

Fig. S_2: List of *Csl* subfamily genes, their protein sizes (number of amino acids), and multiple protein sequence alignments. The conserved motifs (D, D, DXD, QXXRW) diagnostic of CSL proteins are highlighted with red boxes for each of the subfamilies.

Figure S_2A: *CslA* subfamily

S.No	Gene name with number of splice variants (CslA)	No. of amino acids (aa)
1	TRIAE_CS42_2BS_TGACv1_146583_AA0468630.1	581 aa
2	TRIAE_CS42_2AS_TGACv1_113418_AA0355820.2	580 aa
3	TRIAE_CS42_2DS_TGACv1_177473_AA0578070.1	581 aa
4	TRIAE_CS42_2AS_TGACv1_113300_AA0354190.1	579 aa
5	TRIAE_CS42_2DS_TGACv1_177798_AA0584795.1	881 aa
6	TRIAE_CS42_6BS_TGACv1_513375_AA1639370.1_2_SPLICE	518 aa
7	TRIAE_CS42_6AS_TGACv1_485966_AA1554960.1	518 aa
8	TRIAE_CS42_U_TGACv1_642146_AA2112270.1	522 aa
9	TRIAE_CS42_7BL_TGACv1_579090_AA1903960.1	375 aa
10	TRIAE_CS42_7AL_TGACv1_558725_AA1795700.1	518 aa
11	TRIAE_CS42_6DS_TGACv1_543811_AA1744360.1	531 aa
12	TRIAE_CS42_6AS_TGACv1_487286_AA1569690.1	528 aa
13	TRIAE_CS42_6BS_TGACv1_513376_AA1639390.2_2_SPLICE	528 aa
14	TRIAE_CS42_U_TGACv1_642146_AA2112290.1	512 aa
15	TRIAE_CS42_7BS_TGACv1_592860_AA1945380.1	547 aa
16	TRIAE_CS42_7DS_TGACv1_623146_AA2050070.1	545 aa
17	TRIAE_CS42_7AS_TGACv1_569190_AA1809650.1_3_SPLICE	551 aa
18	TRIAE_CS42_7DL_TGACv1_602617_AA1962870.1_2_SPLICE	555 aa
19	TRIAE_CS42_7AL_TGACv1_557254_AA1778850.1	515 aa
20	TRIAE_CS42_7BL_TGACv1_578444_AA1895100.1	515 aa
21	TRIAE_CS42_3DL_TGACv1_249033_AA0835410.1_2_SPLICE	572 aa
22	TRIAE_CS42_3B_TGACv1_221079_AA0729630.1_2_SPLICE	571 aa
23	TRIAE_CS42_3AL_TGACv1_197519_AA0666560.1	573 aa
24	TRIAE_CS42_3B_TGACv1_220828_AA0720500.1	570 aa
25	TRIAE_CS42_3DS_TGACv1_273022_AA0927600.1	568 aa
26	TRIAE_CS42_2AL_TGACv1_093375_AA0278800.1	527 aa
27	TRIAE_CS42_2BL_TGACv1_129747_AA0394630.1	528 aa
28	TRIAE_CS42_2DL_TGACv1_160461_AA0550770.1	548 aa
29	TRIAE_CS42_1AS_TGACv1_019142_AA0061550.1	515 aa
30	TRIAE_CS42_3AS_TGACv1_210508_AA0674280.1	566 aa
31	TRIAE_CS42_3DS_TGACv1_272005_AA0912960.1	570 aa
32	TRIAE_CS42_3B_TGACv1_223332_AA0780350.1	925 aa

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TRIAE_CS42_7BS_TGACv	-----	0
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TRIAE_CS42_3AL_TGACv -----MAGAGEEFMAS 11
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TRIAE_CS42_7AL_TGACv ----- 0
TRIAE_CS42_U_TGACv1 ----- 0
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TRIAE_CS42_6AS_TGACv PICEDDDE-----LGSAAFPVLLVQIPMYNEREVYKVSIGAVCGLSWPSDRMVIQVLDDSTDPVVKELV 130
TRIAE_CS42_7AL_TGACv PVGE--DDE-----LGSAAFPVLLVQIPMYNEREVYKVSIGAVCGLSWPSDRMVIQVLDDSTDPVVKELV 132
TRIAE_CS42_U_TGACv1 PMGD--DDE-----LGSAAFPVLLVQIPMYNEREVYKVSIGAVCGLSWPSDRMVIQVLDDSTDPVVKELV 132
TRIAE_CS42_U_TGACv1 PMRDGDDE-----LGSAAFPVLLVQIPMYNEREVYKVSIGAVCGLSWPSDRMVIQVLDDSTDPVVKELV 136
TRIAE_CS42_7BL_TGACv PVGDNDDE-----LGSAAFPVLLVQIPMYNEREVYKVSIGAVCGLSWPSDRMVIQVLDDSTDPVVKELV 133
TRIAE_CS42_7AL_TGACv PLRD--DDE-----LGNAAFPVLLVQIPMYNEREVYKVSIGAVCGLSWPSDRMVIQVLDDSTDPVVKELV 129
TRIAE_CS42_7BL_TGACv PLRD--DDE-----LGNAAFPVLLVQIPMYNEREVYKVSIGAVCGLSWPSDRMVIQVLDDSTDPVVKELV 129
TRIAE_CS42_7DL_TGACv PLRD--DDE-----LGNAAFPVLLVQIPMYNEREVYKVSIGAVCGLSWPSDRMVIQVLDDSTDPVVKELV 129
TRIAE_CS42_2AL_TGACv NKGDDDDV-----DLESAAEDLPLVLLVQIPMFNEKQVYRISIGAVCGLWPPADKLVIVLDDSTDPVVKELV 137
TRIAE_CS42_2DL_TGACv NKGDDDDV-----LESAAEDLPLVLLVQIPMFNEKQVYRISIGAVCGLWPPADKLVIVLDDSTDPVVKELV 157
TRIAE_CS42_2BL_TGACv NKGDDDDGAG-----DLESGGEDLPLVLLVQIPMFNEKQVYRISIGAVCGLWPPADKLVIVLDDSTDPVVKELV 138
TRIAE_CS42_1AS_TGACv GDDNLESD-----DADRPMLVLLVQIPMFNEKQVYRISIGAVCGLWPPADKLVIVLDDSTDPVVKELV 128
TRIAE_CS42_7DS_TGACv PLGAQDGEDE-----ERGLLYGPMVLLVQIPMYNEREVYKVSIGAVCGLSWPSDRMVIQVLDDSTDPVVKELV 160

TRIAE_CS42_7AS_TGACV PLGAQDGEDE-----ERLLGYPMILVQIPMYNEREVYKLSIGAACGLSWPSDRVIVQVLLDDSTDPDKLVL 166
TRIAE_CS42_7BS_TGACV PLGAQDGEDED-----EERLLGYPMILVQIPMYNEREVYKLSIGAACGLSWPSDRVIVQVLLDDSTDPDKLVL 162
TRIAE_CS42_6DS_TGACV PMGALPGEAEADVED----PPASAGRRFFPMILVQIPMYNEKEVYKLSIGAVCALTWPPDRI IIVQLVDDSTDPDKLVL 143
TRIAE_CS42_6BS_TGACV PMGALPGEAEADAE----PPG---RREFPMILVQIPMYNEKEVYKLSIGAVCALTWPPDRI IIVQLVDDSTDPDKLVL 140
TRIAE_CS42_6AS_TGACV PMTGALEGGAEADVED----PAG---RREFPMILVQIPMYNEKEVYKLSIGAVCALTWPPDRI IIVQLVDDSTDPDKLVL 140
TRIAE_CS42_2BS_TGACV FLAGDDEEKEGG-----AHYPMILVQIPMYNELEVYKLSIGAACELQWPKDRI IIVQLVDDSTDPDKLVL 194
TRIAE_CS42_2DS_TGACV FLAGDDEEKEGG-----AHYPMILVQIPMYNELEVYKLSIGAACELQWPKDRI IIVQLVDDSTDPDKLVL 194
TRIAE_CS42_2AS_TGACV FLAGDDEEKEGG-----AHYPMILVQIPMYNELEVYKLSIGAACELQWPKDRI IIVQLVDDSTDPDKLVL 193
TRIAE_CS42_2AS_TGACV FLAGD-EEKGS-----AHYPMILVQIPMYNELEVYKLSIGAACELQWPKDRI IIVQLVDDSTDPDKLVL 192
TRIAE_CS42_2DS_TGACV TLLTTASSRVV-----VNGCVLKKFMHACGLRQGDSISPLLFVIAMVLSAMILKARETNAVSKIPGCA 351

TRIAE_CS42_3AS_TGACV KICQRWKSkgvNIRyEVRQNRKGVKAGALRLEGLMRD-----YTRR 201
TRIAE_CS42_3B_TGACV1 KICQRWKSkgvNIRyEVRQNRKGVKAGALRLEGLIRD-----YTRR 567
TRIAE_CS42_3B_TGACV1 KICQRWKGkgvNIRyEVRGNRRKGVKAGALRQGLMRD-----YTRR 205
TRIAE_CS42_3DS_TGACV KICQRWKGkgvNIRyEVRGNRRKGVKAGALRQGLMRD-----YTRR 203
TRIAE_CS42_3DS_TGACV KICQRWKSkgvNIRyEVRGNRRKGVKAGALRQGLMRD-----YTRR 205
TRIAE_CS42_3DL_TGACV EICQRWKGkgvNIRyEVRGNRRKGVKAGALRLEGLKHD-----YTRR 206
TRIAE_CS42_3B_TGACV1 EICQRWKGkgvNIRyEVRGNRRKGVKAGALRLEGLKHD-----YTRR 204
TRIAE_CS42_3AL_TGACV EICQRWKGkgvNIRyEVRGNRRKGVKAGALRLEGLKHD-----YTRR 206
TRIAE_CS42_6BS_TGACV RMCERWAHKGGINITYQIREDRKGVKAGALRAGMKHG-----YTRR 171
TRIAE_CS42_6AS_TGACV RMCERWAHKGGINITYQIREDRKGVKAGALRAGMKHG-----YTRR 171
TRIAE_CS42_7AL_TGACV QVCRRWARKGvNIKYEIRDNRKGVKAGALRAGMKHG-----YTRR 173
TRIAE_CS42_U_TGACV1 RVCRRWARKGvNIKYEIRDNRKGVKAGALRAGMKHG-----YTRR 173
TRIAE_CS42_U_TGACV1 QVCRRWARKGvNIKYEIRDNRKGVKAGALRAGMKHG-----YTRR 177
TRIAE_CS42_7BL_TGACV QVCRRWARKGvNIKYEIRDNRKGVKAGALRAGMKHG-----YTRR 174
TRIAE_CS42_7AL_TGACV QVCHRWANKGvNIKYEIRDNRKGVKAGALRAGMKHG-----YTRR 170
TRIAE_CS42_7BL_TGACV QVCRRWANKGvNIKYEIRDNRKGVKAGALRAGMKHG-----YTRR 170
TRIAE_CS42_7DL_TGACV QVCRRWANKGvNIKYEIRDNRKGVKAGALRAGMKHG-----YTRR 170
TRIAE_CS42_2AL_TGACV EACRRWAGKGVHIRYENRNSNRSGVKAGALRLEGLKKG-----YTRR 178
TRIAE_CS42_2DL_TGACV EACRRWAGKGVQIRYENRNSNRSGVKAGALRLEGLKKG-----YTRR 198
TRIAE_CS42_2BL_TGACV EACRRWAGKGVQIRYENRNSNRSGVKAGALRLEGLKKG-----YTRR 179
TRIAE_CS42_1AS_TGACV EACRRWAGKGVHIRYENRNSNRSGVKAGALRDLGLKKG-----YTRR 169
TRIAE_CS42_7DS_TGACV ELCKIWAkkGKNVkyEVRNNREGVKAGALRLEGLMHA-----YTRR 201
TRIAE_CS42_7AS_TGACV ELCKIWAkkGKNVkyEVRNNREGVKAGALRLEGLMHA-----YTRR 207
TRIAE_CS42_7BS_TGACV ELCKIWAkkGKNVkyEVRNNREGVKAGALRLEGLMHA-----YTRR 203
TRIAE_CS42_6DS_TGACV ELCCQEWASKKIDIKYEVRNNRKGVKAGALRKGMEHV-----YTRR 184
TRIAE_CS42_6BS_TGACV ELCCQEWASKKIDIKYEVRNNRKGVKAGALRKGMEHV-----YTRR 181
TRIAE_CS42_6AS_TGACV ELCCQEWASKKIDIKYEVRNNRKGVKAGALRKGMEHV-----YTRR 181
TRIAE_CS42_2BS_TGACV ELCESWAVKGLNIKYATRSSRKGVKAGALRKGMECD-----YTRR 235
TRIAE_CS42_2DS_TGACV ELCESWAVKGLNIKYATRSSRKGVKAGALRKGMECD-----YTRR 235
TRIAE_CS42_2AS_TGACV ELCESWVKGGLNIKYATRSSRKGVKAGALRKGMEYD-----YTRR 234
TRIAE_CS42_2AS_TGACV ELCETVVTKGLNIKYAPRSQKGVKAGALRKGMECD-----YTRR 233
TRIAE_CS42_2DS_TGACV PIRLSLVDDVVMFKPSWTDLWVQELRIVFGASGLKVNFSKSSAVMIRSEEEVLRKAMPWKMETFPIKYL 431

