



BYP6848  
 pNHK12  
 6446 bp

pNHK12 (BYP6848)  
 1923–1928 BamHI; 1929–2628 ADH1 promoter; 2629–2634 EcoRI; 2662–3348 IAA17;  
 3358–3363 ApaI; 3364–3393 5xGA linker; 3394–4167 EGFP-NLS; 4168–4173 KpnI; Digest  
 with Bsu36I or MfeI for integration at the TRP1 locus.

>pNHK12

```
TCGCGCGTTTCGGTGATGACGGTGAAAACCTCTGACACATGCAGCTCCCGGAGACGGTACAGCTTGTCTGTAAGCGGAT
GCCGGGAGCAGACAAGCCCGTCAGGGCGCGTCAGCGGGTGTGGCGGGTGTGGGGCTGGCTTAACTATGCGGCATCAGA
GCAGATTGTACTGAGAGTGCACCAAACGACATTACTATATATATAATATAGGAAGCATTTAATAGACAGCATCGTAATAT
ATGTGTACTTTGCAGTTATGACGCCAGATGGCAGTAGTGAAGATATTCTTTATTGAAAAATAGCTTGTACCTTACGTA
CAATCTTGATCCGGAGCTTTTCTTTTTTTGCGGATTAAGAATTAATTCGGTGCAAAAAAGAAAAGGAGAGGGCCAAGAGG
GAGGGCATTGGTGACTATTGAGCAGTGAGTATACGTGATTAAGCACACAAAGGCAGCTTGGAGTATGTCTGTTATTAAT
TTCACAGGTAGTTCTGGTCCATTGGTGAAAGTTTGCGGCTTGCAGAGCACAGAGGCCGAGAATGTGCTCTAGATTCCGA
TGCTGACTTGCTGGGTATTATATGTGTGCCAATAGAAAAGAGAACAATTGACCCGGTATTGCAAGGAAAATTTCAAGTC
TTGTAAGCATATAAAAAATAGTTTCAGGCACCTCCGAAATACTTGGTTGGCGTGTTCGTAATCAACCTAAGGAGGATGTT
TTGGCTCTGGTCAATGATTACGGCATTGATATCGTCCAACCTGCATGGAGATGAGTCGTGGCAAGAATACCAAGAGTTCCCT
CGTTTATTTCCCTTGTGTTGATTTCAGAAGCAGGTGGGACAGGTGAACTTTTGGATTGGAACCTCGATTTCTGACTGGGTGGA
AGGCAAGAGAGCCCCGAAAGCTTACATTTTATGTTAGCTGGTGGACTGACGCCAGAAAATGTTGGTGTATGCGCTTAGATT
AAATGGCGTTATTGGTGTGATGTAAGCGGAGGTGTGGAGACAAATGGTGTAAAAGACTCTAACAAAATAGCAAATTTTCG
TCAAAAATGCTAAGAAATAGGTTATTACTGAGTAGTATTTATTTAAGTATTGTTTGTGCACTTGCTGCGGTGTGAAATA
CCGCACAGATGCGTAAGGAGAAAATACCGCATCAGGAAATTGTAAACGTTAATATTTTGTAAAATTCGCGTTAAATTTT
```

TGTTAAATCAGCTCATTTTTTAAACCAATAGGCCGAAATCGGCAAAATCCCTTATAAAATCAAAAGAATAGACCGAGATAGG  
GTTGAGTGTGTTCCAGTTTGGAAACAAGAGTCCACTATTAAGAACGTGGACTCCAACGTCAAAGGGCGAAAAACCGTCT  
ATCAGGGCGATGGCCACTACGTGAACCATCACCTAATCAAGTTTTTTGGGGTCGAGGTGCCGTAAGACATAAAATCGG  
AACCTAAAGGGTAGCCCCCTTTAGAGCTTGACGGGGAAAGCCGGGGAACCTGGCGAGAAAGGAAGGGAAGAAAGCGAA  
AGGAGCGGGCGTAGGGCGTGGCAAGTGTAGCGGTACGCTGCGCGTAACCACCACACCCGCGCTTAATGCGCCGC  
TACAGGGCGCGTCGCGCCATTCGCCATTCAGGCTGCGCAACTGTTGGGAAGGGCGATCGGTGCGGGCCTCTTCGCTATTA  
CGCCAGCTGGCGAAGGGGGGATGTGCTGCAAGGCGATTAAGTTGGGTAACGCCAGGGTTTTCCAGTCACGACGTTGTAA  
AACGACGGCCAGTGAATTGTAATACGACTCACTATAGGGCGAATTGGAGCTCCACCGCGGTGGCGGCCGCTCTAGAATA  
GTGGATCCGGGTGTACAATATGGACTTCCTCTTTCTGGCAACCAAACCCATACATCGGGATTCTATAATACCTTCGTT  
