

<i>gShCSD1-1</i>	<u>GCTTCTTTCCCTTCTCAGTCAAGGGGTCCCTGAGGTAACATACCTCCTATTTTCATTTTCTCTACGCTC</u>	70
<i>gShCSD1-2</i>	-----	70
<i>gIgCSD1-1</i>	-----	70
<i>gNdCSD1-1</i>	-----	70
<i>gLpCSD1-1</i>	-----	70
<i>gAduCSD1</i>	-----	70
<i>gAkuCSD1</i>	-----	70
<i>gAipCSD1</i>	-----	70
<i>gShCSD1-1</i>	ACTGACATTCATTTCTTCAATCTTCTCTCTTCTCTCTTCTCTCTTCTCTCTGTTAGTTTTTTG	140
<i>gShCSD1-2</i>	-----	140
<i>gIgCSD1-1</i>	-----	140
<i>gNdCSD1-1</i>	-----	140
<i>gLpCSD1-1</i>	-----	140
<i>gAduCSD1</i>	-----	140
<i>gAkuCSD1</i>	-----	140
<i>gAipCSD1</i>	-----	140
<i>gShCSD1-1</i>	TTTTTCTTATTGTTCTCACTGAATCTCGCTTTTTTGTGCTGTTTTTCTTCGATTCATCATATCCGAATACC	210
<i>gShCSD1-2</i>	-----	210
<i>gIgCSD1-1</i>	-----	210
<i>gNdCSD1-1</i>	-----	210
<i>gLpCSD1-1</i>	-----	210
<i>gAduCSD1</i>	-----	210
<i>gAkuCSD1</i>	-----	210
<i>gAipCSD1</i>	-----	210
<i>gShCSD1-1</i>	TCTGTACGCTATTAATGGACCGATCAACTCAACTGGCAGCTAATTTAAGTTGATAATCAACTAATTGAAT	280
<i>gShCSD1-2</i>	-----	280
<i>gIgCSD1-1</i>	-----	280
<i>gNdCSD1-1</i>	-----	280
<i>gLpCSD1-1</i>	-----	280
<i>gAduCSD1</i>	-----	280
<i>gAkuCSD1</i>	-----	280
<i>gAipCSD1</i>	-----	280
<i>gShCSD1-1</i>	TCCGTCGCTTGTGTTTTTTTTTTTCATTTAACTTGAGTGATTTAACATATTACTTCATGATTTTGATTTT	350
<i>gShCSD1-2</i>	-----	350
<i>gIgCSD1-1</i>	-----	350
<i>gNdCSD1-1</i>	-----	350
<i>gLpCSD1-1</i>	-----	350
<i>gAduCSD1</i>	-----	350
<i>gAkuCSD1</i>	-----	350
<i>gAipCSD1</i>	-----	350
<i>gShCSD1-1</i>	TGATTTTTTAGGTTTTAGAAATCGCTATGTAAATTTGTTAGTCTCTTTTAGTTATTGATGATCGATTTAGCT	420
<i>gShCSD1-2</i>	-----	420
<i>gIgCSD1-1</i>	-----	420
<i>gNdCSD1-1</i>	-----	420
<i>gLpCSD1-1</i>	-----	420
<i>gAduCSD1</i>	-----	420
<i>gAkuCSD1</i>	-----	420
<i>gAipCSD1</i>	-----	420

gShCSD1-1 TTTTTAGGCAGCTGTTAGTTTTTCTAAATCTGAAATGAATTATTTTTATTTTATTTGTTTAATTAATT 490
gShCSD1-2 ----- 490
gIgCSD1-1 ----- 490
gNdCSD1-1 ----- 490
gLpCSD1-1 ----- 490
gAduCSD1 ----- 490
gAkuCSD1 ----- 490
gAipCSD1 ----- 490