TRIAE_CS42_3AS_TGACV CEFIAMFDFDQPEPDFLRTVFLVHN----- 229
TRIAE_CS42_3B_TGACV1 CEFIAMFDFDQPEPDFLRTVFLVHN----- 595
TRIAE_CS42_3B_TGACV1 CEFIAMFDFDQPEPDFLRTVFLVHN----- 233
TRIAE_CS42_3DS_TGACV CEFIAMFDFDQPEPDFLRTVFLVHN----- 231
TRIAE_CS42_3DS_TGACV CEFIAMFDFDQPEPDFLRTVFLVHN----- 233
TRIAE_CS42_3DL_TGACV CEFIAMFDFDQPEPDFLRTVFLVHN----- 234
TRIAE_CS42_3B_TGACV1 CEFIAMFDFDQPEPDFLRTVFLVHN----- 232
TRIAE_CS42_3AL_TGACV CEFIAMFDFDQPEPDFLRTVFLVHN----- 234
TRIAE_CS42_6BS_TGACV CEYVVI FDFDQPPDFHRTIYFLHNN----- 199
TRIAE_CS42_6AS_TGACV CEYVVI FDFDQPPDFHRTIYFLHNN----- 199
TRIAE_CS42_7AL_TGACV CDLVAI FDFDQPEPDFHWAVFLVHN----- 201
TRIAE_CS42_U_TGACV1 CDLVAI FDFDQPEPDFHWAVFLVHN----- 195
TRIAE_CS42_U_TGACV1 CDLVAI FDFDQPEPDFSRSVFLVHN----- 205
TRIAE_CS42_7BL_TGACV CDLVAI FDFDQPEPDFSRSVFLVHN----- 202
TRIAE_CS42_7AL_TGACV CDYVVI FDFDQPEPDFSRAMFLVHN----- 198
TRIAE_CS42_7BL_TGACV CDFVVI FDFDQPEPDFSRAMFLIHN----- 198
TRIAE_CS42_7DL_TGACV CDFVVI FDFDQPEPDFSRAMFLIHN----- 198
TRIAE_CS42_2AL_TGACV CELVAV FDFDQPDADFRTTVVLQAD----- 206
TRIAE_CS42_2DL_TGACV CELVAV FDFDQPDADFRTTVVLQAD----- 226
TRIAE_CS42_2BL_TGACV CELVAV FDFDQPDADFRTTVVLQAD----- 207
TRIAE_CS42_1AS_TGACV CEFVAV FDFDQPDADFRTTVVLEAD----- 197
TRIAE_CS42_7DS_TGACV CDFLAV FDFDQPEPDFMRTIYFLARN----- 229
TRIAE_CS42_7AS_TGACV CDFLAV FDFDQPEPDFMRTIYFLARN----- 235
TRIAE_CS42_7BS_TGACV CDFLAV FDFDQPEPDFMRTIYFLSRN----- 231
TRIAE_CS42_6DS_TGACV CEFVAI FDFDQPEPDFLRTIYFLVHN----- 212
TRIAE_CS42_6BS_TGACV CEFVAI FDFDQPEPDFLRTIYFLVHN----- 209
TRIAE_CS42_6AS_TGACV CEFVAI FDFDQPEPDFLRTIYFLVHN----- 209
TRIAE_CS42_2BS_TGACV CEYVAI FDFDQPEPDFLRTVFFVHN----- 263
TRIAE_CS42_2DS_TGACV CEYVAI FDFDQPEPDFLRTVFFVHN----- 263
TRIAE_CS42_2AS_TGACV CEYVAI FDFDQPEPDFLRTVFFVHN----- 262
TRIAE_CS42_2AS_TGACV CEYVAI FDFDQPEPDFLRTIYFFVHN----- 261
TRIAE_CS42_2DS_TGACV LGKQLTRSEIQPVVDQLRMMGSGWRGVPVTRPGRPLPVNQVVRARPIHHLIVAEAPKRALDRVDPKGCRAFFWAGSEI 510

TRIAE_CS42_3AS_TGACV -----PDLALVQTRWKFVNSDECILTRFQEMSL 257
TRIAE_CS42_3B_TGACV1 -----PDLALVQTRWKFVNSDECILTRFQEMSL 623
TRIAE_CS42_3B_TGACV1 -----PDLALVQTRWKFVNSDKCILTRFQEMSL 261
TRIAE_CS42_3DS_TGACV -----PDLALVQTRWKFVNSDKCILTRFQEMSL 259
TRIAE_CS42_3DS_TGACV -----PDLALVQTRWKFVNSDECILTRFQEMSL 261
TRIAE_CS42_3DL_TGACV -----PDLALVQTRWKFVNSDECILTRFQEMSL 262
TRIAE_CS42_3B_TGACV1 -----PDLALVQTRWKFVNSDECILTRFQEMSL 260
TRIAE_CS42_3AL_TGACV -----PDLALVQTRWKFVNSDECILTRFQEMSL 262
TRIAE_CS42_6BS_TGACV -----PELALVQARWKFVNADECIMTRMQEMSL 227
TRIAE_CS42_6AS_TGACV -----PELALVQARWKFVNADECIMTRMQEMSL 227
TRIAE_CS42_7AL_TGACV -----PDLALVQARWKFVNADECIMTRMQEMSL 229
TRIAE_CS42_U_TGACV1 -----PDLALVQARWKFVNADECIMTRMQEMSL 223
TRIAE_CS42_U_TGACV1 -----PDLALVQARWKFVNADECIMTRMQEMSL 233
TRIAE_CS42_7BL_TGACV -----PDLALVQARWKFVNADECIMTRMQEMSL 230
TRIAE_CS42_7AL_TGACV -----PELALVQARWKFVNADECIMTRMQEMSL 226
TRIAE_CS42_7BL_TGACV -----PELALVQARWKFVNADECIMTRMQEMSL 226
TRIAE_CS42_7DL_TGACV -----PELALVQARWKFVNADECIMTRMQEMSL 226
TRIAE_CS42_2AL_TGACV -----PALALVQARWKFVNADECILTRIQEMSL 234

TRIAE_CS42_2DL_TGACv -----PSVALVQARWRFVNADECLLRIQESL 254
TRIAE_CS42_2BL_TGACv -----PAVALVQARWRFVNADECLLRIQESL 235
TRIAE_CS42_1AS_TGACv -----PAVALVQARWRFVNADECLLRIQESL 225
TRIAE_CS42_7DS_TGACv -----PQALVQARWRFVNPNECLLRIQESL 257
TRIAE_CS42_7AS_TGACv -----PQALVQARWRFVNPNECLLRIQESL 263
TRIAE_CS42_7BS_TGACv -----PQALVQARWRFVNPNECLLRIQESL 259
TRIAE_CS42_6DS_TGACv -----PKTALVQTRWKFVNYDACLRIQESL 240
TRIAE_CS42_6BS_TGACv -----PKTALVQTRWKFVNYDACLRIQESL 237
TRIAE_CS42_6AS_TGACv -----PKTALVQTRWKFVNYDACLRIQESL 237
TRIAE_CS42_2BS_TGACv -----PEVALVQARWRFVNDTASLLRVQKQFF 291
TRIAE_CS42_2DS_TGACv -----PEVALVQARWRFVNDTASLLRVQKQFF 291
TRIAE_CS42_2AS_TGACv -----PEVALVQARWRFVNDTASLLRVQKQFF 290
TRIAE_CS42_2AS_TGACv -----PKVALVQARWRFVNDTASLLRIQESL 289
TRIAE_CS42_2DS_TGACv GGQCAVAVNRGYYRPFQMGGLGVVDLHKHGIALRLSLQTSFSEQSRSSCTIQKLLFKLSGFSNNNTVSLRIQESL 591

TRIAE_CS42_3AS_TGACv D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRTALLGLKFFYYGAMKKSLELPSTFKAMR 337
TRIAE_CS42_3B_TGACv1 D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRTALLGLKFFYYGAMKKSLELPSTFKAMR 703
TRIAE_CS42_3B_TGACv1 D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRTALLGLKFFYYGAMKKSLELPSTFKAMR 341
TRIAE_CS42_3DS_TGACv D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRTALLGLKFFYYGAMKKSLELPSTFKAMR 339
TRIAE_CS42_3DS_TGACv D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRTALLGLKFFYYGAMKKSLELPSTFKAMR 341
TRIAE_CS42_3DL_TGACv D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRTALKGWKFFYYGAMKKSLELPSTFKAMR 342
TRIAE_CS42_3B_TGACv1 D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRTALKGWKFFYYGAMKKSLELPSTFKAMR 340
TRIAE_CS42_3B_TGACv1 D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRTALKGWKFFYYGAMKKSLELPSTFKAMR 342
TRIAE_CS42_6BS_TGACv D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRTALKGWKFFYYGAMKKSLELPSTFKAMR 307
TRIAE_CS42_6AS_TGACv D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRTALKGWKFFYYGAMKKSLELPSTFKAMR 307
TRIAE_CS42_7AL_TGACv D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRTALKGWKFFYYGAMKKSLELPSTFKAMR 309
TRIAE_CS42_U_TGACv1 D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRTALKGWKFFYYGAMKKSLELPSTFKAMR 303
TRIAE_CS42_U_TGACv1 D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRTALKGWKFFYYGAMKKSLELPSTFKAMR 313
TRIAE_CS42_7BL_TGACv D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRTALKGWKFFYYGAMKKSLELPSTFKAMR 310
TRIAE_CS42_7AL_TGACv D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRTALKGWKFFYYGAMKKSLELPSTFKAMR 306
TRIAE_CS42_7BL_TGACv D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRTALKGWKFFYYGAMKKSLELPSTFKAMR 306
TRIAE_CS42_7DL_TGACv D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRTALKGWKFFYYGAMKKSLELPSTFKAMR 306
TRIAE_CS42_2AL_TGACv D/HFSVBOEVGSACHGFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRASMRGWRFFYYGDMKKSLELPSSFKAMR 314
TRIAE_CS42_2DL_TGACv D/HFSVBOEVGSACHGFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRASMRGWRFFYYGDMKKSLELPSSFKAMR 334
TRIAE_CS42_2BL_TGACv D/HFSVBOEVGSACHGFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRASMRGWRFFYYGDMKKSLELPSSFKAMR 315
TRIAE_CS42_1AS_TGACv D/HFSVBOEVGSACHGFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRASMRGWRFFYYGDMKKSLELPSSFKAMR 305
TRIAE_CS42_7DS_TGACv D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRAGLKGWFFYYGDMKKSLELPSSFKAMR 337
TRIAE_CS42_7AS_TGACv D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRAGLKGWFFYYGDMKKSLELPSSFKAMR 343
TRIAE_CS42_7DL_TGACv D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRAGLKGWFFYYGDMKKSLELPSSFKAMR 339
TRIAE_CS42_6DS_TGACv D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRAGLKGWFFYYGDMKKSLELPSSFKAMR 320
TRIAE_CS42_6BS_TGACv D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRAGLKGWFFYYGDMKKSLELPSSFKAMR 317
TRIAE_CS42_6AS_TGACv D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRAGLKGWFFYYGDMKKSLELPSSFKAMR 317
TRIAE_CS42_2BS_TGACv D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRATLKGWFFYYGDMKKSLEPSTFKAMR 371
TRIAE_CS42_2DS_TGACv D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRATLKGWFFYYGDMKKSLEPSTFKAMR 371
TRIAE_CS42_2AS_TGACv D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRATLKGWFFYYGDMKKSLEPSTFKAMR 370
TRIAE_CS42_2AS_TGACv D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRATLKGWFFYYGDMKKSLEPSSFKAMR 369
TRIAE_CS42_2DS_TGACv D/HFKFEOBAGSIVYSFFFNAGTAGVWRISALINDAGGKERTVI DMDLAVRATLKGWFFYYGDMKKSLEPSSFKAMR 671

TRIAE_CS42_3AS_TGACv QOHRW CGPANFRKMLVETLHNKKVFWSKLHLYFFFYGKLAHTVTFIYYCFIPVSVFPP--EIQIPLWGVVY 415
TRIAE_CS42_3B_TGACv1 QOHRW CGPANFRKMLVETLHNKKVFWSKLHLYFFFYGKLAHTVTFIYYCFIPVSVFPP--EIQIPLWGVVY 781
TRIAE_CS42_3B_TGACv1 QOHRW CGPANFRKMLVETLHNKKVFWSKLHLYFFFYGKLAHTVTFIYYCFIPVSVFPP--EIQIPLWGVVY 419
TRIAE_CS42_3DS_TGACv QOHRW CGPANFRKMLVETLHNKKVFWSKLHLYFFFYGKLAHTVTFIYYCFIPVSVFPP--EIQIPLWGVVY 417
TRIAE_CS42_3DS_TGACv QOHRW CGPANFRKMLVETLHNKKVFWSKLHLYFFFYGKLAHTVTFIYYCFIPVSVFPP--EIQIPLWGVVY 419
TRIAE_CS42_3DL_TGACv QOHRW CGPANFRKMLVETLHNKKVFWSKLHLYFFFYGKLAHTVTFIYYCFIPVSVFPP--EIQIPLWGVVY 420
TRIAE_CS42_3B_TGACv1 QOHRW CGPANFRKMLVETLHNKKVFWSKLHLYFFFYGKLAHTVTFIYYCFIPVSVFPP--EIQIPLWGVVY 418
TRIAE_CS42_3AL_TGACv QOHRW CGPANFRKMLVETLHNKKVFWSKLHLYFFFYGKLAHTVTFIYYCFIPVSVFPP--EIQIPLWGVVY 420
TRIAE_CS42_6BS_TGACv QOHRW CGPANFRKMLVETLHNKKVFWSKLHLYFFFYGKLAHTVTFIYYCFIPVSVFPP--EIQIPLWGVVY 385
TRIAE_CS42_6AS_TGACv QOHRW CGPANFRKMLVETLHNKKVFWSKLHLYFFFYGKLAHTVTFIYYCFIPVSVFPP--EIQIPLWGVVY 385
TRIAE_CS42_7AL_TGACv QOHRW CGPANFRKMLVETLHNKKVFWSKLHLYFFFYGKLAHTVTFIYYCFIPVSVFPP--EIQIPLWGVVY 387
TRIAE_CS42_U_TGACv1 QOHRW CGPANFRKMLVETLHNKKVFWSKLHLYFFFYGKLAHTVTFIYYCFIPVSVFPP--EIQIPLWGVVY 381
TRIAE_CS42_U_TGACv1 QOHRW CGPANFRKMLVETLHNKKVFWSKLHLYFFFYGKLAHTVTFIYYCFIPVSVFPP--EIQIPLWGVVY 395
TRIAE_CS42_7BL_TGACv QOHRW CGPANFRKMLVETLHNKKVFWSKLHLYFFFYGKLAHTVTFIYYCFIPVSVFPP--EIQIPLWGVVY 371
TRIAE_CS42_7AL_TGACv QOHRW CGPANFRKMLVETLHNKKVFWSKLHLYFFFYGKLAHTVTFIYYCFIPVSVFPP--EIQIPLWGVVY 384
TRIAE_CS42_7BL_TGACv QOHRW CGPANFRKMLVETLHNKKVFWSKLHLYFFFYGKLAHTVTFIYYCFIPVSVFPP--EIQIPLWGVVY 384
TRIAE_CS42_7DL_TGACv QOHRW CGPANFRKMLVETLHNKKVFWSKLHLYFFFYGKLAHTVTFIYYCFIPVSVFPP--EIQIPLWGVVY 384
TRIAE_CS42_2AL_TGACv QOHRW CGPANFRKMLVETLHNKKVFWSKLHLYFFFYGKLAHTVTFIYYCFIPVSVFPP--EIQIPLWGVVY 394
TRIAE_CS42_2DL_TGACv QOHRW CGPANFRKMLVETLHNKKVFWSKLHLYFFFYGKLAHTVTFIYYCFIPVSVFPP--EIQIPLWGVVY 414
TRIAE_CS42_2BL_TGACv QOHRW CGPANFRKMLVETLHNKKVFWSKLHLYFFFYGKLAHTVTFIYYCFIPVSVFPP--EIQIPLWGVVY 395
TRIAE_CS42_1AS_TGACv QOHRW CGPANFRKMLVETLHNKKVFWSKLHLYFFFYGKLAHTVTFIYYCFIPVSVFPP--EIQIPLWGVVY 385
TRIAE_CS42_7DS_TGACv QOHRW CGANFRKMGAEILLTKEVSLWKKLYLYSFFLRKVVHVLVFPVLYCVIPFSVLIP--EIKIPAWGVVY 415
TRIAE_CS42_7AS_TGACv QOHRW CGANFRKMGAEILLTKEVSLWKKLYLYSFFLRKVVHVLVFPVLYCVIPFSVLIP--EIKIPAWGVVY 421
TRIAE_CS42_7BS_TGACv QOHRW CGANFRKMGAEILLTKEVSLWKKLYLYSFFLRKVVHVLVFPVLYCVIPFSVLIP--EIKIPAWGVVY 417
TRIAE_CS42_6DS_TGACv QOHRW CGANFRKMGAEILLTKEVSLWKKLYLYSFFLRKVVHVLVFPVLYCVIPFSVLIP--EIKIPAWGVVY 398
TRIAE_CS42_6BS_TGACv QOHRW CGANFRKMGAEILLTKEVSLWKKLYLYSFFLRKVVHVLVFPVLYCVIPFSVLIP--EIKIPAWGVVY 395
TRIAE_CS42_6AS_TGACv QOHRW CGANFRKMGAEILLTKEVSLWKKLYLYSFFLRKVVHVLVFPVLYCVIPFSVLIP--EIKIPAWGVVY 395
TRIAE_CS42_2BS_TGACv QOHRW CGAHFRKVAKDIITAKDVLIKKPHMILYSFFLRKVVHVLVFPVLYCVIPFSVLIP--EIKIPAWGVVY 449
TRIAE_CS42_2DS_TGACv QOHRW CGAHFRKVAKDIITAKDVLIKKPHMILYSFFLRKVVHVLVFPVLYCVIPFSVLIP--EIKIPAWGVVY 449
TRIAE_CS42_2AS_TGACv QOHRW CGAHFRKVAKDIITAKDVLIKKPHMILYSFFLRKVVHVLVFPVLYCVIPFSVLIP--EIKIPAWGVVY 448
TRIAE_CS42_2AS_TGACv QOHRW CGANFRKVAIDITLTKDVLVVKKPYMILYSFFLRKVVHVLVFPVLYCVIPFSVLIP--EIKIPAWGVVY 447
TRIAE_CS42_2DS_TGACv QOHRW CGANFRKVAIDITLTKDVLVVKKPYMILYSFFLRKVVHVLVFPVLYCVIPFSVLIP--EIKIPAWGVVY 749

