

Uchl1-mCherry/GFPgpi Allele Design and Validation

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Construct Overview

Gene Structure



Design comments

There is a single transcript reported for Uchl1. The predicted start site ATG codon is located in exon 1 and was the position at which the Histone2BCherry:EGFPgpi reporter was inserted.

cDNA for Uchl1

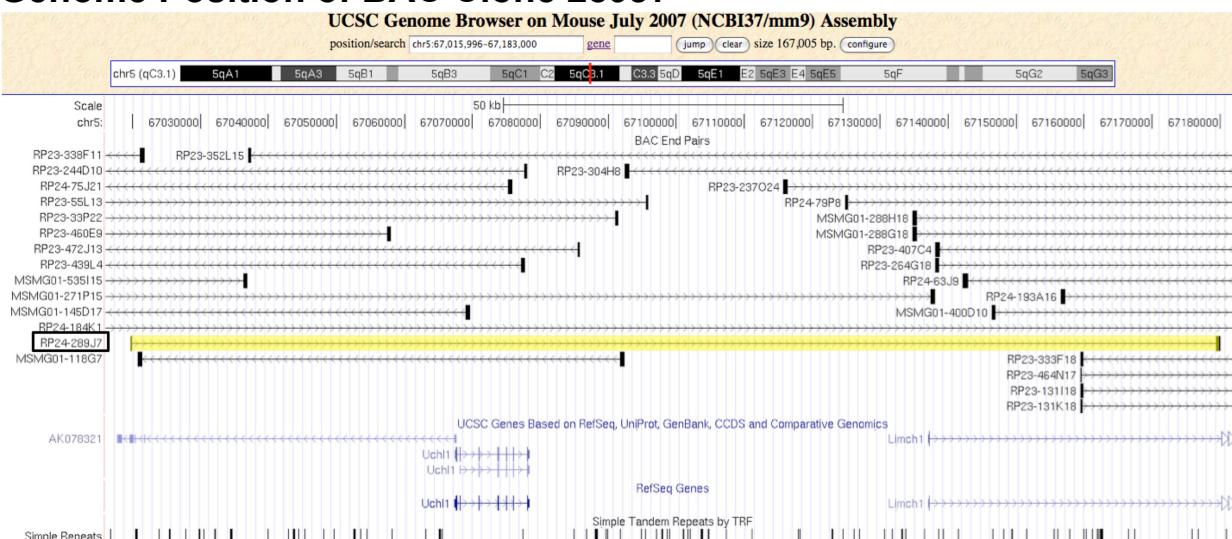
ENSMUST00000031131

Transcript length: 1146bp Translation length: 672 residues
1 GGGAGTTGAGGCCCTCTGGCTCTCTCTGTCTGTTCTGCCTCCGTCTCCCTGCT
61 CAGGTTTCCCACTGAGCCGGCGCTTTATAACAGCAGCAGCTGGCCATCAGCGAAAGATGAGCTGAA
121 CTGTTTCCGGCTCTGGGTTGTGTCAGGGTGCACAGCTGGCCAGTGGGGCTGCGCA
181 GCCGATGGAGATTACCCCGAGATCTGAACAAGTGTGCCCAGCTGGGGCTGCGCA
241 CCAGTGGCGCTTCGGCACGTGCTAGGGCTGGAGGAGACTCTGGCTCAGTGCACAT
301 CCTGCCTGGCCCTGCTGCTCTGGTACGGCCACATGAAAGCTTCAGGAA
361 AAAGCAAATTGAGGAACCTGAAGGGACAGGAAGTTAGCCCTAAATTCTACATGAAGCA
421 GACCATCGGAAACTCTGTGGTACCATCGGGTGTACCCACGCAGTGCCAAACAACCAAGA
481 CAAAGCTGGGAATTGAGGATGGATGGCTCGTAAACAGTTCTGTCTGAAACGGAGAGCT
541 GTCCCCCGAAAGATAAGCCCAAGTGTTCGAGAAAGAACGAGGCCATCCAGGCCCATGA
601 CTCCTGGGCCAGGGGGCAGTGTGGTAGATGACAAGTGAATTTCATTTATCT
661 GTTCAACAACGTTGACGGCCATCTGTCAGAGTCATGGCGAATGCCCTTCCAGTGA
721 CCATGGCGCAGCTAGGAGACTCTGTGCGAGATGCTGCCAAGGTCAGAGAATT
781 CACTGAGCGCAGCAGGGGGAGGTGCGCTCTGCGCTCTGCTCAAGCACGCTTA
841 ACTCTGGGGAGAGAGAACCCAGTCCCTGGGCAGGTGGCGGGGCCCGCC
901 CTTGGTTTGCAAGCTTAGCACTTAAACACAGCTGTCTTGTGCTTACAGCCCCAT
961 CCCCTCCACCCCAACCCAGGCCACAGGGGGCTGTGACAGCCACACAGGCTGACCACT
1021 TTTCCCTCTGTGTCTCGTACCTGCTCTACGGCTCTTTGGTTCTGCTGTAAGT
1081 TAGGCCCTGGATGTGGTTCTAGTCCTAAAGAGGAAGAATAAAACTTTGCTGGTGAG
1141 AGTATC