gShCSD1-1 AATTAATTTTTAGATCACAACTGAAAAATGGTGAAGGCTGTGGCAGTTCCTTAGCAGCAGTGAGGGTGT 560
gShCSD1-2 ----- 560
gIgCSD1-1 ----- 560
gNdCSD1-1 ----- 560
gLpCSD1-1 ----- 560
gAduCSD1 ----- 560
gAkuCSD1 ----- 560
gAipCSD1 ----- 560

gShCSD1-1 CAGTGGAACTATTTCTTCTCTCAGGAAAGGAAATGGTAAGTTTCCAATTAGCGGAATATTTCTGTTTCTG 630
gShCSD1-2 t-----caa----- 630
gIgCSD1-1 -----gc----- 630
gNdCSD1-1 -----c----- 630
gLpCSD1-1 -----c----- 630
gAduCSD1 ----- 630
gAkuCSD1 -----ca-----g-----t----- 630
gAipCSD1 t-----caa----- 630

gShCSD1-1 TTTGCTTGTACTTACTATAAAAAGTTTGCAATCAAATGAATTGTTATTATTGTGAATTATTGTTGTATAGG 700
gShCSD1-2 ----- 700
gIgCSD1-1 ----- 700
gNdCSD1-1 ----- 700
gLpCSD1-1 ----- 700
gAduCSD1 ----- 700
gAkuCSD1 ----- 700
gAipCSD1 ----- 700

II

gShCSD1-1 TCCAACCACTGTGACTGGAATCTTGCTGGCCTTAAGCCTGGTCTTCATGGGTTCCATGTCCATGCCCTT 770
gShCSD1-2 ----- 770
gIgCSD1-1 ----- 770
gNdCSD1-1 ----- 770
gLpCSD1-1 ----- 770
gAduCSD1 ----- 770
gAkuCSD1 ----- 770
gAipCSD1 ----- 770

gShCSD1-1 GGAGACACCACAAATGGTTGCATGTCAACTGGTATGCCCGTTACCCATTATAATGAGTTCGAACTGATTG 840
gShCSD1-2 -----c----- 840
gIgCSD1-1 -----c----- 840
gNdCSD1-1 ----- 840
gLpCSD1-1 ----- 840
gAduCSD1 -----c----- 840
gAkuCSD1 -----c-----g----- 840
gAipCSD1 -----c----- 840