TRIAE_CS42_3AS_TGACv PTVITLCKALGSPSSFHLVILWVLFENVMSLHRIKATITGLLDARRVNEWVTEKLGDKANTEPAMEGLDNDVQVIDVELS 495
TRIAE_CS42_3B_TGACv1 PTVITLCKALGSPSSFHLVILWVLFENVMSLHRIKATITGLLDARRVNEWVTEKLGDKANTEPAMEGLDNDVQVIDVELS 861
TRIAE_CS42_3B_TGACv1 PTVITLCKALGSPSSFHLVILWVLFENVMSLHRIKATITGLLDARRVNEWVTEKLGDKANTEPAMEGLDNDVQVIDVELS 499
TRIAE_CS42_3DS_TGACv PTVITLCKALGSPSSFHLVILWVLFENVMSLHRIKATITGLLDARRVNEWVTEKLGDKANTEPAMEGLDNDVQVIDVELS 497
TRIAE_CS42_3DS_TGACv PTVITLCKALGSPSSFHLVILWVLFENVMSLHRIKATITGLLDARRVNEWVTEKLGDKANTEPAMEGLDNDVQVIDVELS 499
TRIAE_CS42_3DL_TGACv PTVITLCKALGSPSSFHLVILWVLFENVMSLHRIKATITGLLDARRVNEWVTEKLGDKANTEPAMEGLDNDVQVIDVELS 500
TRIAE_CS42_3B_TGACv1 PTVITLCKALGSPSSFHLVILWVLFENVMSLHRIKATITGLLDARRVNEWVTEKLGDKANTEPAMEGLDNDVQVIDVELS 498
TRIAE_CS42_3AL_TGACv PTVITLCKALGSPSSFHLVILWVLFENVMSLHRIKATITGLLDARRVNEWVTEKLGDKANTEPAMEGLDNDVQVIDVELS 500
TRIAE_CS42_6BS_TGACv PTIIILLNSVGTPRSFLHLLFFWILFENVMSLHRIKATITGLLEAGRANVNEWTEKLG-----SAMKMK 448
TRIAE_CS42_6AS_TGACv PTIIILLNSVGTPRSFLHLLFFWILFENVMSLHRIKATITGLLEAGRANVNEWTEKLG-----SAMKMK 448
TRIAE_CS42_7AL_TGACv PTIIILLNAVGTPRSFLHLLFFWILFENVMSLHRIKATITGLLEAGTANVNEWTEKLG-----DTLKAK 450
TRIAE_CS42_U_TGACv1 PTIIILLNAVGTPRSFLHLLFFWILFENVMSLHRIKATITGLLEAGTANVNEWTEKLG-----DTLKAK 444
TRIAE_CS42_U_TGACv1 PAIITLLSVGTPRSFLHLLFFWILFENVMSLHRIKATITGLLEAGTANVNEWTEKLG-----DTVTKK 454
TRIAE_CS42_7BL_TGACv PTIIILLNAVGTPRSFLHLLFFWILFENVMSLHRIKATITGLLEAGTANVNEWTEKLG-----DTVTKK 375

TRIAE_CS42_7AL_TGACv PTVITLLNAVGTPRSFLVIFWVLFENVMSLHRTKATFSGLLELGRVNEWVTEKLG-----DILKMK 447
 TRIAE_CS42_7BL_TGACv PTVITLLNAVGTPRSFLVIFWVLFENVMSLHRTKATFSGLLELGRVNEWVTEKLG-----DVLKMK 447
 TRIAE_CS42_7DL_TGACv PTIITLLNAVGTPRSFLVIFWVLFENVMSLHRTKATFSGLLELGRVNEWVTEKLG-----DVLKMK 447
 TRIAE_CS42_2AL_TGACv PAIITLLNAVCTPRSHLLVFWLIFENVMMSHRKATIIGLVEASRANNEWVTEKLGSV-----TS-TPAAT 461
 TRIAE_CS42_2DL_TGACv PAIITLLNAVCTPRSHLLVFWLIFENVMMSHRKATIIGLVEASRANNEWVTEKLGSV-----TSSTPAAT 482
 TRIAE_CS42_2BL_TGACv PAIITLLNAVCTPRSHLLVFWLIFENVMMSHRKATIIGLVEASRANNEWVTEKLGSV-----TS-TPAAT 462
 TRIAE_CS42_1AS_TGACv AAVLITLLNAVCTPRSCHLLVFWLIFENVMMSHRKATIIGLVEASRANNEWVTEKLGGS-----TTSTPAAT 453
 TRIAE_CS42_7DS_TGACv PTAITVLYAVRNPSSIHFIWFILFENVMFSHRTKATFIGLLELGSVNEWVTEKLG-----SASNT 477
 TRIAE_CS42_7AS_TGACv PTAITVLYAVRNPSSIHFIWFILFENVMFSHRTKATFIGLLELGSVNEWVTEKLG-----SVSNT 483
 TRIAE_CS42_7BS_TGACv PTAITVLYAVRNPSSIHFIWFILFENVMFSHRTKATFIGLLELGSVNEWVTEKLG-----SVSNT 479
 TRIAE_CS42_6DS_TGACv PTAITVMNAIRNPGSLHLMFPWILFENVMMSHRMRAALTGLLETAHVNDWVTEKVG-----DLVKDD 461
 TRIAE_CS42_6BS_TGACv PTAITVMNAIRNPGSLHLMFPWILFENVMMSHRMRAALTGLLETAHVNDWVTEKVG-----DLVKDD 458
 TRIAE_CS42_6AS_TGACv PTAITVMNAIRNPGSLHLMFPWILFENVMMSHRMRAALTGLLETAHVNDWVTEKVG-----DVVKDD 458
 TRIAE_CS42_2AS_TGACv PTVLLVVTAIRHPKNLHLPFWILFESVMTMHRMRAALSGLFELSEFNWVTKKTG-----NNFE 510
 TRIAE_CS42_2AS_TGACv PAVLLVVTAIRNPKNIHLLPFWILFESVMTIHRTRAALVGLFELSEFNWVTKKTG-----NNFE 508
 TRIAE_CS42_2DS_TGACv PTVLLVVTAIRNPKNIHLLPFWILFESVMTIHRTRAALVGLFELTEFDEWLVTKKTG-----NNFE 810

 TRIAE_CS42_3AS_TGACv TPLVPKLEKRRTRLWDKYNCEIFVGTCTIICGCDVLYA-NKGYIYLFIQGLAFVIGFEYIGTRPPNTE----- 566
 TRIAE_CS42_3B_TGACv1 TPLVPKLEKR-----YNCSEIFVGTCTIICGCDVLYA-NKGYIYLFIQGLAFVIGFEYIGTRPPGAE----- 925
 TRIAE_CS42_3B_TGACv1 TPLVPKLEKRRTRLWHKYNCEIFVGTCTIICGCDVLYA-KKGYIYLFIQGLAFVIGFEYIGTRPPSTE----- 570
 TRIAE_CS42_3DS_TGACv TPLVPKLEKRRTRLWDKYNCEIFVGTCTIICGCDVLYA-NKGYIYLFIQGLAFVIGFEYIGTRPPSIE----- 568
 TRIAE_CS42_3DS_TGACv TPLVPKLEKRRTRLWDKYNCEIFVGTCTIICGCDVLYA-KKGYIYLFIQGLAFVIGFEYIGTRPPSAE----- 570
 TRIAE_CS42_3DL_TGACv TPLVPKLEKRRTRLWDKYNCEIFVGTCTIICGCDVLYA-NKGYIYLFIQGLAFVIGFEYIGTRPPPSA----- 572
 TRIAE_CS42_3B_TGACv1 TPLVPKLEKRRTRLWDKYNCEIFVGTCTIICGCDVLYA-NKGYIYLFIQGLAFVIGFEYIGTRPPPSAG----- 571
 TRIAE_CS42_3AL_TGACv TPLVPKLEKRRTRLWDKYNCEIFVGTCTIICGCDVLYA-NKGYIYLFIQGLAFVIGFEYIGTRPPPSAE----- 573
 TRIAE_CS42_6BS_TGACv SANKASARKSFMRMWERLNVPELGVGAFLESCGWYDVAFG-KDNFFIYLFQSMAFFVVGVGVIPTVPS----- 518
 TRIAE_CS42_6AS_TGACv SANKASARKSFMRMWERLNVPELGVGAFLESCGWYDVAFG-KDNFFIYLFQSMAFFVVGVGVIPTVPS----- 518
 TRIAE_CS42_7AL_TGACv MPKALK-KLRMRIGERLHLWELGVAAYFLCAGYDVSFG-NNRYFIFLQMSIAFFVVGVGVIPTVPS----- 518
 TRIAE_CS42_U_TGACv1 MPKALK-KLRMRIGERLHLWELGVAAYFLCAGYDVSFG-NNRYFIFLQMSIAFFVVGVGVIPTVPS----- 512
 TRIAE_CS42_U_TGACv1 MPKALK-KLRMRIGERLHLWELGVAAYFLCAGYDVSFG-NNRYFIFLQMSIAFFVVGVGVIPTVPS----- 522
 TRIAE_CS42_7BL_TGACv VQSKVTK-KLRMRIERLQLELGVAAIYFFCGSYDLLFG-KRYIYIFLQMSIAFFVVGVGVIPTVPS----- 375
 TRIAE_CS42_7AL_TGACv VQSKVTK-KLRMRIERLQLELGVAAIYFFCGSYDLLFG-KRYIYIFLQMSIAFFVVGVGVIPTVPS----- 515
 TRIAE_CS42_7BL_TGACv VQSKVTK-KLRMRIERLQLELGVAAIYFFCGSYDLLFG-KRYIYIFLQMSIAFFVVGVGVIPTVPS----- 515
 TRIAE_CS42_7DL_TGACv VQSKVTK-KLRMRIERYIIIGLLMCSQLSYLNFMNES-GCSFWSLVLPQISSFVETTFCLAKDITISFSSCNPSLS 525
 TRIAE_CS42_2AL_TGACv TMAATNGAMKKKSSQSSILAPEIVMGLCLLYCAVDIVFG-HDFYVYLLMQSAAAFVIGFVGVSQ----- 527
 TRIAE_CS42_2DL_TGACv TMAATNGAMKKKSSQSSILAPEIVMGLCLLYCAVDIVFG-HDFYVYLLMQSAAAFVIGFVGVSQ----- 548
 TRIAE_CS42_2BL_TGACv TMAATNGAMKKKSSQSSILAPEIVMGLCLLYCAVDIVFG-HDFYVYLLMQSAAAFVIGFVGVSQ----- 528
 TRIAE_CS42_1AS_TGACv TTMVAK----KKSSSFLAPEIVMGLFLYCALYDIVFG-HDFYVYLLMQSAAAFVIGFVGVSQ----- 515
 TRIAE_CS42_7DS_TGACv KPVPQILERPRCFWRDRTVSELLFAVFLVCATYNLVYG-SDFYFIYIYLQAITFIIIVGTGFCGTSNS----- 545
 TRIAE_CS42_7AS_TGACv KPVPQILERPRCFWRDRTVSELLFAVFLVCATYNLVYG-SDFYFIYIYLQAITFIIIVGTGFCGTSNS----- 551
 TRIAE_CS42_7BS_TGACv KPVPQILERPRCFWRDRTVSELLFAVFLVCATYNLVYG-SDFYFIYIYLQAITFIIIVGTGFCGTSNS----- 547
 TRIAE_CS42_6DS_TGACv FDVPLLEPLKPTCEVERIYIPELLLALYLLICASYDYVLG-SQTYFMIYIYLQALAFIVLGFVGMKTPCS----- 531
 TRIAE_CS42_6BS_TGACv FDVPLLEPLKPTCEVERIYIPELLLALYLLICASYDYVLG-SQTYFMIYIYLQALAFIVLGFVGMKTPCS----- 528
 TRIAE_CS42_6AS_TGACv FEVPLLEPLKPTCEVERIYIPELLLALYLLICASYDYVLG-SQTYFMIYIYLQALAFIVLGFVGMKTPCS----- 528
 TRIAE_CS42_2BS_TGACv DNEVPLLQKTRKRLDRVNFREIVSFAFLFFCASYNLVFPCKTRYFNLYLQGLAFVCLGLNFTGTCSCCQ----- 581
 TRIAE_CS42_2DS_TGACv DNEVPLLQKTRKRLDRVNFREIVSFAFLFFCASYNLVFPCKTRYFNLYLQGLAFVCLGLNFTGTCSCCQ----- 581
 TRIAE_CS42_2AS_TGACv DNEVPLLQKTRKRLDRVNFREIVSFAFLFFCASYNLVFPCKTRYFNLYLQGLAFVCLGLNFTGTCSCCQ----- 580
 TRIAE_CS42_2AS_TGACv DNEVPLLQKTRKRLDRVNFREIVSFAFLFFCASYNLVFPCKTRYFNLYLQGLAFVCLGLNFTGTCSCCQ----- 579
 TRIAE_CS42_2DS_TGACv DNVVPLLQKTRKRLDRVNFREIVSFAFLFFCASYNLVFPCKTRYFNLYLQGLAFVCLGLNFTGTCSCCQ----- 881

