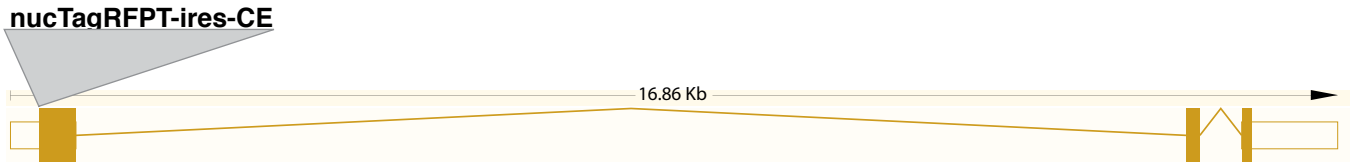
Meox1-nucTagRFPT-ires-CE Construct Overview

Created 5 April 2012
Updated 17 May 2011

Gene Overview



Meox1-001 ENSMUST00000057054

Design comments

There is a single reported transcript for the Meox1 locus (Ensembl). A nuclear-localized TagRFP-T was linked to a CreERT2 fragment with the EMCV IRES sequence to create a bicistronic reporter cassette. (See Bochkov and Palmenberg (2006) BioTechniques 41 (3):283-8.) There is a putative splice variant, however this does not include the first exon where the reporter was placed.