<i>gShCSD1-1</i>	TAAACCTGTAGTTTCGGTTGAAATAATATTGAAACTTTTCATCATGTGAGATAGTATTGAAATGCTTAATT	910
<i>gShCSD1-2</i>	-----	910
<i>gIgCSD1-1</i>	-----	910
<i>gNdCSD1-1</i>	-----	907
<i>gLpCSD1-1</i>	-----	907
<i>gAduCSD1</i>	-----g-----	910
<i>gAkuCSD1</i>	-----c-----g-----	910
<i>gAipCSD1</i>	-----	910
<i>gShCSD1-1</i>	TCTATGCTTTTTTATATTCTAGGACCGCATTTC AATCCTAACACAAGGAGCATGGTGCCCTGAAGGTG	980
<i>gShCSD1-2</i>	-----a-----	980
<i>gIgCSD1-1</i>	-----a-----a-----	980
<i>gNdCSD1-1</i>	-----a-----	977
<i>gLpCSD1-1</i>	-----a-----a-----	977
<i>gAduCSD1</i>	-----g-----a-----	980
<i>gAkuCSD1</i>	-----c-----g-----a-----	980
<i>gAipCSD1</i>	-----a-----	980
<i>gShCSD1-1</i>	AGAACCGCCATGCTGGTGATTAGGAAATGTTAATGTTGGAGATGATGGTATGACTTTGTTCCCTTAGTA	1 050
<i>gShCSD1-2</i>	-----	1 050
<i>gIgCSD1-1</i>	-----	1 050
<i>gNdCSD1-1</i>	-----	1 047
<i>gLpCSD1-1</i>	-----	1 047
<i>gAduCSD1</i>	-----	1 050
<i>gAkuCSD1</i>	-----	1 050
<i>gAipCSD1</i>	-----	1 050
<i>gShCSD1-1</i>	CCCTTCTTATCAAGTTTAGTTGTTGGTTCCTTTTGCTTTACATGCATTCTCTATTTGACTTAGCATT	1 120
<i>gShCSD1-2</i>	-----a-----g-----c-----g-----	1 120
<i>gIgCSD1-1</i>	-----c-----a-----	1 120
<i>gNdCSD1-1</i>	-----	1 117
<i>gLpCSD1-1</i>	-----	1 117
<i>gAduCSD1</i>	-----c-----a-----g-----	1 120
<i>gAkuCSD1</i>	-----c-----a-----a-----c-----g-----	1 120
<i>gAipCSD1</i>	-----a-----g-----c-----g-----	1 120
<i>gShCSD1-1</i>	GACATGCTTGTTTGGTCTTTGTTCTAAAATTGGTTTCTTTTCATTGTGCTTCAGGAACTGTTAGCTTCTCC	1 190
<i>gShCSD1-2</i>	-----	1 190
<i>gIgCSD1-1</i>	-----	1 190
<i>gNdCSD1-1</i>	-----	1 186
<i>gLpCSD1-1</i>	-----	1 186
<i>gAduCSD1</i>	t-----g-----	1 190
<i>gAkuCSD1</i>	-----g-----a-----	1 190
<i>gAipCSD1</i>	-----	1 190
<i>gShCSD1-1</i>	ATTTCCGACAGTCAAGGTATGCTATTTCATCTCCTAGTTTAAACGTGATTGTGTTGGACATGATCATGTTAAG	1 260
<i>gShCSD1-2</i>	-----	1 260
<i>gIgCSD1-1</i>	-----	1 260
<i>gNdCSD1-1</i>	-----	1 256
<i>gLpCSD1-1</i>	-----	1 256
<i>gAduCSD1</i>	-----	1 260
<i>gAkuCSD1</i>	-----	1 260
<i>gAipCSD1</i>	-----	1 260

