

# Supplementary Fig. S5

A CLUSTAL format alignment by MAFFT (v7.306b)

```

                                           (1st intron)
SGF73_genome      atgggcgacgaccgcaaaggtgagtacacacaggtcgcgccgtggtgcaaggtatagga
SGF73_mRNA_3b    atgggcgacgaccgcaa-----
SGF73_mRNA_2a    atgggcgacgaccgcaa-----
SGF73_mRNA_4a    atgggcgacgaccgcaa-----
SGF73_mRNA_1b    atgggcgacgaccgcaa-----
SGF73_mRNA_2b    atgggcgacgaccgcaa-----
SGF73_mRNA_10b   atgggcgacgaccgcaa-----
SGF73_mRNA_12b   atgggcgacgaccgcaa-----
SGF73_mRNA_4b    atgggcgacgaccgcaa-----
SGF73_mRNA_7a    atgggcgacgaccgcaa-----
SGF73_mRNA_8b    atgggcgacgaccgcaa-----
SGF73_mRNA_9a    atgggcgacgaccgcaa-----
SGF73_mRNA_9b    atgggcgacgaccgcaa-----
SGF73_mRNA_10a   atgggcgacgaccgcaa-----
SGF73_mRNA_7b    atgggcgacgaccgcaaaggtgagtacacacaggtcgcgccgtggtgcaaggtatagga
*****

SGF73_genome      cagacacaagctcctaactgacgctcttctccgggtgcagacgatgaggccaccataaag
SGF73_mRNA_3b    -----agacgatgaggccaccataaag
2a               -----agacgatgaggccaccataaag
4a               -----agacgatgaggccaccataaag
1b               -----agacgatgaggccaccataaag
2b               -----agacgatgaggccaccataaag
10b              -----agacgatgaggccaccataaag
12b              -----agacgatgaggccaccataaag
4b               -----agacgatgaggccaccataaag
7a               -----agacgatgaggccaccataaag
8b               -----agacgatgaggccaccataaag
9a               -----agacgatgaggccaccataaag
9b               -----agacgatgaggccaccataaag
10a              -----agacgatgaggccaccataaag
7b               cagacacaagctcctaactgacgctcttctccgggtgcagacgatgaggccaccataaag
*****

SGF73_genome      gtcgcttcaaaaaagaaccattcctcaggaaaagccaaggctggcgcttcaactgaag
SGF73_mRNA_3b    gtcgcttcaaaaaagaaccattcctcaggaaaagccaaggctggcgcttcaactgaag
2a               gtcgcttcaaaaaagaaccattcctcaggaaaagccaaggctggcgcttcaactgaag
4a               gtcgcttcaaaaaagaaccattcctcaggaaaagccaaggctggcgcttcaactgaag
1b               gtcgcttcaaaaaagaaccattcctcaggaaaagccaaggctggcgcttcaactgaag
2b               gtcgcttcaaaaaagaaccattcctcaggaaaagccaaggctggcgcttcaactgaag
10b              gtcgcttcaaaaaagaaccattcctcaggaaaagccaaggctggcgcttcaactgaag
12b              gtcgcttcaaaaaagaaccattcctcaggaaaagccaaggctggcgcttcaactgaag
4b               gtcgcttcaaaaaagaaccattcctcaggaaaagccaaggctggcgcttcaactgaag
7a               gtcgcttcaaaaaagaaccattcctcaggaaaagccaaggctggcgcttcaactgaag
8b               gtcgcttcaaaaaagaaccattcctcaggaaaagccaaggctggcgcttcaactgaag
9a               gtcgcttcaaaaaagaaccattcctcaggaaaagccaaggctggcgcttcaactgaag
9b               gtcgcttcaaaaaagaaccattcctcaggaaaagccaaggctggcgcttcaactgaag
10a              gtcgcttcaaaaaagaaccattcctcaggaaaagccaaggctggcgcttcaactgaag
7b               gtcgcttcaaaaaagaaccattcctcaggaaaagccaaggctggcgcttcaactgaag
*****

SGF73_genome      gacaggtttccgaagatcaaggaacccggcgattatgagagaggccacgtagtggaaggt
SGF73_mRNA_3b    gacaggtttccgaagatcaaggaacccggcgattatgagagaggccacgtagtggaag--
2a               gacaggtttccgaagatcaaggaacccggcgattatgagagaggccacgtagtggaag--
4a               gacaggtttccgaagatcaaggaacccggcgattatgagagaggccacgtagtggaag--
1b               gacaggtttccgaagatcaaggaacccggcgattatgagagaggccacgtagtggaag--
2b               gacaggtttccgaagatcaaggaacccggcgattatgagagaggccacgtagtggaag--
10b              gacaggtttccgaagatcaaggaacccggcgattatgagagaggccacgtagtggaag--
12b              gacaggtttccgaagatcaaggaacccggcgattatgagagaggccacgtagtggaaggt
4b               gacaggtttccgaagatcaaggaacccggcgattatgagagaggccacgtagtggaagat
7a               gacaggtttccgaagatcaaggaacccggcgattatgagagaggccacgtagtggaaggt
8b               gacaggtttccgaagatcaaggaacccggcgattatgagagaggccacgtagtggaaggt
9a               gacaggtttccgaagatcaaggaacccggcgattatgagagaggccacgtagtggaaggt
9b               gacaggtttccgaagatcaaggaacccggcgattatgagagaggccacgtagtggaaggt
10a              gacaggtttccgaagatcaaggaacccggcgattatgagagaggccacgtagtggaaggt
7b               gacaggtttccgaagatcaaggaacccggcgattatgagagaggccacgtagtggaaggt
*****

                                           (2nd intron)
SGF73_genome      ctgtgtatgcagctcaaagccatcctgatcccatctatcttggctgcagattcactaaca
SGF73_mRNA_3b    -----
2a               -----
4a               -----
1b               -----
2b               -----
10b              -----
12b              -----
4b               -----ctgt-----
7a               -----ctgt-----
8b               -----ctgt-----
9a               -----ctgt-----
9b               -----ctgt-----
10a              -----ctgt-----
7b               -----ctgt-----
```