Target site in cDNA

cDNA f0r Meox1-001
Transcript length: 2,228bps Translation length: 253 residues

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   1 CGGGTCCAGCCCTCTGCAGGCACTCATTCACTCAGGGTCCCCGGGAAGGGCTTGTCAGTA
  61 TGGGTGGGTCCAAGGTAGGACAGTCAAAATGTTCAGCATGGTAGGAAACAACTCCGTGCC
 121 CGATAGTCAGCGTGTGTCGGGGGCAGGAAGGCAGACGTGAAGCCTAGACAGGTGTGGACA
 181 CGCACATGTGTGTTCCTGGCCACGTGTTTGTGGAATTTGAGGCAAAATTTTTGTTTTGGT
 241 TCCTGGGGTAAAGTTTCCATTCAACATTTTCCTCTACTGTTTAATTTTTTTTTTTAATTTT
 301 AAATTACAAAACTCTGACTAGAAAAAGCGCAATACCTTTGAAAGGACTGGGGCAGGCAGT
 361 GGACAGCAGATGGATCCAGTGGCCAACAGCTGTGTGAGGAACCCCAGCCCCCAGCCCCT
 421 GTCTGGGGCTGCCTTCGAACCCCCACTCAGAAGATAGCAGCGCCTCAGGGCTGTCCCAT
 481 TATCCCCCAACCCCGTTTTCCTTCCACCAAAAATCAGACTTCCCAGCGACAGCAGCATAC
 541 CCCGACTTCTCTGCTTCCTGCCTGGCAGCCACCCCACACAGCCTGCCCCGGACTGAGCGA
 601 ATCTTCAACGAGCAGCATCCTGCCTTCCCACAGACCCCTGACTGGCACTTCCCTATCTCA
 661 GAAGCCGGGCAGAGGCTCAACCTAGGCCCAGCTGGGAGCGCCAGGGAGATGGGAGCCGGC
 721 AGCCCCGGCCTGGTGGATGGCACAGCAGGATTGGGGGAGGATTGCATGGTACTTGGGACG
 781 ATCGCCAATGAGACGGAGAAGAAATCATCCAGAAGGAAAAAAGAGAGGTCAGACAACCAG
 841 GAGAACGGAGGAGGGAAGCCAGAAGGCAGCAGCAAAGCCCGGAAGGAGAGGACAGCCTTC
 901 ACCAAGGAGCAGCTACGGGAGCTGGAGGCAGAGTTTGCCCACCACAACTACCTGACCCGG
 961 CTCCGGAGATATGAGATTGCAGTCAACCTGGACCTTTCTGAGCGGCAGGTCAAAGTCTGG
1021 TTCCAGAACCGGAGGATGAAGTGGAAACGTGTGAAGGGGGTCAGCCTGTGTCCCCACAG
1081 GAGCAGGACCGAGAGGATGGGGACTCTGCAGCTTCTCCAAGTTCAGAGTGAGATGCTCCA
1141 AAGACCAAAACCAAGAAAGACTGAAGGAACCCCCTCTCCAGTTCCCACCACCCGGTCCCA
1201 CCCTCTCACATCTCTGGACCCACCCAGGGCAGCCTGCACACACTCTAAGGTGTGAAGTTG
1261 CCCAGTATGTGGGAGCCTTGAATTTCCCAGAAGGCTTAGCTCAGCGTCCTTACATCTCAG
1321 CAGCCCCTTCCCCAGGCCTTCAACTTCCCACTCTCTCTTGAACTCCAAAGGACTGGGAAA
1381 CTATAGAAACAGAGCCTGGGGCCCTCTTTTCTGGGTCTCTTGGCTACTACCCACACCTAG
1441 CATCCCCCTCTTACATCAGGGTCTCCTCTGGGTCTGGCCCCATCTGGCCTATGCAGAATC
1501 CATTCCTTGGTACCAGCTGGTGACTTGTAAAAGCAAACCTCTCTCCAGATGTTCACACCG
1561 TTGAGTTGAAGGTTAGGAAGTGGCTCCTGTGTCTAAGGACGGAGAGGATAGCACAAGAGC
1621 TGATGGATGAGGACTGAGATACGTGGACCTTGGAAGTAGAACGTTCTCAGGCTGCAGCGT
1681 CTTGTGTTCTCCAAGGACTCTGACTGCAGATAAGGACAGGAAAACAACCCATCTTCCTCC
1741 ATGGGATGCATTTGGACCTATCCTGCGTGTTCCGGAAAAAGCTTTGTGGGAAGACCTCCC
1801 AGGTTCACACACATGCGCAGCTCAGATCTCAGACCCAACTTCTGAGGATGCTCCTGTGAG
1861 GACTGGTGGGAAAACAGCCTCAGGCAACAGTCTCCTTGGAAGAGACCCCTGTGTGCCTCA
1921 GTATTAGATGGTGGATCTCCCAGATCCTGCTGATGTTGCAGAAGGAGGGTCAGCAAGTAT
1981 TTGAATTTCTTGCATGGAGATCTGATTGTGAGTGTTTAAAAATAACCCCAGTTCCCTTCC
2041 CCACCCCATCAAGACAGAAGCTGTGGAAAATGATTGTCAAATGAGATGGCAAGTTAGAGC
2101 ATGTATCAGTTTTCCCCTACAGCATATTTCATATGTTTTTTTTTCCTAAGATTACATCAA
2161 GCTAATTGTGCAAGGTCAATTCACTTTGTAAGAAAACTCTCAGAGAAATAAATCAACAAA
2221 AAAATGCA
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Reporter Cassette

The nucTagRFPT-ires-CE reporter was inserted at the consensus start ATG of the Meox1 coding region. The Neo/Kan component is used for selection in bacteria and removed with transient expression of Flpe-recombinase prior to microinjection.

pBS-nucTagRFPT-i-CE
5621 bp (molecule 8498 bp)

