T A G T T A C G A

2430



G T T C A C T C A A A A G T T T G C A T G C A A A C A C T T C T T T A T T C T G C A T T A T T G T G A T T T T G G A A A C A G G T A T C A A C C T T C A C A G T T G G G T G A C A A G T G T T G T C C T A C A G A T G T C C A A T T A T T T G C A T T T T A  
C A A A G T G A G T T T T C A C A A C G T A C G T T T G T G A A G A A A A T A A G C G T A A A T A A C A C T A A A A A C C T T T G C C A T A G T T G G A A G T G T C A A C C C A C T T G T T C A C A A C A G G A T G T C T A C A G G T T A A A T A A A C G T A A A A T

2565



A A C A T T A G C C A T G A T A G T A A T T A A T G T A G A A T G A A G A T T T A A A A C A G A A G C A A A T T A T T T G A A G C T C T C A A T T T G T G G T A C G A T T T G C T A T T G T A C T T T G G C A T G T A T T T T G C T A G C A A A A T G C T G  
T T G T A A T C G G A T A C T A T C A T T A A A T T A C A T C T A C T T C T A T A A T T T T G C T C C G T T A A T A A C T T C G A G A G A T T A A C A C C A T G C T A T A A C G A A T A A C A C T G A A A C C G T A C A T A A A A C G A T C G T T T T A C G A C

2700

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2835

UBQLN2

UBQLN2-201

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2970

UBQLN2

UBQLN2-201

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3105

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UBQLN2-201

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3240

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3375

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3780

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3915

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4050

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UBQLN2-201

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4185

UBQLN2

UBQLN2-201

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CTGACGTACCCAAATTTGTAAGAGTATTGTACAGATTTATTTTCCACCGTCACCGT

3'

4242

5'

UBQLN2

UBQLN2-201

| Feature                              | Location  | Size    | Color  | Symbol | Type            |
|--------------------------------------|---|---------|--------|--------|-----------------|
| ✓ <b>UBQLN2</b>                      | 1 .. 4242   | 4242 bp | Grey   | →      | gene            |
| /note                                | = gene <a href="#">ENSG00000188021</a><br>Protein coding  |         |        |        |                 |
| ✓ <b>UBQLN2-201</b>                  | 1 .. 4242   | 4242 bp | Yellow | →      | prim_transcript |
| /note                                | = primary transcript <a href="#">ENST00000338222</a>  |         |        |        |                 |
| ✓ <b>UBQLN2-201</b>                  | 248 .. 2122   | 1875 bp | Red    | →      | CDS             |
| /note                                | = coding sequence <a href="#">ENSP00000345195</a>   |         |        |        |                 |
| /translation                         | = MA ENGESSGPPRPSRGPA A A QGSAAA PAEPKIIKVT VKTPKEKEFAV PENSSVQQFKEAISKRFKSQTDQLVLIFAGKILKDDTLIQHGIHDGLTVHLVIKSQNRPQGQSTQPSNAA GTNTTSASTPRSNSTPISTNSNPF<br>GLGSLGGLA GLSSLGLSSTNFSELQSQMQQLMA SPEMMIQIMENPFVQSMLSNPDLMRQLIMANPQMQQLIQRNPEISHLLNNDIMRQTL E IARNPAMMQEMMRNQDLALSNLESIPGGYNALRRMYTDIQEPMLNAA<br>QE QFGGNPFASVGS SSSSGEGTQPSRTENRDL PNPWAPPATQSSAT TSTTTSTGSGSGNSSNATGNTVAAAANYVASIFSTPGMQSLLQ QITENPQLIQNMLSA PYMRSM MQSLSQNPDLAAQ MMLNSPLFTANPQLQ<br>EQMRPQLPAFLQQMQNPDLSAMSNPRAMQALMQIQQLGLQLATEAPGLIPSFPGVGVGLGTAIGPVGPVTPIGPIGPV PFTPIGPIGPVIGTGPAA PPGSTGSGGPTGPTVSSAAPSETTSPTSESGPNQQFIQQMV<br>QZLAAHAAEQSPNRSYKQQLQLEQLNAMGFLNREANLQAL IATGGDINAAIERLLGSGQPS* |         |        |        |                 |
| ✓ <b>Donor Template WT -&gt; SNV</b> | 1725 .. 1824  | 100 bp  | Blue   | ≡      | misc_feature    |
| ✓ <b>PAM</b>                         | 1754 .. 1756  | 3 bp    | Yellow | ≡      | misc_feature    |
| ✓ <b>Protospacer Sequence</b>        | 1757 .. 1776  | 20 bp   | Red    | ≡      | misc_feature    |
| ✓ <b>SNV</b>                         | 1763 .. 1763  | 1 bp    | Yellow | ≡      | misc_feature    |
| /note                                | = WT = C<br>SNV = A   |         |        |        |                 |

| Primer  | Length  | Binding Sites | Tm   | Date Added   |
|---|---------|---------------|------|--------------|
| ✓ <b>PCR Forward</b>  | 25-mer  | 1554 .. 1578  | 58°C | Jun 30, 2022 |
| /sequence = AGATGCAGAATCCAGACACACTATC<br>44% GC / 7628.0 Da   |         |               |      |              |
| ✓ <b>Sanger Sequencing Primer</b>   | 20-mer  | 1579 .. 1598  | 57°C | Jun 30, 2022 |
| /sequence = AGCCATGTCAAACCCAAGAG<br>50% GC / 6104.0 Da  |         |               |      |              |
| ✓ <b>Donor Template WT -&gt; SNV</b>  | 100-mer | 1725 .. 1824  | 83°C | Jun 30, 2022 |
| /sequence = CCAGGGGGGGCTGCAGGGCCAGTGGGTCTATGGGCCAATGGGGCCTATGGGGGTAAAAGTGA CTATAGGGCCTATGGGGCCTATGGGGGTGACTGGGC<br>65% GC / 31,336.3 Da |         |               |      |              |
| ✓ <b>gRNA Protospacer</b>   | 20-mer  | 1757 .. 1776  | 54°C | Jun 30, 2022 |
| /sequence = ATGGGGGTAAAAGGACTAT<br>45% GC / 6270.2 Da   |         |               |      |              |
| ✓ <b>PCR Reverse</b>  | 25-mer  | 2113 .. 2137  | 58°C | Jun 30, 2022 |
| /sequence = GGTACAGAAATGTGATTACGATGGC<br>44% GC / 7770.1 Da   |         |               |      |              |