SGF73\_genome agagcgccgcg cagaagaagaggggtattccctgcctcccgaacccgacagtgcgacga  
SGF73\_mRNA\_3b agagcgccgcg cagaagaagaggggtattccctgcctcccgaacccgacagtgcgacga  
2a agagcgccgcg cagaagaagaggggtattccctgcctcccgaacccgacagtgcgacga  
4a agagcgccgcg cagaagaagaggggtattccctgcctcccgaacccgacagtgcgacga  
1b agagcgccgcg cacaagaagaggggtattccctgcctcccgaacccgacagtgcgacga  
2b agagcgccgcg cacaagaagaggggtattccctgcctcccgaacccgacagtgcgacga  
10b agagcgccgcg cagaagaagaggggtattccctgcctcccgaacccgacagtgcgacga  
12b agagcgccgcg cagaagaagaggggtattccctgcctcccgaacccgacagtgcgacga  
4b agagcgccgcg cagaagaagaggggtattccctgcctcccgaacccgacagtgcgacga  
7a agagcgccgcg cagaagaagaggggtattccctgcctcccgaacccgacagtgcgacga  
8b agagcgccgcg cagaagaagaggggtattccctgcctcccgaacccgacagtgcgacga  
9a agagcgccgcg cagaagaagaggggtattccctgcctcccgaacccgacagtgcgacga  
9b agagcgccgcg cagaagaagaggggtattccctgcctcccgaacccgacagtgcgacga  
10a agagcgccgcg cagaagaagaggggtattccctgcctcccgaacccgacagtgcgacga  
7b agagcgccgcg cagaagaagaggggtattccctgcctcccgaacccgacagtgcgacga  
\*\*\*\*\*

SGF73\_genome cgacgacgcagacaaggctgctccgggcggaagacgaccaagaaggcagctggtaagaa  
SGF73\_mRNA\_3b cgacgacgcagacaaggctgctccgggcggaagacgaccaagaaggcagctggtaagaa  
2a cgacgacgcagacaaggctgctccgggcggaagacgaccaagaaggcagctggtaagaa  
4a cgacgacgcagacaaggctgctccgggcggaagacgaccaagaaggcagctggtaagaa  
1b cgacgacgcagacaaggctgctccgggcggaagacgaccaagaaggcagctggtaagaa  
2b cgacgacgcagacaaggctgctccgggcggaagacgaccaagaaggcagctggtaagaa  
10b cgacgacgcagacaaggctgctccgggcggaagacgaccaagaaggcagctggtaagaa  
12b cgacgacgcagacaaggctgctccgggcggaagacgaccaagaaggcagctggtaagaa  
4b cgacgacgcagacaaggctgctccgggcggaagacgaccgagaatgcagctggtaagaa  
7a cgacgacgcagacaaggctgctccgggcggaagacgaccaagaaggcagctggtaagaa  
8b cgacgacgcagacaaggctgctccgggcggaagacgaccaagaaggcagctggtaagaa  
9a cgacgacgcagacaaggctgctccgggcggaagacgaccaagaaggcagctggtaagaa  
9b cgacgacgcagacaaggctgctccgggcggaagacgaccaagaaggcagctggtaagaa  
10a cgacgacgcagacaaggctgctccgggcggaagacgaccaagaaggcagctggtaagaa  
7b cgacgacgcagacaaggctgctccgggcggaagacgaccaagaaggcagctggtaagaa  
\*\*\*\*\*