Meox1-nucTagRFPT-ires-CE Target Site Details

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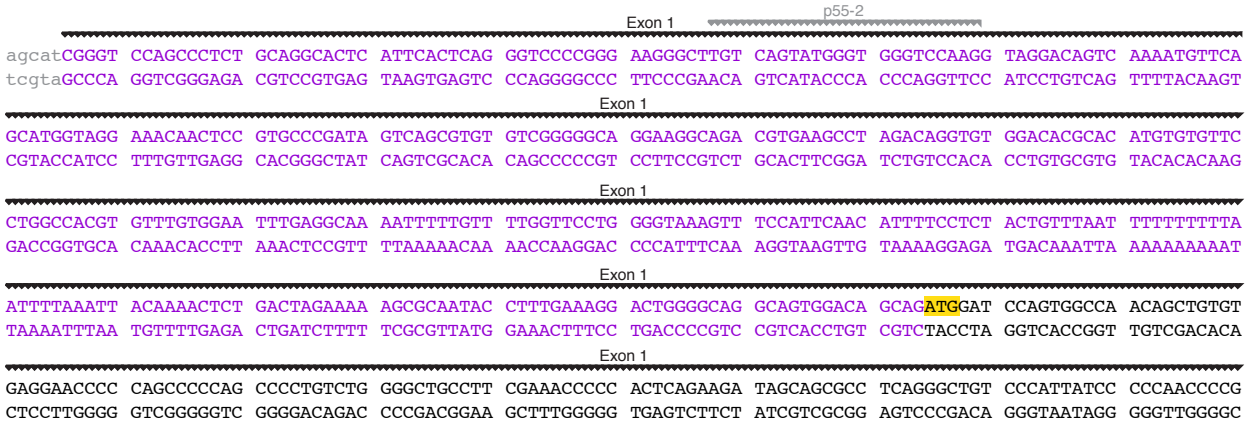
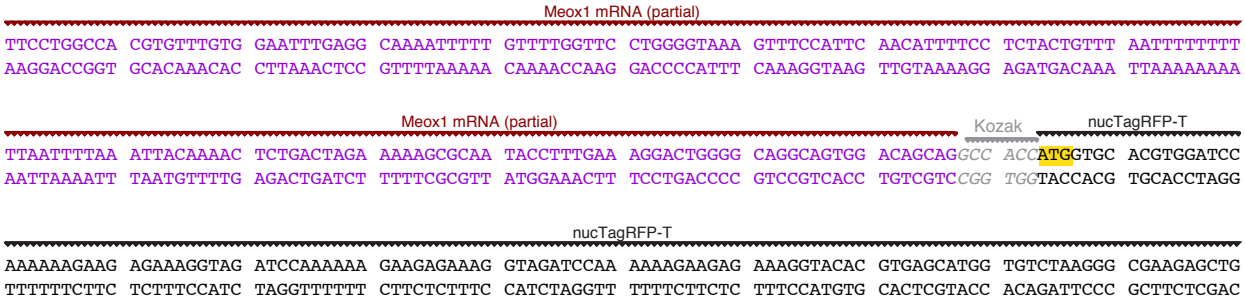
Endogenous Targeting Site (includes homology arms)



Targeted Site - 5’



Targeted Site - 3’

