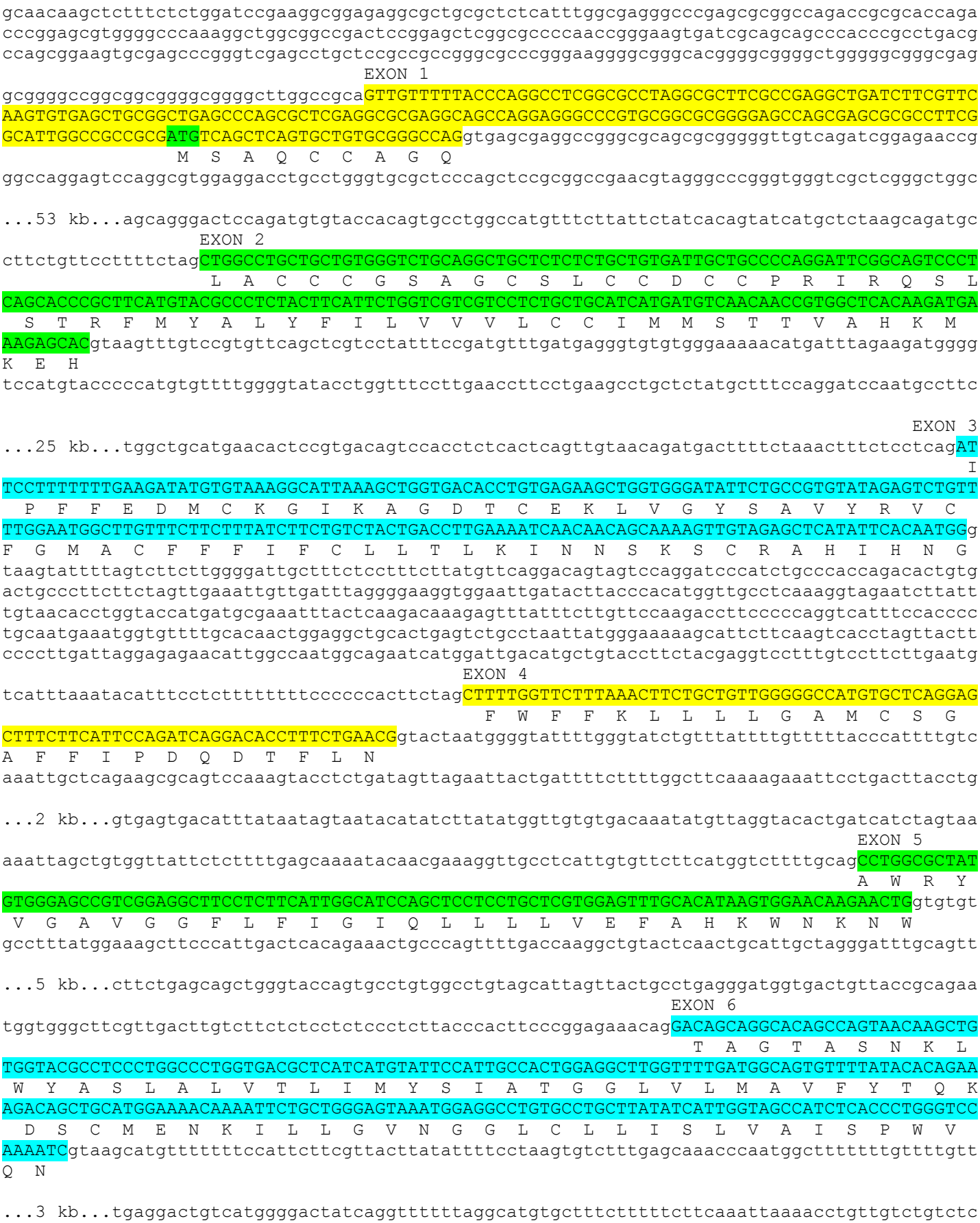
Figure S1. Ser5 genomic structure with RT-qPCR primer placement.
Exons for the Ser5 gene are shown with alternating colors for each exon. Introns larger than ~2 kb have been truncated for clarity (the sizes of the sequences not shown are given by a number flanked by ellipses [...]). Exons are shown in upper case and introns are shown in lower case through exon 12, but the sequences that follow show unique DNA as upper case and repetitive elements in lower case to emphasize the fact that exons 14 through 16 are part of SINE or LTR transposon repeats (see the Discussion for more information). Encoded amino acids are placed below the DNA sequence for the various exons, and stop codons for each exon are indicated by an asterisk (*). The additional 9 nucleotides upstream of exon 15b are highlighted in purple to show the beginning of exon 15a. The italicized "*tg*" shown for isoform 008a does not match the canonical "AG" normally found for a U2 splice acceptor sequence, but these rare "*tg*" acceptors have been reported to produce spliced products (Szafranski et al., 2007) and the fact that a full length clone was isolated for this isoform (Xu et al., 2003) as well as the data in this report support the existence of isoform 008a.

