

Table S1. Plasmid and primer sequences.

Plasmid Name	Source
pCMV6-hSHH	Origene RC222175, stop after hSHH(S462)

Mutagenesis primers

Construct	Forward Primer	Reverse Primer
hSHH(F199A)	TCGGGAGGCTGCGCCCCGGGCTCGGC	GCCGAGCCCCGGGGCGCAGCCTCCCGA
hSHH(K213A)	GCAGGGCGGCACCGCGCTGGTGAAGGAC	GTCCTTCACCAGCGCGGTGCCGCCCTGC
hSHH(D217A)	AGCTGGTGAAGGCCCTGAGCCCCGG	CCGGGGCTCAGGGCCTTCACCAGCT
hSHH(D222A)	GAGCCCCGGGGCCCCGCGTGCTGG	CCAGCACGCGGGCCCCGGGGCTC
hSHH(D245A)	CCTGGACCGCGCCGACGGCGCCA	TGGCGCCGTCGGCGCGGTCCAGG
hSHH(S236A)	GGCCGGCTGCTCTACGCCGACTTCCTCACTTT	AAAGTGAGGAAGTCGGCGTAGAGCAGCCGGCC
hSHH(D237A)	GGCTGCTCTACAGCGCCTTCCTCACTTTCT	AGGAAAGTGAGGAAGGCGCTGTAGAGCAGCC
hSHH(L239A)	GCTCTACAGCGACTTCGCCACTTTCTGGACCGC	GCGGTCCAGGAAAGTGCGGAAGTCGCTGTAGAGC
hSHH(F241A)	CTCTACAGCGACTTCCTCACTGCCCTGGACCGCG	CGCGGTCCAGGGCAGTGAGGAAGTCGCTGTAGAG
hSHH(L242A)	AGCGACTTCCTCACTTTTCGCGGACCGCGACGA	TCGTCGCGGTCCGCGAAAGTGAGGAAGTCGCT
hSHH(R244A)	CACTTTCTGGACGCCGACGACGGCGCC	GGCGCCGTCGTCGGCGTCCAGGAAAGTG
hSHH(K249A)	GCGACGACGGCGCCGCGAAGGTCTTCTACG	CGTAGAAGACCTTCGCGGGCGCCGTCGTCGC
hSHH(K250A)	CGACGACGGCGCCAAGGCGGTCTTCTACGTGATC	GATCACGTAGAAGACCGCCTTGCGGCCGTCGTCG
hSHH(F252A)	CGGCGCCAAGAAGGTCGCCTACGTGATCGAGACG	CGTCTCGATCACGTAGGCGACCTTCTTGCGCCG
hSHH(L348A)	GCCTACGCGCCGGCCACGGCCCAGGG	CCCTGGGCCGTGGCCGGCGCGTAGGC
hSHH(L348E)	GCCTACGCGCCGGAGACGGCCCAGGGG	GCCCTGGGCCGTCTCCGGCGCGTAGGC
hSHH(F305A)	CCTCGGGCGCTGGCCGCCAGCCGCGT	ACGCGGCTGGCGGCCAGCGCCCAGG
hSHH(Y345A)	CCGCGGGCGCCGCCGCGCCGCTCA	TGAGCGGCGCGGCCGCGCCCAGG
hSHH(Y364A)	GCTGGCCTCGTGCGCCGCGGTCATCGAG	CTCGATGACCGCGGCCGACGAGGCCAGC