<i>gShCSD1-1</i>	AGAGTGATTAACCTCTTTAAATAAGTGGTCTCTTATTTAAACATGTAGGACTCAATTTGAATAATTGTGCC	1 330
<i>gShCSD1-2</i>	-----	1 330
<i>gIgCSD1-1</i>	-----	1 330
<i>gNdCSD1-1</i>	-----	1 326
<i>gLpCSD1-1</i>	-----	1 326
<i>gAduCSD1</i>	-----	1 330
<i>gAkuCSD1</i>	-----	1 330
<i>gAipCSD1</i>	-----	1 330
<div style="border: 1px solid black; display: inline-block; padding: 2px 10px;">V</div>		
<i>gShCSD1-1</i>	CATTTCTCTCTCTTTTGTCAATTATGCTTTAGATATAAACATAAAACATAAGAGGGTCCTGACTTGCAAGT	1 400
<i>gShCSD1-2</i>	-----a-----	1 400
<i>gIgCSD1-1</i>	-----	1 400
<i>gNdCSD1-1</i>	-----	1 496
<i>gLpCSD1-1</i>	-----	1 496
<i>gAduCSD1</i>	-----g--a-----	1 400
<i>gAkuCSD1</i>	-----a-----	1 400
<i>gAipCSD1</i>	-----a-----	1 400
<i>gShCSD1-1</i>	TTCAGTTTTTGATTAGTTGTGTAATATTCGCAGATCCCTCTTAGCGGACCAAACCTCCATTGTGGGAAGGG	1 470
<i>gShCSD1-2</i>	-----t-----t-----	1 470
<i>gIgCSD1-1</i>	-----t-----t-----	1 470
<i>gNdCSD1-1</i>	-----t-----	1 466
<i>gLpCSD1-1</i>	-----t-----	1 466
<i>gAduCSD1</i>	-----t-----t-----	1 470
<i>gAkuCSD1</i>	-----t-----t-----	1 470
<i>gAipCSD1</i>	-----t-----t-----	1 470
<i>gShCSD1-1</i>	CTGTTGTGTGCCATGCTGATCCTGATGATCTTGGGAAAGGTATTCACCAATAATCTATTTCTTATTTGGT	1 540
<i>gShCSD1-2</i>	-----	1 540
<i>gIgCSD1-1</i>	-----	1 540
<i>gNdCSD1-1</i>	-----	1 536
<i>gLpCSD1-1</i>	-----	1 536
<i>gAduCSD1</i>	-----	1 540
<i>gAkuCSD1</i>	-----	1 540
<i>gAipCSD1</i>	-----	1 540
<i>gShCSD1-1</i>	GGTATCTCCTTCATTGATAATCCATTTAGTACCGTCCTACATGTTGTTTCATGCGTAAATGAAATATTTT	1 610
<i>gShCSD1-2</i>	-----c-----t-----a-----g-----	1 610
<i>gIgCSD1-1</i>	-----	1 610
<i>gNdCSD1-1</i>	-----	1 606
<i>gLpCSD1-1</i>	-----	1 606
<i>gAduCSD1</i>	-----	1 610
<i>gAkuCSD1</i>	-----c-----t-----	1 610
<i>gAipCSD1</i>	-----c-----t-----a-----g-----	1 610
<i>gShCSD1-1</i>	GATTCACCTCTTTTTTTT.....GCAAATGCTTTCTATGTATTGTGGCCG.....ACAACCTT	1 662
<i>gShCSD1-2</i>	-----ttttttttttt-----	1 674
<i>gIgCSD1-1</i>	-----tt.....	1 664
<i>gNdCSD1-1</i>	-----ttt.....	1 661
<i>gLpCSD1-1</i>	-----ttt.....	1 661
<i>gAduCSD1</i>	-----tggccg-----	1 668
<i>gAkuCSD1</i>	-----	1 662
<i>gAipCSD1</i>	-----ttttttttttt-----	1 674
<div style="border: 1px solid black; display: inline-block; padding: 2px 10px;">VI</div>		