SGF73\_genome ggcaggaggcgccgagatggagacctaaagggcaagaagaggaagccggagggcgagcc  
SGF73\_mRNA\_3b ggcaggaggcgccgagatggagacctaaagggcaagaagaggaagccggagggcgagcc  
2a ggcaggaggcgccgagatggagacctaaagggcaagaagaggaagccggagggcgagcc  
4a ggcaggaggcgccgagatggagacctaaagggcaagaagaggaagccggagggcgagcc  
1b ggcaggaggcgccgagatggagacctaaagggcaagaagaggaagccggagggcgagcc  
2b ggcaggaggcgccgagatggagacctaaagggcaagaagaggaagccggagggcgagcc  
10b ggcaggaggcgccgagatggagacctaaagggcaagaagaggaagccggagggcgagcc  
12b ggcaggaggcgccgagatggagacctaaagggcaagaagaggaagccggagggcgagcc  
4b ggcaggaggcgccgagatggagacctaaagggcaagaagaggaagccggagggcgagcc  
7a ggcaggaggcgccgagatggagacctaaagggcaagaagaggaagccggagggcgagcc  
8b ggcaggaggcgccgagatggagacctaaagggcaagaagaggaagccggagggcgagcc  
9a ggcaggaggcgccgagatggagacctaaagggcaagaagaggaagccggagggcgagcc  
9b ggcaggaggcgccgagatggagacctaaagggcaagaagaggaagccggagggcgagcc  
10a ggcaggaggcgccgagatggagacctaaagggcaagaagaggaagccggagggcgagcc  
7b ggcaggaggcgccgagatggagacctaaagggcaagaagaggaagccggagggcgagcc  
\*\*\*\*\*

SGF73\_genome cgacaaagctccgaagcctaagaaaaagaaggatgaaccgaagcccaaggcgaagccgaa  
SGF73\_mRNA\_3b cgacaaagctccgaagcctaagaaaaagaaggatgaaccgaagcccaaggcgaagccgaa  
2a cgacaaagctccgaagcctaagaaaaagaaggatgaaccgaagcccaaggcgaagccgaa  
4a cgacaaagctccgaagcctaagaaaaagaaggatgaaccgaagcccaaggcgaagccgaa  
1b cgacaaagctccgaagcctaagaaaaagaaggatgaaccgaagcccaaggcgaagccgaa  
2b cgacaaagctccgaagcctaagaaaaagaaggatgaaccgaagcccaaggcgaagccgaa  
10b cgacaaagctccgaagcctaagaaaaagaaggatgaaccgaagcccaaggcgaagccgaa  
12b cgacaaagctccgaagcctaagaaaaagaaggatgaaccgaagcccaaggcgaagccgaa  
4b cgacaaagctccgaagcctaagaaaaagaaggatgaaccgaagcccaaggcgaagccgaa  
7a cgacaaagctccgaagcctaagaaaaagaaggatgaaccgaagcccaaggcgaagccgaa  
8b cgacaaagctccgaagcctaagaaaaagaaggatgaaccgaagcccaaggcgaagccgaa  
9a cgacaaagctccgaagcctaagaaaaagaaggatgaaccgaagcccaaggcgaagccgaa  
9b cgacaaagctccgaagcctaagaaaaagaaggatgaaccgaagcccaaggcgaagccgaa  
10a cgacaaagctccgaagcctaagaaaaagaaggatgaaccgaagcccaaggcgaagccgaa  
7b cgacaaagctccgaagcctaagaaaaagaaggatgaaccgaagcccaaggcgaagccgaa  
\*\*\*\*\*