Supplemental Figure 1



EXON 7

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R Q P H S G L L Q S G V I S C Y V T Y L T F S A L

CCAGCAAACCTGCAGAAGTAGgtaagccagcctgttagtgggcttgtgtttgcggtgtgaatattttcattcatggaggaatgagctat

S S K P A E V

tgtttaaatattggagaggccttggagatagagagcagaaagatggttaccagaggctgggaagggtttgggaggaggttaggatgatt

...7 kb...gtttccagtgataagtgttcactgttctaaggaggtacaccacagctacctgaattttcccaaaatgagtgcttctgtg

EXON 8

cgttacaactggcctttgtacttgactgtgatgactttgtttttttcttttcaagTTCTAGATGAACATGGGAAAAATGTTACAATCTGT

V L D E H G K N V T I C

GTGCCTGACTTTGGTCAAGACCTGTACAGAGATGAAAACTTGGTGACTATACTGGGGACCAGCCTCTTAATCGGATGTATCTTGTATTC

V P D F G Q D L Y R D E N L V T I L G T S L L I G C I L Y S

ATGgtaagtcttgggagttactcaaggtcacttttgcagactttaaaattacaggaaaagaattgaaataactttcagtagctgtgagg

C

ctgcaaccatttgaggaggggggaaaataaccacaagtaaaaaggcgaagagcgtgaactcatatttgaacttcgttcaccttacttgt

...8 kb...attgctttgatttaagtctcctgaacggtaggttacattgaggctctcgtcggagcactggccagccggctttcccctt

EXON 9

cattccatgtgttgtaatgtgttaatatgcccagctgacgttttgtctgtttcttagTTTGACATCAACAACAAGATCGAGTTCTGAC

L T S T T R S S S D

GCTCTGCAGGGGCGATACGCAGCTCCTGAATTGGAGgtaagttcatttccttttcctgtcctgcttcatctcagaagatccatttctca

A L Q G R Y A A P E L E

ggagggccttttgtgtttgtgtctttatcagtctgcattccgtgatcctgtttttctgctgaggaaagatttttgtatagaaaaataaa

...3 kb...ttcctgtcaccaacacccagcacacctgggaaagaacagtccacatcttttgaagggcctgggaggtggttcaaataag

EXON 10

ggttactgttgtcttgctgaggtggactagaaatagaacacaagccgcctgactgttgcttttgctttcacagATAGCTCGCTGTTGTT

I A R C C

TTTGCTTCAGTCCTGGTGGAGAGGgtaagcagagcgcttttattctttgcacctgtgtggcactgcagacctataactctaatctgtag

F C F S P G G E

tcatttgggattcagacacaaataacttgaatagtaaggagaaagttttattctaaagctgacttactacttatacacttttcacattc

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cgcttgaacctgggaggtggaggttgcagtgacccaagatcatgccactgtactccagccggggcaaaaagagtgaaactccatctcaa

aaaataaataaataaaaataaatgtggcattaggtaactcttcctgttacggaagttgctagggtggagtgggggttttgtgcttaggg

cacagattgaagttgccagagggtacagatggctttctggcatcttttctactgacagccctgtagaattagcgagcgtgactttgctg

EXON 11a (green)

aatggtaaacacacacattcactcattgagcctgggctccctctgtgcttcacagACACTGAAGAGCAGCAGCCGGGGAAGGAGGGACC

(common F primer) D T E E Q Q P G K E G P

ACGGGTCATTTATGACGAGAAGAAAGGCACCGTCTACATCTACTCCTA**CTTCCACTTCGTGTTCTTCCTA**GCTTCCCTGTATGTGATGA

R V I Y D E K K G T V Y I Y S Y F H F V F F L A S L Y V M

EXON 11b (201 transcript – the non-gray “tg” sequence is not present in the putative 201 isoform transcript)

TGACCGTCACCAACTGGTTCAAgtgagtggcccatttgcttaggtatttttgaagcaaagccttaaagttaagagttaagtactgttcg

W F K S G P F (putative 201 isoform)