 TRIAE_CS42_3AS_TGACv ----- 566
 TRIAE_CS42_3B_TGACv1 ----- 925
 TRIAE_CS42_3B_TGACv1 ----- 570
 TRIAE_CS42_3DS_TGACv ----- 568
 TRIAE_CS42_3DS_TGACv ----- 570
 TRIAE_CS42_3DL_TGACv ----- 572
 TRIAE_CS42_3B_TGACv1 ----- 571
 TRIAE_CS42_3AL_TGACv ----- 573
 TRIAE_CS42_6BS_TGACv ----- 518
 TRIAE_CS42_6AS_TGACv ----- 518
 TRIAE_CS42_7AL_TGACv ----- 518
 TRIAE_CS42_U_TGACv1 ----- 512
 TRIAE_CS42_U_TGACv1 ----- 522
 TRIAE_CS42_7BL_TGACv ----- 375
 TRIAE_CS42_7AL_TGACv ----- 515
 TRIAE_CS42_7BL_TGACv ----- 515
 TRIAE_CS42_7DL_TGACv ----- 525
 TRIAE_CS42_2AL_TGACv ----- 527
 TRIAE_CS42_2DL_TGACv ----- 548
 TRIAE_CS42_2BL_TGACv ----- 528
 TRIAE_CS42_1AS_TGACv ----- 515
 TRIAE_CS42_7DS_TGACv ----- 545
 TRIAE_CS42_7AS_TGACv ----- 551
 TRIAE_CS42_7BS_TGACv ----- 547
 TRIAE_CS42_6DS_TGACv ----- 531
 TRIAE_CS42_6BS_TGACv ----- 528
 TRIAE_CS42_6AS_TGACv ----- 528
 TRIAE_CS42_2BS_TGACv ----- 581
 TRIAE_CS42_2DS_TGACv ----- 581
 TRIAE_CS42_2AS_TGACv ----- 580
 TRIAE_CS42_2AS_TGACv ----- 579
 TRIAE_CS42_2DS_TGACv ----- 881

 TRIAE_CS42_3AS_TGACv ----- 566
 TRIAE_CS42_3B_TGACv1 ----- 925
 TRIAE_CS42_3B_TGACv1 ----- 570
 TRIAE_CS42_3DS_TGACv ----- 568
 TRIAE_CS42_3DS_TGACv ----- 570
 TRIAE_CS42_3DL_TGACv ----- 572
 TRIAE_CS42_3B_TGACv1 ----- 571
 TRIAE_CS42_3AL_TGACv ----- 573
 TRIAE_CS42_6BS_TGACv ----- 518
 TRIAE_CS42_6AS_TGACv ----- 518
 TRIAE_CS42_7AL_TGACv ----- 518
 TRIAE_CS42_U_TGACv1 ----- 512
 TRIAE_CS42_U_TGACv1 ----- 522
 TRIAE_CS42_7BL_TGACv ----- 375
 TRIAE_CS42_7AL_TGACv ----- 515
 TRIAE_CS42_7BL_TGACv ----- 515
 TRIAE_CS42_7DL_TGACv ----- 525
 TRIAE_CS42_2AL_TGACv ----- 527
 TRIAE_CS42_2DL_TGACv ----- 548
 TRIAE_CS42_2BL_TGACv ----- 528
 TRIAE_CS42_1AS_TGACv ----- 515
 TRIAE_CS42_7DS_TGACv ----- 545
 TRIAE_CS42_7AS_TGACv ----- 551
 TRIAE_CS42_7BS_TGACv ----- 547
 TRIAE_CS42_6DS_TGACv ----- 531
 TRIAE_CS42_6BS_TGACv ----- 528
 TRIAE_CS42_6AS_TGACv ----- 528
 TRIAE_CS42_2BS_TGACv ----- 581
 TRIAE_CS42_2DS_TGACv ----- 581
 TRIAE_CS42_2AS_TGACv ----- 580
 TRIAE_CS42_2AS_TGACv ----- 579
 TRIAE_CS42_2DS_TGACv ----- 881

Fig. S_2B: *CsIC* subfamily.

S.No	Gene name with number of splice variants (CsIC)	No. of amino acids (aa)
1	TRIAE_CS42_1DL_TGACv1_062162_AA0209740.1	690 aa
2	TRIAE_CS42_1BL_TGACv1_030501_AA0092480.1	656 aa
3	TRIAE_CS42_5BL_TGACv1_404820_AA1311790.1_3_SPLICE	712 aa
4	TRIAE_CS42_5DL_TGACv1_435778_AA1454840.1_2_SPLICE	708 a
5	TRIAE_CS42_5AL_TGACv1_374268_AA1195590.3_3_SPLICE	703 aa
6	TRIAE_CS42_1DL_TGACv1_061928_AA0205730.1	702 aa
7	TRIAE_CS42_1BL_TGACv1_030750_AA0099830.1	702 aa
8	TRIAE_CS42_1AL_TGACv1_001272_AA0028090.1	702 aa
9	TRIAE_CS42_3DL_TGACv1_251593_AA0882850.1_3_SPLICE	704 aa
10	TRIAE_CS42_3AL_TGACv1_197197_AA0665370.1_3_SPLICE	704 aa
11	TRIAE_CS42_3DS_TGACv1_271926_AA0910940.1	758 aa
12	TRIAE_CS42_3B_TGACv1_220758_AA0718310.2	751 aa
13	TRIAE_CS42_3AS_TGACv1_211225_AA0686890.2	750 aa

TRIAE_CS42_1DL_TGACv1 ---MAPSFWGREAR--LSDGGGGTPVVVKMENPNWS SEMEQEAVPGSPAGLAAGK-----AGRGNARQITWVLLLK 68
 TRIAE_CS42_1BL_TGACv1 ---MAPSFWGREAR--LSDGGGGTPVVVKMENPNWS SEMEQEAVPGSPAGLAAGK-----AGRGNARQITWVLLLK 68
 TRIAE_CS42_1AL_TGACv1 ---MAPSFWGREAR--LSDGGGGTPVVVKMENPNWS SEMEQEAVPGSPAGLAAGK-----AGRGNARQITWVLLLK 68
 TRIAE_CS42_3DL_TGACv1 ---MAPWQGQEARGGVSGGVTGTPVVVKMCTPDWA SEVPPPGSP----AAGK-----DGRGNARQITWVLLLK 64
 TRIAE_CS42_3AL_TGACv1 ---MAPWQGQEARGGVSGGVTGTPVVVKMCTPDWA SEVPPPGSP----AAGK-----DGRGNARQITWVLLLK 64
 TRIAE_CS42_1DL_TGACv1 MAPWNLWGGRAAIAGGN-AYRDMFVIVKMNPNWS SEINGGGDNGEDFLARVGG-----QRRRVKNTKQITWVFLK 73
 TRIAE_CS42_1BL_TGACv1 ---MKNPNWS SEINIDDDNSEDFLARVGG-----QRRRVKNTKQITWVFLK 45
 TRIAE_CS42_5BL_TGACv1 MAPWTGLWGARAGAGAGAYRGTTPVVVKMENPNWS SEISPEDAEDDFLVSGAGAARRSRKGGKGNARQITWVLLLK 80
 TRIAE_CS42_5DL_TGACv1 MAPWTGLWGARAGAGAG--AYRGTTPVVVKMENPNWS SEISPEDAEDDFLVSGAGAARR-RKGGKGNARQITWVLLLK 77
 TRIAE_CS42_5AL_TGACv1 MAPWTGLWGARAGAGAYR---GTPVVVKMENPNWS SEISPEDAEDDFLVSGAGAARR-RKGGKGNARQITWVLLLK 72
 TRIAE_CS42_3DS_TGACv1 -----MASSWWDKEEHGTPVVVKMNPYSLVEIDGPGMDSSEK-----ARRSKNAQKQFVWLLLR 56
 TRIAE_CS42_3B_TGACv1 -----MASSWWDKEEHGTPVVVKMNPYSLVEIDGPGMDSSEK-----ARRSKNAQKQFVWLLLR 56
 TRIAE_CS42_3AS_TGACv1 -----MASSWWDKEEHGTPVVVKMNPYSLVEIDGPGMDSSEK-----ARRSKNAQKQFVWLLLR 56

TRIAE_CS42_1DL_TGACv1 AHRAAGRI TGAASALAVAAAARRRVAAGR TDGDAAPG-----ESTALRA FYGCLRIFVVLSSMLLAVEVAAAYLQG 140
 TRIAE_CS42_1BL_TGACv1 AHRAAGRI TGAASALAVAAAARRRVAAGR TDGDAAPG-----ESTALRA FYGCLRIFVVLSSMLLAVEVAAAYLQG 140
 TRIAE_CS42_1AL_TGACv1 AHRAAGRI TGAASALAVAAAARRRVAAGR TDGDAAPG-----ESTALRA FYGCLRIFVVLSSMLLAVEVAAAYLQG 140
 TRIAE_CS42_3DL_TGACv1 AHRAAGKI TGAATALSAAAARRRVAAGR TDSADNAPPGLG---GSPALRT LYGFTRASLLLSVLLLAADVAAHAQG 141
 TRIAE_CS42_3AL_TGACv1 AHRAAGKI TGAATALSAAAARRRVAAGR TDSADADGAPPFGGAGRPALRT LYGFTRASLLLSVLLLAADVAAHAQG 144
 TRIAE_CS42_1DL_TGACv1 AHRAAGCI AR TSSAVALGGAARRRVAAGR TDSADADGECEDVEERDPASRRS RYFTLTKACIMMSVFLLVVLAAYSN- 152
 TRIAE_CS42_1BL_TGACv1 AHRAAGCI SW TSSAVALGGAARRRVAAGR TDSNATDGECKDVEEWPASRRS RYFTLTKACIMMSVFLLVVLAAYSN- 124
 TRIAE_CS42_5BL_TGACv1 AHRAAGCI ASASAVT LGAAARRRVADGR TDADAGAPG-SAGES---PVLRS FYAFTRAFLLLSVLLLAAVEAARFHG 156
 TRIAE_CS42_5DL_TGACv1 AHRAAGCI ASASAVT LGAAARRRVADGR TDADAGATPGSAGES---PVLRS FYAFTRAFLLLSVLLLAAVEAARFHG 154
 TRIAE_CS42_5AL_TGACv1 AHRAAGCI ASASAVT LGAAARRRVADGR TDADAGAPG-PARES---PVLRS FYAFTRAFLLLSVLLLAAVEAARFHG 148
 TRIAE_CS42_3DS_TGACv1 AHRAAGCI AWLAGEFWGLLGAVNRVRRSR DADAEPDAEASGRGR-----MLGF LRAFLLSLAMLAFETAAYLKG 128
 TRIAE_CS42_3B_TGACv1 AHRAAGCI AWLAGEFWGLLGAVNRVRRSR DADAEPDAEASGRGR-----MLGF LRAFLLSLAMLAFETAAYLKG 128
 TRIAE_CS42_3AS_TGACv1 AHRAAGCI AWLAGEFWGLLGAVNRVRRSR DADAEPDAEASGRGR-----MLGF LRAFLLSLAMLAFETAAYLKG 128

TRIAE_CS42_1DL_TGACv1 W-----HLQMPPEMPFGQLAMDGLLAVDCLAAAYAGMRRVRLQYIAPPPLQ 187
 TRIAE_CS42_1BL_TGACv1 W-----HLQMPPEMPFGQLAMDGLLAVDCLAAAYAGMRRVRLQYIAPPPLQ 187
 TRIAE_CS42_1AL_TGACv1 W-----HLQMPPEMPFGQLAMDGLLAVDCLAAAYAGMRRVRLQYIAPPPLQ 187
 TRIAE_CS42_3DL_TGACv1 W-----HLA-----LPDLEAVECLFAAGYAAAMRRAAYLGPALQ 177
 TRIAE_CS42_3AL_TGACv1 W-----HLA-----LPDLEAVECLFAAGYAAAMRRAAYLGPALQ 180
 TRIAE_CS42_1DL_TGACv1 -----GRVNLAFINSFNTSWIRFRATYVAPPPLQ 181
 TRIAE_CS42_1BL_TGACv1 -----GKGNLAFINSFNTSWIRFRATYVAPPPLQ 153
 TRIAE_CS42_5BL_TGACv1 WDLAA-----SALALPIGVESLYASWLRRLRAYLAPPLQ 191
 TRIAE_CS42_5DL_TGACv1 WDLAA-----SALALPIGVESLYASWLRRLRAYLAPPLQ 189
 TRIAE_CS42_5AL_TGACv1 WDLAA-----SALALPIGVESLYASWLRRLRAYLAPPLQ 183
 TRIAE_CS42_3DS_TGACv1 WHYFFRDLPEHYLRQLPEHLQNLPEHLRHLPENLRHLPDGLRMPEQQEIQCLWHRAYVAVLAFRIDYTAWATE 208
 TRIAE_CS42_3B_TGACv1 WHYFFRDLPEHYLRQLPEHLQ-----NLPENLRHLPENLRHLPDGLRMPEQQEIQCLWHRAYVAVLAFRIDYTAWATE 201
 TRIAE_CS42_3AS_TGACv1 WHYFFRDLPEHYLRQLPEHLQ-----LPEHLRHLPENLRHLPDGLRMPEQQEIQCLWHRAYVAVLAFRIDYTAWATE 201