(3rd intron)  
SGF73\_genome aggtaaagtgtctcaaaagcccaaatctttgcgacgataccgcccccccccttcatt  
SGF73\_mRNA\_3b aggtaaagtgtctcaaaagcccaaatctttgcgacgataccgcccccccccttcatt  
2a -----  
4a -----  
1b -----  
2b -----  
10b -----  
12b -----  
4b -----  
7a -----  
8b -----  
9a -----  
9b -----  
10a -----  
7b -----

SGF73\_genome tgtatcatcttgagccatgaacaatgcctcgttctcaccaattatttctccgatccttc  
SGF73\_mRNA\_3b -----  
2a -----  
4a -----  
1b -----  
2b -----  
10b -----  
12b -----  
4b -----  
7a -----  
8b -----  
9a -----  
9b -----  
10a -----  
7b -----

SGF73\_genome ttggctaatactcagtgataagcaggctcctgtggatgttgagagacaatgtggtgtgccg  
SGF73\_mRNA\_3b -----aggtcctgtggatgttgagagacaatgtggtgtgccg  
2a -----aggtcctgtggatgttgagagacaatgtggtgtgccg  
4a -----aggtcctgtggatgttgagagacaatgtggtgtgccg  
1b -----aggtcctgtggatgttgagagacaatgtggtgtgccg  
2b -----aggtcctgtggatgttgagagacaatgtggtgtgccg  
10b -----agcaggctcctgtggatgttgagagacaatgtggtgtgccg  
12b -----agcaggctcctgtggatgttgagagacaatgtggtgtgccg  
4b -----aggtcctgtggatgttgagagacaatgtggtgtgccg  
7a -----aggtcctgtggatgttgagagacaatgtggtgtgccg  
8b -----aggtcctgtggatgttgagagacaatgtggtgtgccg  
9a -----aggtcctgtggatgttgagagacaatgtggtgtgccg  
9b -----aggtcctgtggatgttgagagacaatgtggtgtgccg  
10a -----aggtcctgtggatgttgagagacaatgtggtgtgccg  
7b -----aggtcctgtggatgttgagagacaatgtggtgtgccg  
\*\*\*\*\*

SGF73\_genome ctgcccaatgggcagccctgtgctaggctcctgacatgtaaatctcatagcatgggggccc  
SGF73\_mRNA\_3b ctgcccaatgggcagccctgtgctaggctcctgacatgtaaatctcatagcatgggggccc  
2a ctgcccaatgggcagccctgtgctaggctcctgacatgtaaatctcatagcatgggggccc  
4a ctgcccaatgggcagccctgtgctaggctcctgacatgtaaatctcatagcatgggggccc  
1b ctgcccaatgggcagccctgtgctaggctcctgacatgtaaatctcatagcatgggggccc  
2b ctgcccaatgggcagccctgtgctaggctcctgacatgtaaatctcatagcatgggggccc  
10b ctgcccaatgggcagccctgtgctaggctcctgacatgtaaatctcatagcatgggggccc  
12b ctgcccaatgggcagccctgtgctaggctcctgacatgtaaatctcatagcatgggggccc  
4b ctgcccaatgggcagccctgtgctaggctcctgacatgtaaatctcatagcatgggggccc  
7a ctgcccaatgggcagccctgtgctaggctcctgacatgtaaatctcatagcatgggggccc  
8b ctgcccaatgggcagccctgtgctaggctcctgacatgtaaatctcatagcatgggggccc  
9a ctgcccaatgggcagccctgtgctaggctcctgacatgtaaatctcatagcatgggggccc  
9b ctgcccaatgggcagccctgtgctaggctcctgacatgtaaatctcatagcatgggggccc  
10a ctgcccaatgggcagccctgtgctaggctcctgacatgtaaatctcatagcatgggggccc  
7b ctgcccaatgggcagccctgtgctaggctcctgacatgtaaatctcatagcatgggggccc  
\*\*\*\*\*