<i>gShCSD1-1</i>	ATGGATATTATTTGTTATGTTGTAGGTGGGCATGAGCTTAGCAAATCCACTGGAAATGCTGGTGGCAG	1 732
<i>gShCSD1-2</i>	-----	1 744
<i>gIgCSD1-1</i>	-----	1 734
<i>gNdCSD1-1</i>	-----	1 731
<i>gLpCSD1-1</i>	-----	1 731
<i>gAduCSD1</i>	-----	1 738
<i>gAkuCSD1</i>	-----	1 732
<i>gAipCSD1</i>	-----	1 744
<i>gShCSD1-1</i>	AGTAGCTTGC [■] GGTAAGCATGTTTCACCG [■] CAGTAAATGTTTATGTTGACATTCAA [■] AATTACAGATTTAATT	1 802
<i>gShCSD1-2</i>	-----t-----a-----	1 814
<i>gIgCSD1-1</i>	-----t-----	1 804
<i>gNdCSD1-1</i>	-----	1 801
<i>gLpCSD1-1</i>	-----c-----	1 801
<i>gAduCSD1</i>	-----	1 808
<i>gAkuCSD1</i>	-----a-----	1 802
<i>gAipCSD1</i>	-----t-----a-----	1 814
<i>gShCSD1-1</i>	TCAA.TTTCCTCCCTTTT [■] TATTGTGAGGGAAAGGGAAAGG.....AAGGTTCTCTATAACAA	1 859
<i>gShCSD1-2</i>	---a-----a-----gaaaggaaaagg-----	1 884
<i>gIgCSD1-1</i>	-----	1 861
<i>gNdCSD1-1</i>	-----	1 858
<i>gLpCSD1-1</i>	-----	1 858
<i>gAduCSD1</i>	-----	1 865
<i>gAkuCSD1</i>	-----g-----	1 858
<i>gAipCSD1</i>	---a-----a-----gaaaggaaaagg-----	1 884
<i>gShCSD1-1</i>	AATGAGGGGTTTTTAAAATTGAAAAGGCATGTGAAACCC [■] CATACTTCTATCCTCCTCTTTCCTTTCCTCT	1 929
<i>gShCSD1-2</i>	-----c-----c-----t-----	1 950
<i>gIgCSD1-1</i>	-----	1 931
<i>gNdCSD1-1</i>	-----	1 928
<i>gLpCSD1-1</i>	-----VII-----	1 928
<i>gAduCSD1</i>	-----	1 935
<i>gAkuCSD1</i>	-----c-----t-----	1 928
<i>gAipCSD1</i>	-----c-----c-----t-----	1 950
<i>gShCSD1-1</i>	CCCTTTCCTTTTAGACACATCTTGTTATCTTTTCCTCGTGTATTCCCAAACCAACCCTCGTGTGTTGTC	1 999
<i>gShCSD1-2</i>	..---g-----a-----a-----	2 018
<i>gIgCSD1-1</i>	-----	2 001
<i>gNdCSD1-1</i>	-----	1 998
<i>gLpCSD1-1</i>	-----	1 998
<i>gAduCSD1</i>	-----a-----	2 005
<i>gAkuCSD1</i>	-----a-----	1 998
<i>gAipCSD1</i>	..---g-----a-----a-----	2 018
<i>gShCSD1-1</i>	AGTTTGTATTATTTCTTATAATCTGATGTCTCGTTTCAATTTCTTTATCAAGAGATTAGTGTGTTGTCT	2 069
<i>gShCSD1-2</i>	-----g-----c-----	2 085
<i>gIgCSD1-1</i>	-----	2 077
<i>gNdCSD1-1</i>	-----	2 065
<i>gLpCSD1-1</i>	-----	2 065
<i>gAduCSD1</i>	-----	2 075
<i>gAkuCSD1</i>	-----c-----	2 067
<i>gAipCSD1</i>	-----g-----c-----	2 085

<i>gShCSD1-1</i>	GCTAATATTGACTCTG CC ATTCTCTTGTGTGTAGGGGTTATTGGTTTGCAAGGC TAG ATACTCCTTTC	2 139
<i>gShCSD1-2</i>	-----a-----a-----	2 155
<i>gIgCSD1-1</i>	-----a-----	2 141
<i>gNdCSD1-1</i>	-----	2 135
<i>gLpCSD1-1</i>	-----	2 135
<i>gAduCSD1</i>	-----c--	2 145
<i>gAkuCSD1</i>	-----c--	2 137
<i>gAipCSD1</i>	-----a-----a-----	2 155
<i>gShCSD1-1</i>	<u>AGCCCCTGGATTATCATGCTTTTTTCGCGTG</u>	2 169
<i>gShCSD1-2</i>	-----	2 185
<i>gIgCSD1-1</i>	-----	2 171
<i>gNdCSD1-1</i>	-----	2 165
<i>gLpCSD1-1</i>	-----	2 165
<i>gAduCSD1</i>	-----t-----	2 175
<i>gAkuCSD1</i>	-----t-----	2 167
<i>gAipCSD1</i>	-----	2 185

图2 花生 *AhCSD1* 核苷酸序列比对

注: ---标注一致序列; 灰色阴影标注山花9号两条 *AhCSD1* 序列 SNP 位点; 黑色阴影标注起始密码子 ATG 与终止密码子 TAG; 下划线标注外显子部分; 内含子编号 I 到 VII

Figure 2 Alignment of nucleotide sequences of *AhCSD1* from peanut

Note: ---indicated the consensus sequence; SNP sites between *gShCSD1-1* and *gShCSD1-2* were shaded by gray; the initiation codon ATG and termination codon TAG were shaded by dark; exons were underlined; the numbers (I to VII) were the name of introns