TRIAE_CS42_1DL_TGACv1 FLTNSCVVLFMTQSVDRIILCLGCLWIKLRGIRKFP---VPIAADKD-----DVEAGEDFPMVLVQMPMCNE 250
 TRIAE_CS42_1BL_TGACv1 FLTNSCVVLFMTQSVDRIILCLGCLWIKLRGIRKFP---VPIAADKD-----DVEAGEDFPMVLVQMPMCNE 250
 TRIAE_CS42_1AL_TGACv1 FLTNSCVVLFMTQSVDRIILCLGCLWIKLRGIRKFP---VPIAADKD-----DVEAGEDFPMVLVQMPMCNE 250
 TRIAE_CS42_3DL_TGACv1 FLTNACVVFMTQSADRIILCLGCFWIKLRGIRKFP---VPNAAGAGNGKGSDDVEAGACE--GDSPMVLVQMPMCNE 252
 TRIAE_CS42_3AL_TGACv1 FLTNACVVFMTQSADRIILCLGCFWIKLRGIRKFP---VPNAATAG---NGKGSDDVEAGACEEEEGEPMVLVQMPMCNE 254

TRIAE_CS42_1DL_TGACv LLDACVVLFLVQSADRIQQLGCFYITVVKRIKPKLPLSPALA-----DADDPDAGYPMVLVQIPMCNE 245
TRIAE_CS42_1BL_TGACv LLDANACVVLFLVQSADRIQQLGCFYITVVKRIKPKLPLFLALS-----DADDPDAGYPMVLVQIPMCNE 247
TRIAE_CS42_5BL_TGACv FLTDACVVLFLVQSADRIQQLGCFYITVVKRIKPKLPLSPALP-----DADDPDAGYPMVLVQIPMCNE 255
TRIAE_CS42_5DL_TGACv FLTDACVVLFLVQSADRIQQLGCFYITVVKRIKPKLPLSPALP-----DADDPDAGYPMVLVQIPMCNE 253
TRIAE_CS42_5AL_TGACv FLTDACVVLFLVQSADRIQQLGCFYITVVKRIKPKLPLSPALP-----DADDPDAGYPMVLVQIPMCNE 247
TRIAE_CS42_3DS_TGACv KLSGFCIVLFLVQSADRIQQLGCFYITVVKRIKPKLPLSPALP-----YADDDLEDCDLGAYPMVLVQIPMCNE 283
TRIAE_CS42_3B_TGACv1 KLSGFCIVLFLVQSADRIQQLGCFYITVVKRIKPKLPLSPALP-----YADDDLEDCDLGAYPMVLVQIPMCNE 276
TRIAE_CS42_3AS_TGACv KLSGFCIVLFLVQSADRIQQLGCFYITVVKRIKPKLPLSPALP-----YADDDLEDCDLGAYPMVLVQIPMCNE 275

TRIAE_CS42_1DL_TGACv REVYQCSIGALCALDWPNSNELVQVLDSDSDATTSA LIKEVEKWRQREGVRIYRHRVIRG YKAGNLSAMN SYVKDY 330
TRIAE_CS42_1BL_TGACv REVYQCSIGALCALDWPNSNELVQVLDSDSDATTSA LIKEVEKWRQREGVRIYRHRVIRG YKAGNLSAMN SYVKDY 330
TRIAE_CS42_1AL_TGACv REVYQCSIGALCALDWPNSNELVQVLDSDSDATTSA LIKEVEKWRQREGVRIYRHRVIRG YKAGNLSAMN SYVKDY 330
TRIAE_CS42_3DL_TGACv KEVYQCSIGALCALDWPNSNELVQVLDSDSDATTSA LIKEVEKWRQREGVRIYRHRVIRG YKAGNLSAMN SYVKDY 332
TRIAE_CS42_3AL_TGACv KEVYQCSIGALCALDWPNSNELVQVLDSDSDATTSA LIKEVEKWRQREGVRIYRHRVIRG YKAGNLSAMN SYVKDY 334
TRIAE_CS42_1DL_TGACv KEVYQCSIGALCALDWPNSNELVQVLDSDSDATTSA LIKEVEKWRQREGVRIYRHRVIRG YKAGNLSAMN SYVKDY 325
TRIAE_CS42_1BL_TGACv KEVYQCSIGALCALDWPNSNELVQVLDSDSDATTSA LIKEVEKWRQREGVRIYRHRVIRG YKAGNLSAMN SYVKDY 297
TRIAE_CS42_5BL_TGACv KEVYQCSIGALCALDWPNSNELVQVLDSDSDATTSA LIKEVEKWRQREGVRIYRHRVIRG YKAGNLSAMN SYVKDY 335
TRIAE_CS42_5DL_TGACv KEVYQCSIGALCALDWPNSNELVQVLDSDSDATTSA LIKEVEKWRQREGVRIYRHRVIRG YKAGNLSAMN SYVKDY 333
TRIAE_CS42_5AL_TGACv KEVYQCSIGALCALDWPNSNELVQVLDSDSDATTSA LIKEVEKWRQREGVRIYRHRVIRG YKAGNLSAMN SYVKDY 327
TRIAE_CS42_3DS_TGACv KEVYETSISHVCOIDWPNSNELVQVLDSDSDATTSA LIKEVEKWRQREGVRIYRHRVIRG YKAGNLSAMN SYVKDY 363
TRIAE_CS42_3B_TGACv1 KEVYETSISHVCOIDWPNSNELVQVLDSDSDATTSA LIKEVEKWRQREGVRIYRHRVIRG YKAGNLSAMN SYVKDY 356
TRIAE_CS42_3AS_TGACv KEVYETSISHVCOIDWPNSNELVQVLDSDSDATTSA LIKEVEKWRQREGVRIYRHRVIRG YKAGNLSAMN SYVKDY 355

TRIAE_CS42_1DL_TGACv EYVIFDADFQPIIDFLKRAMPHFGKDDVGLVQARWSFVNDENLLTRLQINLCLFHFVEVQVNGAFINFFGFNGTAG 410
TRIAE_CS42_1BL_TGACv EYVIFDADFQPIIDFLKRAMPHFGKDDVGLVQARWSFVNDENLLTRLQINLCLFHFVEVQVNGAFINFFGFNGTAG 410
TRIAE_CS42_1AL_TGACv EYVIFDADFQPIIDFLKRAMPHFGKDDVGLVQARWSFVNDENLLTRLQINLCLFHFVEVQVNGAFINFFGFNGTAG 410
TRIAE_CS42_3DL_TGACv EYVIFDADFQPIIDFLKRTVPHFGKDDVGLVQARWSFVNDENLLTRLQINLCLFHFVEVQVNGAFINFFGFNGTAG 412
TRIAE_CS42_3AL_TGACv EYVIFDADFQPIIDFLKRTVPHFGKDDVGLVQARWSFVNDENLLTRLQINLCLFHFVEVQVNGAFINFFGFNGTAG 414
TRIAE_CS42_1DL_TGACv EYVIFDADFQPIIDFLKRTVPHFGKDDVGLVQARWSFVNDENLLTRLQINLCLFHFVEVQVNGAFINFFGFNGTAG 405
TRIAE_CS42_1BL_TGACv EYVIFDADFQPIIDFLKRTVPHFGKDDVGLVQARWSFVNDENLLTRLQINLCLFHFVEVQVNGAFINFFGFNGTAG 377
TRIAE_CS42_5BL_TGACv EYVIFDADFQPIIDFLKRTVPHFGKDDVGLVQARWSFVNDENLLTRLQINLCLFHFVEVQVNGAFINFFGFNGTAG 415
TRIAE_CS42_5DL_TGACv EYVIFDADFQPIIDFLKRTVPHFGKDDVGLVQARWSFVNDENLLTRLQINLCLFHFVEVQVNGAFINFFGFNGTAG 413
TRIAE_CS42_5AL_TGACv EYVIFDADFQPIIDFLKRTVPHFGKDDVGLVQARWSFVNDENLLTRLQINLCLFHFVEVQVNGAFINFFGFNGTAG 407
TRIAE_CS42_3DS_TGACv EYVIFDADFQPIIDFLKRTVPHFGKDDVGLVQARWSFVNDENLLTRLQINLCLFHFVEVQVNGAFINFFGFNGTAG 443
TRIAE_CS42_3B_TGACv1 EYVIFDADFQPIIDFLKRTVPHFGKDDVGLVQARWSFVNDENLLTRLQINLCLFHFVEVQVNGAFINFFGFNGTAG 436
TRIAE_CS42_3AS_TGACv EYVIFDADFQPIIDFLKRTVPHFGKDDVGLVQARWSFVNDENLLTRLQINLCLFHFVEVQVNGAFINFFGFNGTAG 435

TRIAE_CS42_1DL_TGACv VWRKALEDSGGWMERTTVDMDAVRAHLKGWKFLYLNDVBECCELPESYEAYRQOHRWISGPMQLFRICFVDITRSK 490
TRIAE_CS42_1BL_TGACv VWRKALEDSGGWMERTTVDMDAVRAHLKGWKFLYLNDVBECCELPESYEAYRQOHRWISGPMQLFRICFVDITRSK 490
TRIAE_CS42_1AL_TGACv VWRKALEDSGGWMERTTVDMDAVRAHLKGWKFLYLNDVBECCELPESYEAYRQOHRWISGPMQLFRICFVDITRSK 490
TRIAE_CS42_3DL_TGACv VWRKALEDSGGWMERTTVDMDAVRAHLKGWKFLYLNDVBECCELPESYEAYRQOHRWISGPMQLFRICFVDITRSK 492
TRIAE_CS42_3AL_TGACv VWRKALEDSGGWMERTTVDMDAVRAHLKGWKFLYLNDVBECCELPESYEAYRQOHRWISGPMQLFRICFVDITRSK 494
TRIAE_CS42_1DL_TGACv VWRKALEDSGGWMERTTVDMDAVRAHLKGWKFLYLNDVBECCELPESYEAYRQOHRWISGPMQLFRICFVDITRSK 485
TRIAE_CS42_1BL_TGACv VWRKALEDSGGWMERTTVDMDAVRAHLKGWKFLYLNDVBECCELPESYEAYRQOHRWISGPMQLFRICFVDITRSK 451
TRIAE_CS42_5BL_TGACv VWRKALEDSGGWMERTTVDMDAVRAHLKGWKFLYLNDVBECCELPESYEAYRQOHRWISGPMQLFRICFVDITRSK 495
TRIAE_CS42_5DL_TGACv VWRKALEDSGGWMERTTVDMDAVRAHLKGWKFLYLNDVBECCELPESYEAYRQOHRWISGPMQLFRICFVDITRSK 493
TRIAE_CS42_5AL_TGACv VWRKALEDSGGWMERTTVDMDAVRAHLKGWKFLYLNDVBECCELPESYEAYRQOHRWISGPMQLFRICFVDITRSK 487
TRIAE_CS42_3DS_TGACv VWRKALEDSGGWMERTTVDMDAVRAHLKGWKFLYLNDVBECCELPESYEAYRQOHRWISGPMQLFRICFVDITRSK 523
TRIAE_CS42_3B_TGACv1 VWRKALEDSGGWMERTTVDMDAVRAHLKGWKFLYLNDVBECCELPESYEAYRQOHRWISGPMQLFRICFVDITRSK 516
TRIAE_CS42_3AS_TGACv VWRKALEDSGGWMERTTVDMDAVRAHLKGWKFLYLNDVBECCELPESYEAYRQOHRWISGPMQLFRICFVDITRSK 515

TRIAE_CS42_1DL_TGACv TGFWKKCNLIFLFFLLRKLILPFYSFTLFCVILEMTMFVPEABLPAWVVCYIPATMSIMSILPSPKSPFFIVPYLLFENT 570
TRIAE_CS42_1BL_TGACv TGFWKKCNLIFLFFLLRKLILPFYSFTLFCVILEMTMFVPEABLPAWVVCYIPATMSIMSILPSPKSPFFIVPYLLFENT 570
TRIAE_CS42_1AL_TGACv TGFWKKCNLIFLFFLLRKLILPFYSFTLFCVILEMTMFVPEABLPAWVVCYIPATMSIMSILPSPKSPFFIVPYLLFENT 570
TRIAE_CS42_3DL_TGACv TGFWKKCNLIFLFFLLRKLILPFYSFTLFCVILEMTMFVPEABLPAWVVCYIPATMSIMSILPSPKSPFFIVPYLLFENT 572
TRIAE_CS42_3AL_TGACv TGFWKKCNLIFLFFLLRKLILPFYSFTLFCVILEMTMFVPEABLPAWVVCYIPATMSIMSILPSPKSPFFIVPYLLFENT 574
TRIAE_CS42_1DL_TGACv TGFWKKCNLIFLFFLLRKLILPFYSFTLFCVILEMTMFVPEABLPAWVVCYIPATMSIMSILPSPKSPFFIVPYLLFENT 565
TRIAE_CS42_1BL_TGACv TGFWKKCNLIFLFFLLRKLILPFYSFTLFCVILEMTMFVPEABLPAWVVCYIPATMSIMSILPSPKSPFFIVPYLLFENT 531
TRIAE_CS42_5BL_TGACv TGFWKKCNLIFLFFLLRKLILPFYSFTLFCVILEMTMFVPEABLPAWVVCYIPATMSIMSILPSPKSPFFIVPYLLFENT 575
TRIAE_CS42_5DL_TGACv TGFWKKCNLIFLFFLLRKLILPFYSFTLFCVILEMTMFVPEABLPAWVVCYIPATMSIMSILPSPKSPFFIVPYLLFENT 573
TRIAE_CS42_5AL_TGACv TGFWKKCNLIFLFFLLRKLILPFYSFTLFCVILEMTMFVPEABLPAWVVCYIPATMSIMSILPSPKSPFFIVPYLLFENT 567
TRIAE_CS42_3DS_TGACv TGFWKKCNLIFLFFLLRKLILPFYSFTLFCVILEMTMFVPEABLPAWVVCYIPATMSIMSILPSPKSPFFIVPYLLFENT 603
TRIAE_CS42_3B_TGACv1 TGFWKKCNLIFLFFLLRKLILPFYSFTLFCVILEMTMFVPEABLPAWVVCYIPATMSIMSILPSPKSPFFIVPYLLFENT 596
TRIAE_CS42_3AS_TGACv TGFWKKCNLIFLFFLLRKLILPFYSFTLFCVILEMTMFVPEABLPAWVVCYIPATMSIMSILPSPKSPFFIVPYLLFENT 595