SGF73\_genome aagcgggctgtagccggacggctccttccatagcatgctactggctgcatatcaaaag  
SGF73\_mRNA\_3b aagcgggctgtagccggacggctccttccatagcatgctactggctgcatatcaaaag  
2a aagcgggctgtagccggacggctccttccatagcatgctactggctgcatatcaaaag  
4a aagcgggctgtagccggacggctccttccatagcatgctactggctgcatatcaaaag  
1b aagcgggctgtagccggacggctccttccatagcatgctactggctgcatatcaaaag  
2b aagcgggctgtagccggacggctccttccatagcatgctactggctgcatatcaaaag  
10b aagcgggctgtagccggacggctccttccatagcatgctactggctgcatatcaaaag  
12b aagcgggctgtagccggacggctccttccatagcatgctactggctgcatatcaaaag  
4b aagcgggctgtagccggacggctccttccatagcatgctactggctgcatatcaaaag  
7a aagcgggctgtagccggacggctccttccatagcatgctactggctgcatatcaaaag  
8b aagcgggctgtagccggacggctccttccatagcatgctactggctgcatatcaaaag  
9a aagcgggctgtagccggacggctccttccatagcatgctactggctgcatatcaaaag  
9b aagcgggctgtagccggacggctccttccatagcatgctactggctgcatatcaaaag  
10a aagcgggctgtagccggacggctccttccatagcatgctactggctgcatatcaaaag  
7b aagcgggctgtagccggacggctccttccatagcatgctactggctgcatatcaaaag  
\*\*\*\*\*

(4th intron)

SGF73\_genome aagaaccaggctcgtcaacagagtaagtctcggatccatctaccactaggaacagccaag  
SGF73\_mRNA\_3b aagaaccaggctcgtcaacaga-----  
2a aagaaccaggctcgtcaacaga-----  
4a aagaaccaggctcgtcaacaga-----  
1b aagaaccaggctcgtcaacaga-----  
2b aagaaccaggctcgtcaacaga-----  
10b aagaaccaggctcgtcaacaga-----  
12b aagaaccaggctcgtcaacaga-----  
4b aagaaccaggctcgtcaacaga-----  
7a aagaaccaggctcgtcaacaga-----  
8b aagaaccaggctcgtcaacaga-----  
9a aagaaccaggctcgtcaacaga-----  
9b aagaaccaggctcgtcaacaga-----  
10a aagaaccaggctcgtcaacaga-----  
7b aagaaccaggctcgtcaacaga-----  
\*\*\*\*\*

SGF73\_genome atctgactatcacaacctgcagaggccgctctggatgcaatgctcccgtcgaggaaga  
SGF73\_mRNA\_3b -----aggccgctctggatgcaatgctcccgtcgaggaaga  
2a -----aggccgctctggatgcaatgctcccgtcgaggaaga  
4a -----aggccgctctggatgcaatgctcccgtcgaggaaga  
1b -----aggccgctctggatgcaatgctcccgtcgaggaaga  
2b -----aggccgctctggatgcaatgctcccgtcgaggaaga  
10b -----aggccgctctggatgcaatgctcccgtcgaggaaga  
12b -----aggccgctctggatgcaatgctcccgtcgaggaaga  
4b -----aggccgctctggatgcaatgctcccgtcgaggaaga  
7a -----aggccgctctggatgcaatgctcccgtcgaggaaga  
8b -----aggccgctctggatgcaatgctcccgtcgaggaaga  
9a -----aggccgctctggatgcaatgctcccgtcgaggaaga  
9b -----aggccgctctggatgcaatgctcccgtcgaggaaga  
10a -----aggccgctctggatgcaatgctcccgtcgaggaaga  
7b -----aggccgctctggatgcaatgctcccgtcgaggaaga  
\*\*\*\*\*

SGF73\_genome ggacgatcccaacgcccggcccgctcgactctgacgaggagtataatgccgtcatgagctc  
SGF73\_mRNA\_3b ggacgatcccaacgcccggcccgctcgactctgacgaggagtataatgccgtcatgagctc  
2a ggacgatcccaacgcccggcccgctcgactctgacgaggagtataatgccgtcatgagctc  
4a ggacgatcccaacgcccggcccgctcgactctgacgaggagtataatgccgtcatgagctc  
1b ggacgatcccaacgcccggcccgctcgactctgacgaggagtataatgccgtcatgagctc  
2b ggacgatcccaacgcccggcccgctcgactctgacgaggagtataatgccgtcatgagctc  
10b ggacgatcccaacgcccggcccgctcgactctgacgaggagtataatgccgtcatgagctc  
12b ggacgatcccaacgcccggcccgctcgactctgacgaggagtataatgccgtcatgagctc  
4b ggacgatcccaacgcccggcccgctcgactctgacgaggagtataatgccgtcatgagctc  
7a ggacgatcccaacgcccggcccgctcgactctgacgaggagtataatgccgtcatgagctc  
8b ggacgatcccaacgcccggcccgctcgactctgacgaggagtataatgccgtcatgagctc  
9a ggacgatcccaacgcccggcccgctcgactctgacgaggagtataatgccgtcatgagctc  
9b ggacgatcccaacgcccggcccgctcgactctgacgaggagtataatgccgtcatgagctc  
10a ggacgatcccaacgcccggcccgctcgactctgacgaggagtataatgccgtcatgagctc  
7b ggacgatcccaacgcccggcccgctcgactctgacgaggagtataatgccgtcatgagctc  
\*\*\*\*\*