Meox1-nucTagRFPT-ires-CE BAC Transgene

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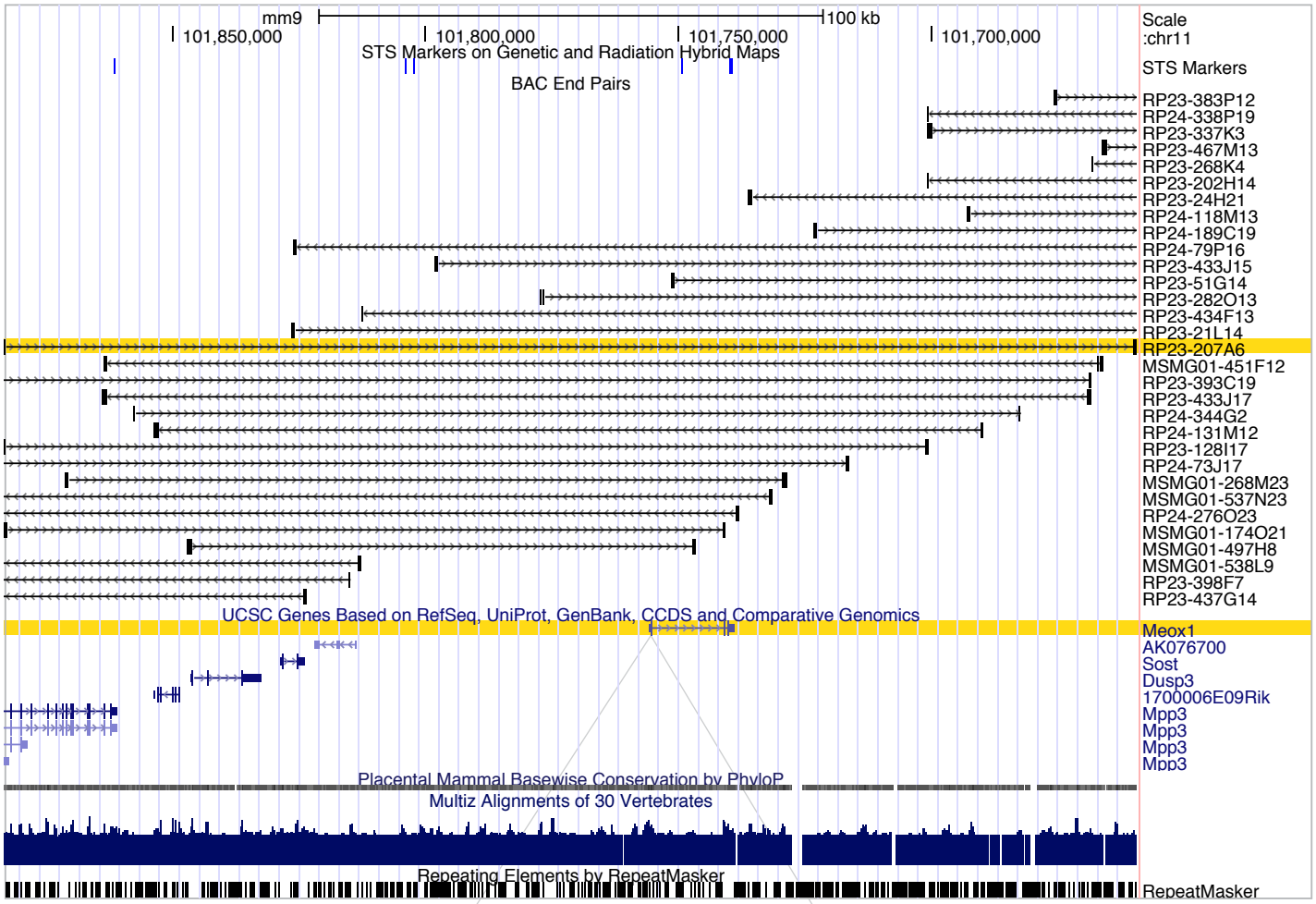
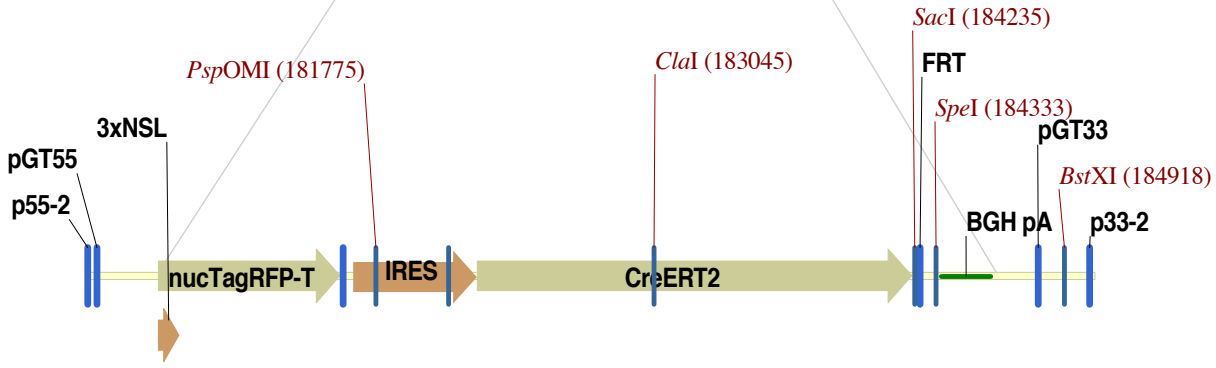
BAC clone RP23-5O22 was targeted by recombineering. The genomic context of the nucTagRFP-ires-CE reporter is shown below. The BAC and the target gene are highlighted in yellow.





Targeting of Meox1-nTagRFPT-ires-CE BAC Construct
4598 bp (molecule 312305 bp)