TRIAE_CS42_1DL_TGACv MSVTKFNAMISGLFQLGSAYEWWVTTKSGRSGEGDLIAVEKHTVQQQQRVG-----SAPDL 627
TRIAE_CS42_1BL_TGACv MSVTKFNAMISGLFQLGSAYEWWVTTKSGRSGEGDLIAVEKHTVQQQQRVG-----SAPDL 627
TRIAE_CS42_1AL_TGACv MSVTKFNAMISGLFQLGSAYEWWVTTKSGRSGEGDLIAVEKHTVQQQQRVG-----SAPDL 627
TRIAE_CS42_3DL_TGACv MSVTKFNAMISGLFQLGSAYEWWVTTKSGRSGEGDLIAVENEKQSKQLRVG-----SAPNL 629
TRIAE_CS42_3AL_TGACv MSVTKFNAMISGLFQLGSAYEWWVTTKSGRSGEGDLIAVENEKQSKQLRVG-----SAPNL 629
TRIAE_CS42_1DL_TGACv MSVTKFNAMISGLFQLGSAYEWWVTTKSGRSGEGDLIAVENEKQSKQLRVG-----SAPNL 615
TRIAE_CS42_1BL_TGACv MSVTKFNAMISGLFQLGSAYEWWVTTKSGRSGEGDLIAVENEKQSKQLRVG-----SAPNL 581
TRIAE_CS42_5BL_TGACv MSVTKFNAMISGLFQLGSAYEWWVTTKSGRSGEGDLIAVENEKQSKQLRVG-----SAPNL 637
TRIAE_CS42_5DL_TGACv MSVTKFNAMISGLFQLGSAYEWWVTTKSGRSGEGDLIAVENEKQSKQLRVG-----SAPNL 634
TRIAE_CS42_5AL_TGACv MSVTKFNAMISGLFQLGSAYEWWVTTKSGRSGEGDLIAVENEKQSKQLRVG-----SAPNL 629
TRIAE_CS42_3DS_TGACv MSVTKFNAMISGLFQLGSAYEWWVTTKSGRSGEGDLIAVENEKQSKQLRVG-----SAPNL 683
TRIAE_CS42_3B_TGACv1 MSVTKFNAMISGLFQLGSAYEWWVTTKSGRSGEGDLIAVENEKQSKQLRVG-----SAPNL 676
TRIAE_CS42_3AS_TGACv MSVTKFNAMISGLFQLGSAYEWWVTTKSGRSGEGDLIAVENEKQSKQLRVG-----SAPNL 675

TRIAE_CS42_1DL_TGACv AGLAAKSSSLPKKDAPKKQKHNRIRYKELALSLFLLTAAARSVLSAQGHFYFLLFQGVSVFLVGLDLIGQVE 702
TRIAE_CS42_1BL_TGACv AGLAAKSSSLPKKDAPKKQKHNRIRYKELALSLFLLTAAARSVLSAQGHFYFLLFQGVSVFLVGLDLIGQVE 702

TRIAE_CS42_1AL_TGAcv AGLAAKDSLPPKADAPKKKQKHNRLYRKELALSLFLLTAAARSVLSAQGIHFYFLLFQGVSFLLVGLDLIGEQVE 702
TRIAE_CS42_3DL_TGAcv DSLAAKEELYPKAEFPKPKKKKHNRLYRKELALSLFLLTAAARSLLSVQGIHFYFLLFQGVSFLLVGLDLIGEQVE 704
TRIAE_CS42_3AL_TGAcv DSLAAKEELYPKSEF--KKKKHNRLYRKELALSLFLLTAAARSLLSVQGIHFYFLLFQGVSFLLVGLDLIGEQVE 704
TRIAE_CS42_1DL_TGAcv SVPAINVAIKEQSKAKKESKKNRLYRKELAMSLFLLTAAARSLLSKQGIHFYFLLFQGISFLLVGLDLIGQDIK 690
TRIAE_CS42_1BL_TGAcv SVPAINVAIKEKLLAKKESKKNRLYRKELAMSLFLLTAAARSLLSKQGIHFYFLLFQGISFLLVGLDLIGQDIK 656
TRIAE_CS42_5BL_TGAcv LMLVKEQQPSPKKEGKKQKKHNRLYRKELALSLFLLTAAARSLLTKQGIHFYFLLFQGISFLLVGLDLIGEQVE 712
TRIAE_CS42_5DL_TGAcv LMLVKEQ-PSPKKEGKKQKKHNRLYRKELALSLFLLTAAARSLLTKQGIHFYFLLFQGISFLLVGLDLIGEQVE 708
TRIAE_CS42_5AL_TGAcv LMLVKEEQASPRKEGKKQ-KKHNRLYRKELALSLFLLTAAARSLLTKQGIHFYFLLFQGISFLLVGLDLIGEQVE 703
TRIAE_CS42_3DS_TGAcv AQAEVTSLAAAIAKTSKAKPPNRIFKKELALAFLLTAAARSLLSAQGLHFYFLLFQGVTFLLVGLDLIGEQVS 758
TRIAE_CS42_3B_TGAcv1 AEAEVTSLAAAIAKTSKAKPPNRIFKKELALAFLLTAAARSLLSAQGLHFYFLLFQGVTFLLVGLDLIGEQVS 751
TRIAE_CS42_3AS_TGAcv AEAEVTSLAAAIAKTSKAKPPNRIFKKELALAFLLTAAARSLLSAQGLHFYFLLFQGVTFLLVGLDLIGEQVS 750

Fig. S_2C: *CslD* subfamily.

S.No	Gene name with number of splice variants (<i>CslD</i>)	No. of amino acids (aa)
1	TRIAE_CS42_2BS_TGACv1_148683_AA0494520.1	1121 aa
2	TRIAE_CS42_2DS_TGACv1_177279_AA0572180.1	1120 aa
3	TRIAE_CS42_2AS_TGACv1_114244_AA0365360.1	1120 aa
4	TRIAE_CS42_1BL_TGACv1_030586_AA0094860.1	1189 aa
5	TRIAE_CS42_1AL_TGACv1_001700_AA0034150.2	1146 aa
6	TRIAE_CS42_1DL_TGACv1_063091_AA0223780.1	1014 aa
7	TRIAE_CS42_1BS_TGACv1_049706_AA0160220.1	330 aa
8	TRIAE_CS42_5BS_TGACv1_425241_AA1392650.1	1022 aa
9	TRIAE_CS42_5DS_TGACv1_457675_AA1488780.1	989 aa
10	TRIAE_CS42_7BL_TGACv1_577301_AA1871610.1	994 aa
11	TRIAE_CS42_7AL_TGACv1_559436_AA1799630.1	993 aa
12	TRIAE_CS42_7DL_TGACv1_603510_AA1985050.1	994 aa

TRIAE_CS42_1BL_TGACv -----MGSKGILKNSGSSRMPHPGSPKPTAPTSAPOVVFGRRTESGRFISYSRDDLDS-EISSV 59
 TRIAE_CS42_1DL_TGACv -----MGSKGILKNSGSSRVPHPGSPKPTAPTSAPOVVFGRRTESGRFISYSRDDLDS-EISSV 59
 TRIAE_CS42_1AL_TGACv -----MGSKGILKNSGSSRVPHPGSPKPTAPTSAPOVVFGRRTESGRFISYSRDDLDS-EISSV 59
 TRIAE_CS42_2DS_TGACv -----MSKAPRNPGGGSAGAPKSSSGQPVKFAFRTPSGRYLSLSREDIDMEGEMGP 51
 TRIAE_CS42_2AS_TGACv -----MSKAPRNPGGGSAGAPKSSSGQPVKFAFRTPSGRYLSLSREDIDMEGEMGP 51
 TRIAE_CS42_2BS_TGACv -----MSKAPRNPGGGSAGAPKSSSGQPVKFAFRTPSGRYLSLSREDIDMEGEMGP 51
 TRIAE_CS42_7BL_TGACv -----MSKAPRNPGGGSAGAPKSSSGQPVKFAFRTPSGRYLSLSREDIDMEGEMGP 51
 TRIAE_CS42_7DL_TGACv -----MAS 3
 TRIAE_CS42_7AL_TGACv -----MAS 3
 TRIAE_CS42_1BS_TGACv -----MAS 3
 TRIAE_CS42_5BS_TGACv MSRRLSLPAGSPVTVTVSPTKGGKAGGGSPGDGVVRRSGSLTSPVPRHSIGSSSTATLQVSPVRRSGGSRYASRDGADASA 80
 TRIAE_CS42_5DS_TGACv MSRRLSLPASSPVTVTVSPTKGGKAGGGSPGDGVVRRSGSLTSPVPRHSIGSSSTATLQVSPVRRSGGSRYASRDGADASA 80

TRIAE_CS42_1BL_TGACv DFQDYHVHVPMTDPNQPMEE-----GKKADEQYVSSSLFTGGFNSVTRAHVMD--KQGPDSIDGRSGPKSICMVEGC 131
 TRIAE_CS42_1DL_TGACv DFQDYHVHVPMTDPNQPMEE-----GKKADEQYVSSSLFTGGFNSVTRAHVMD--KQGPDSIDGRSGPKSICMVEGC 131
 TRIAE_CS42_1AL_TGACv DFQDYHVHVPMTDPNQPMEE-----GKKADEQYVSSSLFTGGFNSVTRAHVMD--KQGPDSIDGRSGPKSICMVEGC 131
 TRIAE_CS42_2DS_TGACv DYANYTVHIPPTPDNQPMKDGAEPTAVAMKAEQYVNSLFTGGFNSVTRAHLMDRVIDSDVKHPQMAGARPARCAMPAC 131
 TRIAE_CS42_2AS_TGACv DYANYTVHIPPTPDNQPMKDGAEPTAVAMKAEQYVNSLFTGGFNSVTRAHLMDRVIDSDVKHPQMAGARPARCAMPAC 131
 TRIAE_CS42_2BS_TGACv DYANYTVHIPPTPDNQPMKDGSEPTAVAMKAEQYVNSLFTGGFNSVTRAHLMDRVIDSDVKHPQMAGAKATRCAMPAC 131
 TRIAE_CS42_7BL_TGACv DHTNYTVFMPPTPDNQPGAAPAPASGGSTKPDNLPLP--RYTSGSKLVNRRSGDDGAGGAKMDRGLS----- 69
 TRIAE_CS42_7DL_TGACv DHTNYTVFMPPTPDNQPGAAPTASGGSTKPDNLPLP--RYTSGSKLVNRRSGDDGAGGAKMDRGLS----- 69
 TRIAE_CS42_7AL_TGACv DHTNYTVFMPPTPDNQPGAASAPASGGPTKPDNLPLP--RSS-GSKLVNRRSGDDGAGGAKMDRRLS----- 68
 TRIAE_CS42_1BS_TGACv -----MCKMRGC 8
 TRIAE_CS42_5BS_TGACv EFVHYTVHIPPTDRRTASASTDVAEEEEGEVLPQRSYVSGTIFTGGLNCAHRAHVLNSADGARPAASANMCKMRGC 160
 TRIAE_CS42_5DS_TGACv EFVHYTVHIPPTDRNTASASTDAPVAEEEEGEVLPQRSYVSGTIFTGGLNCTTRAHVLNSADGARPAASVNMCKMRGC 160

TRIAE_CS42_1BL_TGACv DSKIMRNRGRGEDIIPCECDFKICVDCFTDAVKGGGGVC PGCKELYKHTEWEVLSNSSNELTRALSHPHGPGKMERRLS 211
 TRIAE_CS42_1DL_TGACv DSKIMRNRGRGEDIIPCECDFKICVDCFTDAVKGGRGVC PGCKELYKHTEWEVLSNSSNELTRALSHPHGPGKMERRLS 211
 TRIAE_CS42_1AL_TGACv DSKIMRNRGRGEDIIPCECDFKICVDCFTDAVKGGGGVC PGCKELYKHTEWEVLSNSSNELTRALSHPHGPGKMERRLS 211
 TRIAE_CS42_2DS_TGACv DGKVMRNERGEEIEPCECRFKICRDCYLAQKDGCLCPG-----CKEHYKIGDYADDDTHDVS 189
 TRIAE_CS42_2AS_TGACv DGKVMRNERGEEIEPCECRFKICRDCYLAQKDGCLCPG-----CKEHYKIGDYADDDPHDVS 189
 TRIAE_CS42_2BS_TGACv DGKVMRNERGEEVDPCECRFKICRDCYLAQKDGCLCPG-----CKEHYKIGDYADDDPHDVS 189
 TRIAE_CS42_7BL_TGACv -----TEHVAS 75
 TRIAE_CS42_7DL_TGACv -----TEQVAS 75
 TRIAE_CS42_7AL_TGACv -----PVQVAS 74
 TRIAE_CS42_1BS_TGACv DMLALAATRP-----MICEECYMDCAVAGNCPGCKEAYSAGSDTDDSVDEDDDDAIISSSEERDQMPMTSMSKRF 78
 TRIAE_CS42_5BS_TGACv DMPAFLNAGRGGHPCCDCGFMICEECYMDCAVAGNCPGCKEAYSAGSDTDDSVDEDDDDAIISSSEERDQMPMTSMSKRF 240
 TRIAE_CS42_5DS_TGACv DMPAFLNAGRGRPPCCDCGFMICEECYMDCAVAGNCPGCKEAYSAGSDTDDSVDEDDDDAIISSSEERDQMPMTSMSKRF 240

TRIAE_CS42_1BL_TGACv LVKQGTMMNQ-----GEFDHNRWLFETKGTGYGNALWED-----DNVDDDGRNCGVPGHPKE LMSKFWRLPT 274
 TRIAE_CS42_1DL_TGACv LVKQGTMMNQ-----GEFDHNRWLFETKGTGYGNALWED-----DNVDDDGRNCGVPGHPKE LMSKFWRLPT 274
 TRIAE_CS42_1AL_TGACv LVKQGTMMNQ-----GEFDHNRWLFETKGTGYGNALWED-----DNVDDDGRNCGVPGHPKE LMSKFWRLPT 274
 TRIAE_CS42_2DS_TGACv AGKSLLRNQN-----GEFDHNRWLFESSGTGYGNALWFKG--GMYE DLDEDGAGGDD-GMQD MNQKFFKPLT 256
 TRIAE_CS42_2AS_TGACv SGKSLLRNQN-----GEFDHNRWLFESSGTGYGNALWFKG--GMYE DLDEDGAGGDD-GMQD MNQKFFKPLT 256
 TRIAE_CS42_2BS_TGACv AGKSLLRNQN-----GEFDHNRWLFESSGTGYGNALWFKG--GMYE DLDEDGAGGDDGMPADLSQKFFKPLT 257
 TRIAE_CS42_7BL_TGACv PSKSLLRVRSQT-----GEFDHNRWLFETKGTGYGNALWED-----DNDDGAGMGCGSVKMEDLVDKFWKPLS 139
 TRIAE_CS42_7DL_TGACv PSKSLLRVRSQT-----GEFDHNRWLFETKGTGYGNALWED-----DNDDGAGMGCGSVKMEDLVDKFWKPLS 139
 TRIAE_CS42_7AL_TGACv PSKSLLRVRSQT-----GEFDHNRWLFETKGTGYGNALWED-----DNDDGAGMGCGSVKMEDLVDKFWKPLS 138
 TRIAE_CS42_1BS_TGACv SMVHSIKMPMSSSND---KPADFDHARWLFETKGTGYGNALWEDNEHGGGGNAGATFGFVGIIEEPPNF----- 145
 TRIAE_CS42_5BS_TGACv SMVHSIKMPMSSSNG---KPADFDHARWLFETKGTGYGNALWEDKNEHGGGGNAGATSGFVGIIEEPPNFARCRRLPT 316
 TRIAE_CS42_5DS_TGACv SMVHSIKMPMSSSNGGGKPADFDHARWLFETKGTGYGNALWEDKNEHGGGGNAGATSGFVGIIEEPPNFARCRRLPT 320