SGF73\_genome gctcaggaagtggaaacccgagcccgtcgctgcccagcccagctcaactttcttaagag  
SGF73\_mRNA\_3b gctcaggaagtggaaacccgagcccgtcgctgcccagcccagctcaactttcttaagag  
2a gctcaggaagtggaaacccgagcccgtcgctgcccagcccagctcaactttcttaagag  
4a gctcaggaagtggaaacccgagcccgtcgctgcccagcccagctcaactttcttaagag  
1b gctcaggaagtggaaacccgagcccgtcgctgcccagcccagctcaactttcttaagag  
2b gctcaggaagtggaaacccgagcccgtcgctgcccagcccagctcaactttcttaagag  
10b gctcaggaagtggaaacccgagcccgtcgctgcccagcccagctcaactttcttaagag  
12b gctcaggaagtggaaacccgagcccgtcgctgcccagcccagctcaactttcttaagag  
4b gctcaggaagtggaaacccgagcccgtcgctgcccagcccagctcaactttcttaagag  
7a gctcaggaagtggaaacccgagcccgtcgctgcccagcccagctcaactttcttaagag  
8b gctcaggaagtggaaacccgagcccgtcgctgcccagcccagctcaactttcttaagag  
9a gctcaggaagtggaaacccgagcccgtcgctgcccagcccagctcaactttcttaagag  
9b gctcaggaagtggaaacccgagcccgtcgctgcccagcccagctcaactttcttaagag  
10a gctcaggaagtggaaacccgagcccgtcgctgcccagcccagctcaactttcttaagag  
7b gctcaggaagtggaaacccgagcccgtcgctgcccagcccagctcaactttcttaagag  
\*\*\*\*\*

SGF73\_genome ggagaccagcttgtgaggctgcccacgcaatcgatgctgccacagataacggccgcaa  
SGF73\_mRNA\_3b ggagaccagcttgtgaggctgcccacgcaatcgatgctgccacagataacggccgcaa  
2a ggagaccagcttgtgaggctgcccacgcaatcgatgctgccacagataacggccgcaa  
4a ggagaccagcttgtgaggctgcccacgcaatcgatgctgccacagataacggccgcaa  
1b ggagaccagcttgtgaggctgcccacgcaatcgatgctgccacagataacggccgcaa  
2b ggagaccagcttgtgaggctgcccacgcaatcgatgctgccacagataacggccgcaa  
10b ggagaccagcttgtgaggctgcccacgcaatcgatgctgccacagataacggccgcaa  
12b ggagaccagcttgtgaggctgcccacgcaatcgatgctgccacagataacggccgcaa  
4b ggagaccagcttgtgaggctgcccacgcaatcgatgctgccacagataacggccgcaa  
7a ggagaccagcttgtgaggctgcccacgcaatcgatgctgccacagataacggccgcaa  
8b ggagaccagcttgtgaggctgcccacgcaatcgatgctgccacagataacggccgcaa  
9a ggagaccagcttgtgaggctgcccacgcaatcgatgctgccacagataacggccgcaa  
9b ggagaccagcttgtgaggctgcccacgcaatcgatgctgccacagataacggccgcaa  
10a ggagaccagcttgtgaggctgcccacgcaatcgatgctgccacagataacggccgcaa  
7b ggagaccagcttgtgaggctgcccacgcaatcgatgctgccacagataacggccgcaa  
\*\*\*\*\*