GGTCTCCCTAACATGTAGGTGGCGGAGGGGAGATATACAATAGAACAGATACCAGACAAGACATAATGGGCTAAACAAGA  
CTACACCAATTACACTGCCTCATTTGATGGTGGTACATAACGAACATAACTGTAGCCCTAGACTTGATAGCCATCATCAT  
ATCGAAGTTTCACTACCTTTTTTCCATTTGCCATCTATTGAAGTAATAATAGGCGCATGCAACTTCTTTTCTTTTTTTTT  
CTTTTCTCTCTCCCCGTTGTTGTCTCACCATATCCGCAATGACAAAAAATGATGGAAGACACTAAAGGAAAAAATTA  
CGACAAAGACAGCACCAACAGATGTGCTTGTTCAGAGCTGATGAGGGGTATCTCGAAGCACACGAAACTTTTTCTTCC  
TTCATTCACGCACACTACTCTCTAATGAGCAACGGTATACGGCCTTCTTCCAGTTACTTGAATTTGAAATAAAAAAAG  
TTTGTCTGCTTGTATCAAGTATAAATAGACTGCAATTAATCTTTTGTTCCTCGTCATTGTTCTCGTTCCCTTTT  
TCCCTTATCTTTTTCTGCAAAATATTTCAAGCTATACCAAGCATACAATCAACTATCTCATATACAGAATTCGATATC  
AAGCTTATCGATACCCGTCGACATGATGGGCAGTGTGAGCTGAATCTGAGGGAGACTGAGCTGTGTCTTGGTCTTCCCGG  
TGGAGATACAGTGGCTCCGGTAACCGGAAACAAGAGAGGGTCTCAGAGACGGTTGATCTGAAGCTAAATCTGAATAATG  
AGCCTGCAACAAGGAAGGATCTACGACTCATGACGTGCTGACTTTTTGATTCCAAGGAGAAGAGTGCTTGTCTAAAGAT  
CCAGCCAAACCTCCGGCAAGGCACAAGTTGTGGGATGGCCACCGGTGAGATCATACCGGAAGAAGCTGATGGTTTCTG  
CCAAAAATCAAGCGTGGCCCGGAGGCGGGCGTTCGTGAAGGTATCAATGGACGGAGCACCGTACTTGAGGAAAATCG  
ATTTGAGGATGTATAAAGCTACGATGAGCTTCTAATGCTTTGTCCAACATGTTTCAGCTCTTTTACCATGGGCAACAT  
GGAGGAGAAGAAGGAATGATAGACTTCATGAATGAGAGGAAATGATGGATTTGGTGAATAGCTGGGACTATGTTCCCTC  
TTATGAAGACAAAGACGGTGAATGGATGCTCGTCGGCGACGTTTCTTGGCCAATGTTTCGTGATACATGCAAGCGTTTAC  
GTCTCATGAAAGGATCGGATGCCATTTGGTCTCGTCCGAGGGCGATGGAGAAGTGCAAGAGCAGAGCTCTCGAGGGGGG  
CCCGGAGCTGGTGCAGGCGCTGGAGCGGGTGCATGGTGAAGGCGAGGAGCTGTTACCGGGGTGGTGGCCATCCT  
GGTCGAGCTGGACGGCGACGTAAACGGCCACAAGTTCAAGCTGCTCGGGCAGGGCGAGGGCTGCCACCTACGGCAAGC  
TGACCTGAAGTTTCACTGACCACCGCAAGCTGCCGTCGCCACCCCTCGTGACACCTGACCTACGGCGTG  
CAGTGTCTCAGCCGCTACCCGACCACATGAAGCAGCAGACTTCTTCAAGTCCGCCATGCCGAAGGCTACGTCAGGA  
GCGCACCATCTTCTTCAAGGACGACGGCAACTACAAGACCCGCGCCGAGGTGAAGTTCGAGGGCGACACCCCTGGTGAACC  
GCATCGAGCTGAAGGGCATCGACTTCAAGGAGGACGGCAACATCCTGGGGCAAGCTGGAGTACAACATAACAGCCAC  
AACGCTTATATCATGGCCGACAAGCAGAAGAACGGCATCAAGGTGAACCTCAAGATCCGCCACAACATCGAGGACGGCAG  
CGTGCAGCTCGCCGACCACACCAGCAGAACACCCCATCGGCGACGGCCCGTGTGCTGCCCGACAACCACTACCTGA  
GCACCCAGTCCGCCCTGAGCAAAGACCCCAACGAGAAGCGGATCACATGGTCTGCTGGAGTTCGTGACCGCCGCGGG  
ATCACTCTCGCATGGACGAGCTGTACAAGGGAGGAGGAGGCCAAAGAAGAAGAGAAAGGTGCCAAGAAGAAGAGAAA  
GGTGTGAGGTACCCAGCTTTTGTTCCTTTTAGTGAGGGTTAATTCAGGCTTGGCGTAATCATGGTCATAGCTGTTTCT  