TRIAE_CS42_1BL_TGACv RKLQIPAAVISPYRLLVLRVALAFLFMWRKIQNDDAIWLWGMISVCELFWAFSWVLDLQPKLCPINRATDLSVLKEK 354
 TRIAE_CS42_1DL_TGACv RKLQIPAAVISPYRLLVLRVALAFLFMWRKIQNDDAIWLWGMISVCELFWALSVDLQPKLCPINRATDLSVLKEK 354

TRIAE_CS42_1AL_TGAcv RKLQIPAAVISPYRLLVLRVALFFLWMRIKHQNDDAIWLWGMISVCELWFALSWSVLDLQPKLCPINRATDLSVLKEK 354
TRIAE_CS42_2DS_TGAcv RKIPMPASIIISPYRIFIVIRFFVLIFFLITWRIRNPNMEALWLWGMISVCELWFASFLLDMLPKVNPINRSTDLAVLKEK 336
TRIAE_CS42_2AS_TGAcv RKIPMPTSIIISPYRIFIVIRFFVLIFFLITWRIRNPNMEALWLWGMISVCELWFASFLLDMLPKVNPINRSTDLAVLKEK 336
TRIAE_CS42_2BS_TGAcv RKIPMPTSIIISPYRIFIVIRFFVLIFFLITWRIRNPNMEALWLWGMISVCELWFASFLLDMLPKVNPINRSTDLAVLKEK 337
TRIAE_CS42_7BL_TGAcv RKVAIPPGILSPYRLLVLRVRFVLFLLIWRATNPNDAMWLWGISVCEYWFALSWSVLDLQPKLCPINRATDLSVLKEK 219
TRIAE_CS42_7DL_TGAcv RKVAIPPGILSPYRLLVLRVRFVLFLLIWRATNPNDAMWLWGISVCEYWFALSWSVLDLQPKLCPINRATDLSVLKEK 219
TRIAE_CS42_7AL_TGAcv RKVAIPPGILSPYRLLVLRVRFVLFLLIWRATNPNDAMWLWGISVCEYWFALSWSVLDLQPKLCPINRATDLSVLKEK 218
TRIAE_CS42_1BS_TGAcv ----- 145
TRIAE_CS42_5BS_TGAcv RKTSVSAIILSPYRMLIAIRLVALGFFLAWRIRHPNDAMWLWALSVTCEVWFASFLLDLSLQPKLCPVNRSCDLVLAADR 396
TRIAE_CS42_5DS_TGAcv RKTSVSAIILSPYRMLIAIRLVALGFFLAWRIRHPNDAMWLWALSVTCEVWFASFLLDLSLQPKLCPVNRSCDLVLAADR 400
TRIAE_CS42_1BL_TGAcv FETPTPSNPTGKSDPLGIDIFVSTADPEKEPVLVTANTILSILAVDYPVDKLACYSVDDGGALLTFEAMAEASAFANFWV 434
TRIAE_CS42_1DL_TGAcv FETPTPSNPTGKSDPLGIDIFVSTADPEKEPVLVTANTILSILAVDYPVDKLACYSVDDGGALLTFEAMAEASAFANFWV 434
TRIAE_CS42_1AL_TGAcv FETPTPSNPTGKSDPLGIDIFVSTADPEKEPVLVTANTILSILAVDYPVDKLACYSVDDGGALLTFEAMAEASAFANFWV 434
TRIAE_CS42_2DS_TGAcv FETPTSPNPHGRSDPLGLDVFVSTADPEKEPVLVTANTILSILAVDYPVEKLACYSVDDGGALLTFEAMAEASAFANFWV 416
TRIAE_CS42_2AS_TGAcv FETPTSPNPHGRSDPLGLDIFVSTADPEKEPVLVTANTILSILAVDYPVEKLACYSVDDGGALLTFEAMAEASAFANFWV 416
TRIAE_CS42_2BS_TGAcv FETPTSPNPHGRSDPLGLDVFVSTADPEKEPVLVTANTILSILAVDYPVEKLACYSVDDGGALLTFEAMAEASAFANFWV 417
TRIAE_CS42_7BL_TGAcv FESKTPSNPTGRSDPLGLDVFISTADPYKEPPLVTANTLLSILATDYPVEKLFVYISDDGGALLTFEAMAEACAYAKVWV 299
TRIAE_CS42_7DL_TGAcv FESKTPSNPTGRSDPLGLDVFISTADPYKEPPLVTANTLLSILATDYPVEKLFVYISDDGGALLTFEAMAEACAYAKVWV 299
TRIAE_CS42_7AL_TGAcv FESKTPSNPTGRSDPLGLDVFISTADPYKEPPLVTANTLLSILATDYPVEKLFVYISDDGGALLTFEAMAEACAYAKVWV 298
TRIAE_CS42_1BS_TGAcv ----- 145
TRIAE_CS42_5BS_TGAcv FELPTARNPKGRSDPLGLDVFVSTADPEKEPPLVTANTILSILAADYPVEKLACYSVDDGGALLTFEALAEATASFARTWV 476
TRIAE_CS42_5DS_TGAcv FELPTARNPKGRSDPLGLDVFVSTADPEKEPPLVTANTILSILAADYPVEKLACYSVDDGGALLTFEALAEATASFARTWV 480
TRIAE_CS42_1BL_TGAcv PFCRKHDI EPRNPD SYFNLKRDPFKNKVKAD FVKDRRIKREYDEFKVRVNGLPDSIRRRSDAYHAREEIQAMNLQREKI 514
TRIAE_CS42_1DL_TGAcv PFCRKHDI EPRNPD SYFNLKRDPFKNKVKAD FVKDRRIKREYDEFKVRVNGLPDSIRRRSDAYHAREEIQAMNLQREKI 514
TRIAE_CS42_1AL_TGAcv PFCRKHDI EPRNPD SYFNLKRDPFKNKVKAD FVKDRRIKREYDEFKVRVNGLPDSIRRRSDAYHAREEIQAMNLQREKI 514
TRIAE_CS42_2DS_TGAcv PFCRKHDI EPRNPD SYFALKGDPFKGKRSD FVKDRRKVKREYDEFKVRINGLPDSIRRRSDAFNAREDMKML----KHL 492
TRIAE_CS42_2AS_TGAcv PFCRKHDI EPRNPD SYFALKGDPFKGKRSD FVKDRRKVKREYDEFKVRINGLPDSIRRRSDAFNAREDMKML----KHL 492
TRIAE_CS42_2BS_TGAcv PFCRKHDI EPRNPD SYFALKGDPFKGKRSD FVKDRRKVKREYDEFKVRINGLPDSIRRRSDAFNAREDMKML----KHL 493
TRIAE_CS42_7BL_TGAcv PFCRKHDI EPRNPEAYFTQKGDPTKGGKRPDFVKDRRWIKREYDEYKVRINDLPEAIKRRAKAMNAHERKTIAR----ETA 375
TRIAE_CS42_7DL_TGAcv PFCRKHDI EPRNPEAYFTQKGDPTKGGKRPDFVKDRRWIKREYDEYKVRINDLPEAIKRRAKAMNAHERKTIAR----ETA 375
TRIAE_CS42_7AL_TGAcv PFCRKHDI EPRNPEAYFTQKGDPTKGGKRPDFVKDRRWIKREYDEYKVRINDLPEAIKRRAKAMNAHERKTIAR----ETA 374
TRIAE_CS42_1BS_TGAcv ----- 145
TRIAE_CS42_5BS_TGAcv PFCRKHGVEPRCPESYFGQKRD FLNKVRVLD FVRERRKVKREYDEFKVRVNSL TEAIRRRSDAYNAGEELRARRRLOEEA 556
TRIAE_CS42_5DS_TGAcv PFCRKHGVEPRCPESYFGQKRD FLNKVRVLD FVRERRKVKREYDEFKVRVNSL TEAIRRRSDAYNAGEELRARRRLOEEA 560
TRIAE_CS42_1BL_TGAcv KAGGDEQFEPV----KIPKATWMA DSHHPGCTWV HSSQDIARGDHAG TIQVMLKPPSDMPMYG--NIEK-SPLDFSEVDT 587
TRIAE_CS42_1DL_TGAcv KAGGDEQFEPV----KIPKATWMA DSHHPGCTWV HSSQDIARGDHAG TIQVMLKPPSDMPMYG--NIEK-SPLDFSEVDT 587
TRIAE_CS42_1AL_TGAcv KAGGDEQFEPV----KIPKATWMA DSHHPGCTWV HSSQDIARGDHAG TIQVMLKPPSDMPMYG--NIEK-SPLDFSEVDT 587
TRIAE_CS42_2DS_TGAcv RETGADPSEQP----KVKKATWMA DSHHPGCTWV VSSDIAKGNHAG TIQVMLRPPSPDPLYG--MHDEDQLIDYSDVDT 566
TRIAE_CS42_2AS_TGAcv RETGADPSEQP----KVKKATWMA DSHHPGCTWV VSSDIAKGNHAG TIQVMLRPPSPDPLYG--MHDEDQLIDYSDVDT 566
TRIAE_CS42_2BS_TGAcv RETGADPSEQP----KVKKATWMA DSHHPGCTWV VSSDIAKGNHAG TIQVMLRPPSPDPLYG--MHDEDQLIDYSDVDT 567
TRIAE_CS42_7BL_TGAcv AAS----SDAAP----PPVKATWMA DSHHPGCTWV DSAFDIGKGDHAS TIQVMIKNPHHDVVYG--DADDHAYLDFTNVDV 446
TRIAE_CS42_7DL_TGAcv AAS----SDAAP----PPVKATWMA DSHHPGCTWV DSAFDIGKGDHAS TIQVMIKNPHHDVVYG--DADDHAYLDFTNVDV 446
TRIAE_CS42_7AL_TGAcv AAS----SDAAP----PPVKATWMA DSHHPGCTWV DSAFDIGKGDHAS TIQVMIKNPHHDVVYG--DADDHAYLDFTNVDV 445
TRIAE_CS42_1BS_TGAcv -----ATWMSDGSOWASTWAGATDIARGNHAG TIQ----- 176
TRIAE_CS42_5BS_TGAcv VAAGGALGTAPLAETGAVKATWMS DSGSOMPCTWV TGATDIARGNHAG TIQAMLAPPTSEPVLGGEPAESGALIDTTGVDI 636
TRIAE_CS42_5DS_TGAcv VAAGGALGAAPLAETGAVKATWMS DSGSOMPCTWV TGATDIARGNHAG TIQAMLAPPTSEPVLGGEPAESGALIDTTGVDI 640
TRIAE_CS42_1BL_TGAcv RLPMLVYMSREK RPYDHNKKAGAMNALVRSASVMSNGPFLN DCDHYVYNSKAFREGMCFMMDRGDRICYVQFPQRF 667
TRIAE_CS42_1DL_TGAcv RLPMLVYMSREK RPYDHNKKAGAMNALVRSASVMSNGPFLN DCDHYVYNSKAFREGMCFMMDRGDRICYVQFPQRF 667
TRIAE_CS42_1AL_TGAcv RLPMLVYMSREK RPYDHNKKAGAMNALVRSASVMSNGPFLN DCDHYVYNSKAFREGMCFMMDRGDRICYVQFPQRF 667
TRIAE_CS42_2DS_TGAcv RLPMLVYMSREK RPYDHNKKAGAMNALVRSASVMSNAPFLN DCDHYINNNQAVREAMCFMMDRGGERICYVQFPQRF 646
TRIAE_CS42_2AS_TGAcv RLPMLVYMSREK RPYDHNKKAGAMNALVRSASVMSNAPFLN DCDHYINNNQAVREAMCFMMDRGGERICYVQFPQRF 646
TRIAE_CS42_2BS_TGAcv RLPMLVYMSREK RPYDHNKKAGAMNALVRSASVMSNAPFLN DCDHYINNNQAVREAMCFMMDRGGERICYVQFPQRF 647
TRIAE_CS42_7BL_TGAcv RIPMFVYLSREK RPYDHNKKAGAMNALVRSASVMSNGPFLN DCDHYVYNSKAFREGMCFMMDRGDRICYVQFPQRF 526
TRIAE_CS42_7DL_TGAcv RIPMFVYLSREK RPYDHNKKAGAMNALVRSASVMSNGPFLN DCDHYVYNSKAFREGMCFMMDRGDRICYVQFPQRF 526
TRIAE_CS42_7AL_TGAcv RIPMFVYLSREK RPYDHNKKAGAMNALVRSASVMSNGPFLN DCDHYVYNSKAFREGMCFMMDRGDRICYVQFPQRF 525
TRIAE_CS42_1BS_TGAcv -----RPYDHNKKAGAMNALVRSASVMSNGPFLN DCDHYVYNSKAFREGMCFMMDRGDRICYVQFPQRF 244
TRIAE_CS42_5BS_TGAcv RLPMLVYMSREK RPYDHNKKAGAMNALVRSASVMSNGPFLN DCDHYVYNSKAFREGMCFMMDRGDRICYVQFPQRF 716
TRIAE_CS42_5DS_TGAcv RLPMLVYMSREK RPYDHNKKAGAMNALVRSASVMSNGPFLN DCDHYVYNSKAFREGMCFMMDRGDRICYVQFPQRF 720
TRIAE_CS42_1BL_TGAcv EGIDPDSDRYANHNWVFDIMNRALDGLQGPVYVGTGCFRRRITALLYGDP PPRSKDHS PGFCGCCLPRRRKASASANPEET 747
TRIAE_CS42_1DL_TGAcv EGIDPDSDRYANHNWVFDIMNRALDGLQGPVYVGTGCFRRRITALLYGDP PPRSKDHS PGFCGCCLPRRRKASASANPEET 747
TRIAE_CS42_1AL_TGAcv EGIDPDSDRYANHNWVFDIMNRALDGLQGPVYVGTGCFRRRITALLYGDP PPRSKDHS PGFCGCCLPRRRKASASANPEET 747
TRIAE_CS42_2DS_TGAcv EGIDPDSDRYANHNWVFDIMNRALDGLQGPVYVGTGCFRRRITALLYGDP PPRTAEYTG----WLFKKKKVTNFKDPDSD 720
TRIAE_CS42_2AS_TGAcv EGIDPDSDRYANHNWVFDIMNRALDGLQGPVYVGTGCFRRRITALLYGDP PPRTAEYTG----WLFKKKKVTNFKDPDSD 720
TRIAE_CS42_2BS_TGAcv EGIDPDSDRYANHNWVFDIMNRALDGLQGPVYVGTGCFRRRITALLYGDP PPRTAEYTG----WLFKKKKVTNFKDPDSD 721
TRIAE_CS42_7BL_TGAcv EGIDPDSDRYANHNWVFDIMNRALDGLQGPVYVGTGCFRRRITALLYGDP PPRAVEYHG----LVG-QTRVPIDPHARS 599
TRIAE_CS42_7DL_TGAcv EGIDPDSDRYANHNWVFDIMNRALDGLQGPVYVGTGCFRRRITALLYGDP PPRAVEYHG----LVG-QTRVPIDPHARS 599
TRIAE_CS42_7AL_TGAcv EGIDPDSDRYANHNWVFDIMNRALDGLQGPVYVGTGCFRRRITALLYGDP PPRAVEYHG----LVG-QTRVPIDPHARS 598
TRIAE_CS42_1BS_TGAcv EGIDPDSDRYANHNWVFDIMNRALDGLQGPVYVGTGCFRRRITALLYGDP PPRATEHHGWLGRKKIKLFLRKPMTGKKTRE 322
TRIAE_CS42_5BS_TGAcv EGIDPDSDRYANHNWVFDIMNRALDGLQGPVYVGTGCFRRRITALLYGDP PPRATEHHGWLGRKKIKLFLRKPMTGKKTRE 796
TRIAE_CS42_5DS_TGAcv EGIDPDSDRYANHNWVFDIMNRALDGLQGPVYVGTGCFRRRITALLYGDP PPRATEHHGWLGRKKIKLFLRKPMTGKKTRE 800
TRIAE_CS42_1BL_TGAcv MALRMGDFDGDSD-----MNLATFPKFGNSSFLIDSI PVAEFQGRPLADHPSVKNGRPPGALTIPREILDASIVAE 818
TRIAE_CS42_1DL_TGAcv MALRMGDFDGDSD-----MNLATFPKFGNSSFLIDSI PVAEFQGRPLADHPSVKNGRPPGALTIPREILDASIVAE 818
TRIAE_CS42_1AL_TGAcv MALRMGDFDGDSD-----MNLATFPKFGNSSFLIDSI PVAEFQGRPLADHPSVKNGRPPGALTIPREILDASIVAE 818
TRIAE_CS42_2DS_TGAcv TQQLKAEDFDAE-----LTAQLVPRRFGNSSAMLASIPIAEFQARPIADHFAVLHGRPPGTLVPRPPLDPTVAE 791
TRIAE_CS42_2AS_TGAcv TQQLKAEDFDAE-----LTAQLVPRRFGNSSAMLASIPIAEFQARPIADHFAVLHGRPPGTLVPRPPLDPTVAE 791