SGF73\_genome aagtatctcaaggtcaggggctacggagcgcagcctacccccggccatcccggcca  
SGF73\_mRNA\_3b aagtatctcaaggtcaggggctacggagcgcagcctacccccggccatcccggcca  
2a aagtatctcaaggtcaggggctacggagcgcagcctacccccggccatcccggcca  
4a aagtatctcaaggtcaggggctacggagcgcagcctacccccggccatcccggcca  
1b aagtatctcaaggtcaggggctacggagcgcagcctacccccggccatcccggcca  
2b aagtatctcaaggtcaggggctacggagcgcagcctacccccggccatcccggcca  
10b aagtatctcaaggtcaggggctacggagcgcagcctacccccggccatcccggcca  
12b aagtatctcaaggtcaggggctacggagcgcagcctacccccggccatcccggcca  
4b aagtatctcaaggtcaggggctacggagcgcagcctacccccggccatcccggcca  
7a aagtatctcaaggtcaggggctacggagcgcagcctacccccggccatcccggcca  
8b aagtatctcaaggtcaggggctacggagcgcagcctacccccggccatcccggcca  
9a aagtatctcaaggtcaggggctacggagcgcagcctacccccggccatcccggcca  
9b aagtatctcaaggtcaggggctacggagcgcagcctacccccggccatcccggcca  
10a aagtatctcaaggtcaggggctacggagcgcagcctacccccggccatcccggcca  
7b aagtatctcaaggtcaggggctacggagcgcagcctacccccggccatcccggcca  
\*\*\*\*\*

SGF73\_genome ccgtcctccggttcctatgctccccgggtctggacgctcccgggtgaggaggacgatgatt  
SGF73\_mRNA\_3b ccgtcctccggttcctatgctccccgggtctggacgctcccgggtgaggaggacgatgatt  
2a ccgtcctccggttcctatgctccccgggtctggacgctcccgggtgaggaggacgatgatt  
4a ccgtcctccggttcctatgctccccgggtctggacgctcccgggtgaggaggacgatgatt  
1b ccgtcctccggttcctatgctccccgggtctggacgctcccgggtgaggaggacgatgatt  
2b ccgtcctccggttcctatgctccccgggtctggacgctcccgggtgaggaggacgatgatt  
10b ccgtcctccggttcctatgctccccgggtctggacgctcccgggtgaggaggacgatgatt  
12b ccgtcctccggttcctatgctccccgggtctggacgctcccgggtgaggaggacgatgatt  
4b ccgtcctccggttcctatgctccccgggtctggacgctcccgggtgaggaggacgatgatt  
7a ccgtcctccggttcctatgctccccgggtctggacgctcccgggtgaggaggacgatgatt  
8b ccgtcctccggttcctatgctccccgggtctggacgctcccgggtgaggaggacgatgatt  
9a ccgtcctccggttcctatgctccccgggtctggacgctcccgggtgaggaggacgatgatt  
9b ccgtcctccggttcctatgctccccgggtctggacgctcccgggtgaggaggacgatgatt  
10a ccgtcctccggttcctatgctccccgggtctggacgctcccgggtgaggaggacgatgatt  
7b ccgtcctccggttcctatgctccccgggtctggacgctcccgggtgaggaggacgatgatt  
\*\*\*\*\*

SGF73\_genome gtctatgctgggaggtggggtgcctggtagcgccatgtcagctacttttgcgtccatgac  
SGF73\_mRNA\_3b gtctatgctgggaggtggggtgcctggtagcgccatgtcagctacttttgcgtccatgac  
2a gtctatgctgggaggtggggtgcctggtagcgccatgtcagctacttttgcgtccatgac  
4a gtctatgctgggaggtggggtgcctggtagcgccatgtcagctacttttgcgtccatgac  
1b gtctatgctgggaggtggggtgcctggtagcgccatgtcagctacttttgcgtccatgac  
2b gtctatgctgggaggtggggtgcctggtagcgccatgtcagctacttttgcgtccatgac  
10b gtctatgctgggaggtggggtgcctggtagcgccatgtcagctacttttgcgtccatgac  
12b gtctatgctgggaggtggggtgcctggtagcgccatgtcagctacttttgcgtccatgac  
4b gtctatgctgggaggtggggtgcctggtagcgccatgtcagctacttttgcgtccatgac  
7a gtctatgctgggaggtggggtgcctggtagcgccatgtcagctacttttgcgtccatgac  
8b gtctatgctgggaggtggggtgcctggtagcgccatgtcagctacttttgcgtccatgac  
9a gtctatgctgggaggtggggtgcctggtagcgccatgtcagctacttttgcgtccatgac  
9b gtctatgctgggaggtggggtgcctggtagcgccatgtcagctacttttgcgtccatgac  
10a gtctatgctgggaggtggggtgcctggtagcgccatgtcagctacttttgcgtccatgac  
7b gtctatgctgggaggtggggtgcctggtagcgccatgtcagctacttttgcgtccatgac  
\*\*\*\*\*