Reporter cassette

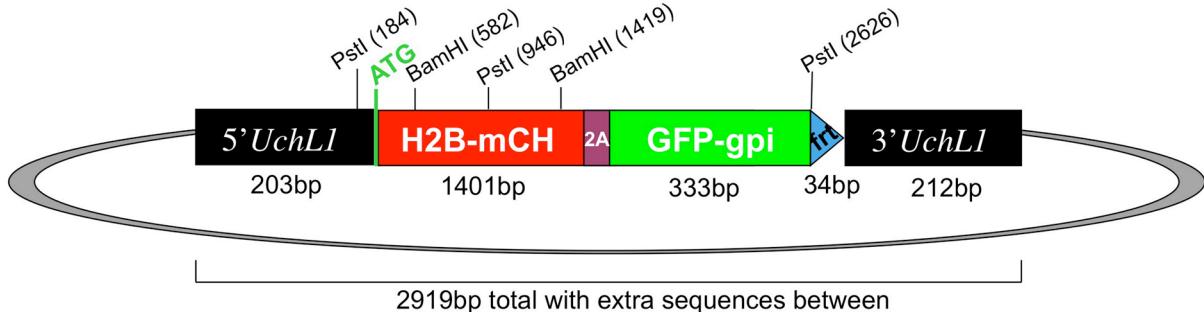
The Uchl1-mCherry/GFPgpi animals were generated by introducing the dual fluorescent reporter monoCherry(SApeptide)EGFP-gpi cassette (reference: Stewart et al., 2009 Genesis; Rhee et al., 2006 Genesis) into the well-characterized BAC clone (289J7, RP-24 C57BL6/J library). The construct was inserted inframe with the native ATG in exon one such that the resulting fusion protein was expressed from Uchl1 sequences and did not delete any endogenous sequence.

Genome Position of BAC Clone 289J7



Construct Overview

Uchl1 Targeting Construct with Restriction Enzyme Sites



Sequence of Uchl1 insertion site (exon 1, ATG in bold)

CCAGTGAGCGAGGCCGGCGCTTATAACAGCAGCCTGGCGGCTCCACCGGCTTTTC
GGCTCCTCGGGTTGTGTCTGCAGGTGCCATCCGCGAAG**ATG**CAGCTGAAGCCGATGGAGA
TTAACCCCGAGGTAAGCATAGCTGCTGGTCGCTCGGGAGAAATAAGGCTGACCCTAGCT
ACAGCTCGGTAGCTGAATC

Sequence of 100bp on either side of insertion site

CCAGTGAGCGAGGCCGGCGCTTATAACAGCAGCCTGGCGGCTCCACCGGCTTTTC
GGCTCCTCGGGTTGTGTCTGCAGGTGCCATCCGCGAAG**A**...
... **TG**CAGCTGAAGCCGATGGAGATTAAACCCCGAGGTAAGCATAGCTGCTGGGT
CGCTTCGGGAGAAATAAGGCTGACCCTAGCTACAGCTCGGTAGCTGAATC