M T V T N W F K(last exonic a.a. is N in isoform 001)

tgtttgtttgtttgagaaggagtctcactctgttgcccaggctggagtgcagtggcacgatcctggctcactgcaacctctgcttccca

ggttcaagcgattcttgtgcctcagcctcccgagtagctgggattacatgcatgtaccaccatgcctagctaatttttatatttttagt

tgagacggggttttgccatgttggccaggctggtcttgaactcctgacctcaagtgatccacctgccttggcctctcaaagtgctggga

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agttagctctatatggacagtctggaaaacatggtaatgaaggaaaaataggaactcctaagcattcatctgccttcagaaagagaaa

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EXON 12

taaatggatgtgaattagtgaattgtatctcaatatattcctgctttgaccgcggctaggtgtcttgtttccacagCTACGAAAGTGCC

(001 R primer) Y E S A

AACATCGAGAGC**TTCTTCAGCGGGAGCTGG**TCCATCTTCTGGGTCAAGATGGCCTCCTGCTGGATATGCGTGCTGTTGTACCTGTGTAC

N I E S F F S G S W S I F W V K M A S C W I C V L L Y L C T

GCTGGTCGCTCCCCTCTGCTGCCCCACCCGGGAGTTCTCTGTGTGATGATATCGGCGGTCCCCTGGGCTTTGTGGGCCTACAGCCTGGA

L V A P L C C P T R E F S V *

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CTGCACGCAGCCTACCCTCTGCCTTTTTAAGATGATGTATTTATTTAATTTTTGCCATCATTGGTGCTTCACCTTCCTGCGAAGGAAAT
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TATAGGAGTTTAATCATATTCACATGAGTAAAATGATGGAAGAACTCTTTAAGGTAATCCTTTGGGATAAAGGATCCTGGGAAGTTCTC
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tgatgttttgaaatatgtatatattcaggaatagccaaatcatgctaattagcatatgcattacctcatgtttttgtgctgagaacatt

...22 kb...CCAGGGAAGGGAACGGAGAAAATGGACTGAAGTTTCTGATAAGGTTCATAGTGATCTGGATGGCCTGGGCCTGTCCCA

EXON 13 (005 R primer)

TTCTCTGTCCAGGAAGAGGAAGGGAACACAAGGTGAGATTTTGATTTCTATTTTGTTCCCAG**AAACTATCAATGCTGAAG**ACTTAAGGC

N Y Q C *

CTCTTAAGAATACCCTTTTTGCAAGAGGGGATGGAAACATCTCTGGCCCCAACTCCGACAGGAAAGCCTGGTTTTAGCATTGAAAAGAT
GATTGAATACAGCTTGCCTTTTCTCCAGGGAAGAGAGACAAGATGGAGTGCCAGAGAGGCCTACGGCAAGGTGCCTATTTTTGCATTGC
TGCAGCAACGTGGAGGCTTTCTGCCCTGCCTCACACCCCTCATCCATCAGCCCCAGCCTTCCCCATCATGGTTCTCTCAGATGAGGCCT
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TCCTTATCAAGGCTTTCCCTCCTTTCTATAATTTTATCCATTGTCAGCTTTGACAGAAATCCCACTGAAGGTTTGTCAAAGAGCCATTG
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ACAATTCCTAGTCAGAGTTATTTGTCAAAAAGCTTTTGTGGGTGGtgatatggtttggccctgtgtccccacccaaatctcatctcaaa
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EXON 14 (004 R primer)

Ggagttctcacaagatctga**cctttttttttttttttttt**gag**atggagtcccactct**gttgcccaggctggagtacagtggcatgatc

W S P T L L P R L E Y S G M I

ttggctcactgcaacctccacctcccagatgtcaagcgattctcttgcctcagcctcccaagtagctggggttacaggcatgtgccacc

L A H C N L H L P D V K R F S C L S L P S S W G Y R H V P P

atggtgagctaatttttgtatttttagtggtgatggggttttaccatgttggccaggctggtctcgaactcctgacctcaagtgatctg

* (stop codon for 004)

Cctgcctcaacctcccaaagtgctgggattataggtgtgagccactgcacccagccgtgatctgatgatttaagagtggcagtttcttc
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EXON 15a

atagtgaataagtctcatgagagctgatgggtttatcagggttttctgcttttgcttctccctctttttctcttgctgc***tg***ccat**gtaa**

EXON 15b (N) H V

g**aag**tgcctttcacctcctgcca**tga**ttctgaggcctccccagccatgtggaactgtaagtccaattaaacctctttttcttcccagtc

R S A F H L L P * (stop codon for 008a and 008b)

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EXON 16
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