SGF73\_genome acagcaaagacagctgtcgggtgggtggcccagcctag  
SGF73\_mRNA\_3b acagcaaagacagctgtcgggtgggtggcccagcctag  
2a acagcaaagacagctgtcgggtgggtggcccagcctag  
4a acagcaaagacagctgtcgggtgggtggcccagcctag  
1b acagcaaagacagctgtcgggtgggtggcccagcctag  
2b acagcaaagacagctgtcgggtgggtggcccagcctag  
10b acagcaaagacagctgtcgggtgggtggcccagcctag  
12b acagcaaagacagctgtcgggtgggtggcccagcctag  
4b acagcaaagacagctgtcgggtgggtggcccagcctag  
7a acagcaaagacagctgtcgggtgggtggcccagcctag  
8b acagcaaagacagctgtcgggtgggtggcccagcctag  
9a acagcaaagacagctgtcgggtgggtggcccagcctag  
9b acagcaaagacagctgtcgggtgggtggcccagcctag  
10a acagcaaagacagctgtcgggtgggtggcccagcctag  
7b acagcaaagacagctgtcgggtgggtggcccagcctag  
\*\*\*\*\*

B CLUSTAL format alignment by MAFFT (v7.306b)

```
SGF73_3b      MGDDRKDEATIKVASKKNHSSGKAKAGAFKLDKDRFPKIKEPGDYERGHVVED--QKKS  
SGF73_10b     MGDDRKDEATIKVASKKNHSSGKAKAGAFKLDKDRFPKIKEPGDYERGHVVED--QKKS  
SGF73_8b      MGDDRKDEATIKVASKKNHSSGKAKAGAFKLDKDRFPKIKEPGDYERGHVVEGLYQKKS  
*****.*****  
  
3b           ASAATNRVPSGPAVNHLDLPHETFTKGIPLADFPTLTSCRWCKKSVLMTTAVDHINGC  
10b          ASAATNRVPSGPAVNHLDLPHETFTKGIPLADFPTLTSCRWCKKSVLMTTAVDHINGC  
8b           ASAATNRVPSGPAVNHLDLPHETFTKGIPLADFPTLTSCRWCKKSVLMTTAVDHINGC  
*****  
  
3b           LRIKKEKANRKAAREARERAKEQAARKERERRAEIEGIPLPEPDSDDDDADKAAPGG  
10b          LRIKKEKANRKAAREARERAKEQAARKERERRAEIEGIPLPEPDSDDDDADKAAPGG  
8b           LRIKKEKANRKAAREARERAKEQAARKERERRAEIEGIPLPEPDSDDDDADKAAPGG  
*****  
  
3b           KTTKKAAGKAGGGGDLKGGKRRKPEGEPDKAPKPKKKKDEPKKAKPK-GPVDVERQC  
10b          KTTKKAAGKAGGGGDLKGGKRRKPEGEPDKAPKPKKKKDEPKKAKPKAGPVDVERQC  
8b           KTTKKAAGKAGGGGDLKGGKRRKPEGEPDKAPKPKKKKDEPKKAKPK-GPVDVERQC  
*****  
  
3b           GVPLPNGQPCARSLTCKSHSMGAKRAVAGRSLPYDMLLAAYQKKNQARQQKAALDANAPV  
10b          GVPLPNGQPCARSLTCKSHSMGAKRAVAGRSLPYDMLLAAYQKKNQARQQKAALDANAPV  
8b           GVPLPNGQPCARSLTCKSHSMGAKRAVAGRSLPYDMLLAAYQKKNQARQQKAALDANAPV  
*****  
  
3b           EEEDDPNAGPVDSEEEYNAVMSLRLKWNPPVVPQQLNFKRETQLVRLRHAIDAATDN  
10b          EEEDDPNAGPVDSEEEYNAVMSLRLKWNPPVVPQQLNFKRETQLVRLRHAIDAATDN  
8b           EEEDDPNAGPVDSEEEYNAVMSLRLKWNPPVVPQQLNFKRETQLVRLRHAIDAATDN  
*****  
  
3b           GRKSIKVRGYGAQRLPPGHPGHRPPVPLPGLDAPGEEDDL SMLGGVPGSAMSATFA  
10b          GRKSIKVRGYGAQRLPPGHPGHRPPVPLPGLDAPGEEDDL SMLGGVPGSAMSATFA  
8b           GRKSIKVRGYGAQRLPPGHPGHRPPVPLPGLDAPGEEDDL SMLGGVPGSAMSATFA  
*****  
  
3b           SMTQQRQLSVGGPA  
10b          SMTQQRQLSVGGPA  
8b           SMTQQRQLSVGGPA  
*****
```