GTGTGAAATTTGTTATCCGCTCACAATTCACACAACATAGGAGCCGGAAGCATAAAGTGTAAGCCTGGGGTGCCTAATG  
AGTGAGGTAACACATTAATTTGCGTTGCGCTCACTGCCCGCTTTCCAGTCGGGAAACCTGTGCTGCCAGCTGCATTAAT  
GAATCGGCCAACGCGCGGGGAGAGGCGGTTTGCATATTGGGCGCTTCCGCTTCTCGCTCACTGACTCGTGCCTCG  
GTCGTTCCGCTGCGGCGAGCGGTATCAGCTCACTCAAAGCGGTAATACAGGTTATCCACAGAATACAGGGGATAACGAGG  
AAAGAACATGTGACAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCGCGTGTGCTGGCGTTTTTCCATAGGCTCG  
GCCCCCTGACGAGCATCACAATAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATAACAGGCG  
TTCCCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCCTTTCTCCCTTC  
GGGAAGCGTGGCGCTTTCTCAATGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGCTTCCGCTCCAAGCTGGGCTGTG  
TGCACGAACCCCCGTTTCCAGCCGACCGCTGCGCCTTATCCGGTAACATCTGCTTGGAGTCCAACCCGGTAAGACACGAC  
TTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTG  
GTGGCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAG  
TTGGTAGCTCTTGATCCGGCAAACAACCCAGCTGGTAGCGGTGGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGA  
AAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTTCTACGGGTCTGACGCTCAGTGGAAACGAAAACCTACGTTAAGGGAT  
TTTGGTCATGAGATTATCAAAAAGGATCTTACCTAGATCCTTTTAAATTAATAAAGTAAATCAATCTAAAGTA  
TATATGAGTAACTTGGTCTGACAGTTACCAATGCTTAATCAGTGAGGACCTATCTCAGCAGCTGTCTATTTCTGTTCA  
TCCATAGTTGCCGTGACTGCCCGTCTGTGTAGATAACTACGATACGGGAGGCTTACCATCTGGCCCGAGTGTCAATGAT  
ACCGCGAGACCACGCTCACCGCTCCAGATTTATCAGCAATAAACCAGCCAGCCGGAAGGGCCGAGCGCAGAAGTGGTC  
CTGCAACTTTTATCCGCCCTCCATCCAGTCTATTAATTTGTTGCCGGGAAGCTAGAGTAAGTAGTTCCGCGAGTTAATAGTTG  
CGCAACGTTGTTGCCATTGCTACAGGCATCGTGGTGTACGCTCGTCTGTTGGTATGGCTTCATTCAGCTCCGGTTCCCA  
ACGATCAAGGCGAGTTACATGATCCCCATGTTGTGAAAAAAGCGGTTAGCTCCTTCGGTCTCCGATCGTTGTGAGAA  
GTAAGTTGGCCGAGTGTATCACTCATGGTTATGGCAGCACTGCATAATTTCTTACTGTGATGCCATCCGTAAGATGC  
TTTTCTGTGACTGGTGTGACTCAACCAAGTCATTTGAGAATAGTGTATGCGGCGACCGAGTTGCTCTTGGCCGGCGTC  
AATACGGGATAATACCGCGCCACATAGCAGAATTTAAAGTGTCTCATTTGAAAACGTTCTTCGGGGCGAAAACCTCT  
CAAGGATCTTACCGTGTGAGATCCAGTTGATGTAACCCACTCGTGCACCAACTGATCTTCCAGCATCTTTTACTTTT  
ACCAGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAATGCCGCAAAAAGGGGAATAAGGGCGACACGGAAATGTTGAAT  
ACTCATACTCTTCTTTTTCAATATTAATGAAGCATTTATCAGGGTTATTGTCTCATGAGCGGATACATATTTGAATGTA  
TTTAGAAAAATAAACAATAGGGGTTCCGCGCACATTTCCCCGAAAAGTGCCACCTGACGCTAAGAAACCATTATTATC  
ATGACATTAACCTATAAAAATAGGCGTATCACGAGGCCCTTTCGTC