TRIAE_CS42_2BS_TGACv TQQLKAEDFDAE-----LTAQLVPRRFGNSSAMLASIPAEFQARPIADHFAVLHGRPPGTLTVPRPPLDPPPTVAE 792
TRIAE_CS42_7BL_TGACv DGVADLRLPLSD-----HPDHEAPQRFGKSKMFIESTAIAVEYQGRPLADHPSVRNGRPAGALLMPRPLDAATVAE 670
TRIAE_CS42_7DL_TGACv DGIADLRLPLSD-----HPDHEAPQRFGKSKMFIESTAIAVEYQGRPLADHPSVRNGRPAGALLMPRPLDAATVAE 670
TRIAE_CS42_7AL_TGACv DGVADLRLPLSD-----HPDHEAPQRFGKSKMFIESTAIAVEYQGRPLADHPSVRNGRPAGALLMPRPLDAATVAE 669
TRIAE_CS42_1BS_TGACv LVMAILQK----- 330
TRIAE_CS42_5BS_TGACv SEHESMLPPIEDDDHNLQDGVGRDLLLLPQQRTRVHRPADEAPAARGLLQRGHVPVHLVPHRLLRAPGRPLHRQVHRPA 876
TRIAE_CS42_5DS_TGACv SEHESMLPPIEDDDHNLQDIESSALMPKRFSSATFVSSIPVAEYQGRLLQDMPGVHQGRPAGALAVPREPLDAATVGE 880

TRIAE_CS42_1BL_TGACv AISVVSCWYEEKTEWGRVTRVWGIYGSVTEVVVTGYRMHNRGWKSVYCVTQRDAFRGTAPINLTDRLRQVLRWATGSVEIFF 898
TRIAE_CS42_1DL_TGACv AISVVSCWYEEKTEWGRVTRVWGIYGSVTEVVVTGYRMHNRGWKSVYCVTQRDAFRGTAPINLTDRLRQVLRWATGSVEIFF 898
TRIAE_CS42_1AL_TGACv AISVVSCWYEEKTEWGRVTRVWGIYGSVTEVVVTGYRMHNRGWKSVYCVTQRDAFRGTAPINLTDRLRQVLRWATGSVEIFF 898
TRIAE_CS42_2DS_TGACv AVSVISCWYEDKTEWGRVTRVWGIYGSVTEVVVTGYRMHNRGWRSVYVWISKRDAFLGTAPINMTDRLRQVLRWATGSVEIFF 871
TRIAE_CS42_2AS_TGACv AVSVISCWYEDKTEWGRVTRVWGIYGSVTEVVVTGYRMHNRGWRSVYVWISKRDAFLGTAPINMTDRLRQVLRWATGSVEIFF 871
TRIAE_CS42_2BS_TGACv AVSVISCWYEDKTEWGRVTRVWGIYGSVTEVVVTGYRMHNRGWRSVYVWISKRDAFLGTAPINMTDRLRQVLRWATGSVEIFF 872
TRIAE_CS42_7BL_TGACv AVSVISCWYEDNTEWGLRVWGIYGSVTEVVVTGYRMHNRGWRSVYVWISKRDAFRGTAPINLTDRLRQVLRWATGSVEIFF 750
TRIAE_CS42_7DL_TGACv AVSVISCWYEDNTEWGLRVWGIYGSVTEVVVTGYRMNRGWRSVYVWISKRDAFRGTAPINLTDRLRQVLRWATGSVEIFF 750
TRIAE_CS42_7AL_TGACv AVSVISCWYEDNTEWGLRVWGIYGSVTEVVVTGYRMHNRGWRSVYVWISKRDAFRGTAPINLTDRLRQVLRWATGSVEIFF 749
TRIAE_CS42_1BS_TGACv ----- 330
TRIAE_CS42_5BS_TGACv PERHVPRLPAAHHHHAVPAGAAGQVVRDHAARVVAQRAVLGDRRHQRAPCGAAGPPQGDRRRGLLHAHVQAGRRRR 956
TRIAE_CS42_5DS_TGACv AISVICFYEEKTEWGRRIWGIYGSVTEVVVTGYRMHNRGWRSVYCVTRRDAFRGTAPINLTDRLRQVLRWATGSVEIFF 960

TRIAE_CS42_1BL_TGACv SRNNALFASSKMKVLQRIAYLNVGIYPFTSIFLIVYCFPLPALSLSFGQFIVQTLNVTFITYLLIITITLCLLAMLEIKWS 978
TRIAE_CS42_1DL_TGACv SRNNALFASSKMKVLQRIAYLNVGIYPFTSIFLIVYCFPLPALSLSFGQFIVQTLNVTFITYLLIITITLCLLAMLEIKWS 978
TRIAE_CS42_1AL_TGACv SRNNALFASSKMKVLQRIAYLNVGIYPFTSIFLIVYCFPLPALSLSFGQFIVQTLNVTFITYLLIITITLCLLAMLEIKWS 978
TRIAE_CS42_2DS_TGACv SRNNALFASRRLMFLQRYAYLNVGIYPFTSIFLLTYCFIPALSLSFGFFIVQTLNVAFIFYLLITITVTLIALGILEVKWS 951
TRIAE_CS42_2AS_TGACv SRNNALFASRRLMFLQRYAYLNVGIYPFTSIFLLTYCFIPALSLSFGFFIVQTLNVAFIFYLLITITVTLIALGILEVKWS 951
TRIAE_CS42_2BS_TGACv SRNNALFASRRLMFLQRYAYLNVGIYPFTSIFLLTYCFIPALSLSFGFFIVQTLNVAFIFYLLITITVTLIALGILEVKWS 952
TRIAE_CS42_7BL_TGACv SKNNAMLASRRLMFLQRYAYLNVGIYPFTSIFLLTYCFIPALSLSFGQFIVATLDPTFLCYLLITITVTLVLLCILEVKWS 830
TRIAE_CS42_7DL_TGACv SKNNAMLASRRLMFLQRYAYLNVGIYPFTSIFLLTYCFIPALSLSFGQFIVATLDPTFLCYLLITITVTLVLLCILEVKWS 830
TRIAE_CS42_7AL_TGACv SKNNAMLASRRLMFLQRYAYLNVGIYPFTSIFLLTYCFIPALSLSFGQFIVATLDPTFLCYLLITITVTLVLLCILEVKWS 829
TRIAE_CS42_1BS_TGACv ----- 330
TRIAE_CS42_5BS_TGACv GGGHVVRGAVRGAVELPDGAPRDHDAERGGAGGGDGEDAVQVPAVEQAAGRRLQLLGAVPPLPL----- 1022
TRIAE_CS42_5DS_TGACv SRNNALFATRRMKLLQRYAYFNVMGMASSR----- 989

TRIAE_CS42_1BL_TGACv GIALEEWRNEQFWLIGGTSAHLAAVMQGLLKVVAGIEISFTLTSKQVGGDDIDDEFAELYEVKWTSLMIPPLTIIMVNLV 1058
TRIAE_CS42_1DL_TGACv GIALEEWRNEQFWLIGGTSAHLAAVMQGLLKVNSTK----- 1014
TRIAE_CS42_1AL_TGACv GIALEEWRNEQFWLIGGTSAHLAAVMQGLLKVVAGIEISFTLTSKQVGGDDIDDEFAELYEVKWTSLMIP----- 1048
TRIAE_CS42_2DS_TGACv GIELEDWRNEQFWLISGISAHLYAVVQGLLKVMAGIEISFTLTAKAAEDNEDIYADLYVVKWSSLLIP----- 1021
TRIAE_CS42_2AS_TGACv GIELEDWRNEQFWLISGISAHLYAVVQGLLKVMAGIEISFTLTAKAAEDNEDIYADLYVVKWSSLLIP----- 1021
TRIAE_CS42_2BS_TGACv GIELEDWRNEQFWLISGISAHLYAVVQGLLKVMAGIEISFTLTAKAAEDNEDIYADLYVVKWSSLLIP----- 1022
TRIAE_CS42_7BL_TGACv GIGLEEWRNEQFWVIGGTSAHLAAVLQGLLKVAAGIEISFTLTAKAAEDDDDFAEYLYIKWTSFLIP----- 900
TRIAE_CS42_7DL_TGACv GIGLEEWRNEQFWVIGGTSAHLAAVLQGLLKVAAGIEISFTLTAKAAEDDDDFAEYLYIKWTSFLIP----- 900
TRIAE_CS42_7AL_TGACv GIGLEEWRNEQFWVIGGTSAHLAAVLQGLLKVAAGIEISFTLTAKAAEDDDDFAEYLYIKWTSFLIP----- 899
TRIAE_CS42_1BS_TGACv ----- 330
TRIAE_CS42_5BS_TGACv ----- 1022
TRIAE_CS42_5DS_TGACv ----- 989

TRIAE_CS42_1BL_TGACv AIAVGFSRITYSTIDDEFAELYEVKWTSLMIPPLTIIMVNLVAIAVGFSRITYSTIPQWSKLLGGVFFSFWVLAHLYPF 1138
TRIAE_CS42_1DL_TGACv ----- 1014
TRIAE_CS42_1AL_TGACv -----PLTIIMVNLVAIAVGFSRITYSTIPQWSKLLGGVFFSFWVLAHLYPF 1095
TRIAE_CS42_2DS_TGACv -----PITIGMLNIIAIAFAFARTIYSDNPRWGKFIGGGFFSFWVLAHLNPF 1068
TRIAE_CS42_2AS_TGACv -----PITIGMLNIIAIAFAFARTIYSENPRWGKFIGGGFFSFWVLAHLNPF 1068
TRIAE_CS42_2BS_TGACv -----PITIGMLNIIAIAFAFARTIYSDNPRWGKFIGGGFFSFWVLAHLNPF 1069
TRIAE_CS42_7BL_TGACv -----PLAIIIGINIAMVVGVSRCVYAEIPQYSKLLGGGFFSFWVLAHYYPF 947
TRIAE_CS42_7DL_TGACv -----PLAIIIGINIAMVVGVSRCVYAEIPQYSKLLGGGFFSFWVLAHYYPF 947
TRIAE_CS42_7AL_TGACv -----PLAIIIGINIAMVVGVSRCVYAEIPQYSKLLGGGFFSFWVLAHYYPF 946
TRIAE_CS42_1BS_TGACv ----- 330
TRIAE_CS42_5BS_TGACv ----- 1022
TRIAE_CS42_5DS_TGACv ----- 989

TRIAE_CS42_1BL_TGACv AKGLMGRGRTPPIVYVWAGLVISITISLLWIAINPSSAANQQLGGSFSFP- 1189
TRIAE_CS42_1DL_TGACv ----- 1014
TRIAE_CS42_1AL_TGACv AKGLMGRGRTPPIVYVWAGLVISITISLLWIAINPSSAANQQLGGSFSFP- 1146
TRIAE_CS42_2DS_TGACv AKGLMGRGRTPPIVYVWAGLVISITISLLWVALSPEANSTGGARGGGFQFP 1120
TRIAE_CS42_2AS_TGACv AKGLMGRGRTPPIVYVWAGLVISITISLLWVALSPEANSTGGARGGGFQFP 1120
TRIAE_CS42_2BS_TGACv AKGLMGRGRTPPIVYVWAGLVISITISLLWVALSPEANSTGGARGGGFQFP 1121
TRIAE_CS42_7BL_TGACv AKGLMGRGRTPPIVYVWAGLVISITVSLWITISPPDDRVSQSGIEV----- 994
TRIAE_CS42_7DL_TGACv AKGLMGRGRTPPIVYVWAGLVISITVSLWITISPPDDRVSQSGIEV----- 994
TRIAE_CS42_7AL_TGACv AKGLMGRGRTPPIVYVWAGLVISITVSLWITISPPDDRVSQSGIEV----- 993
TRIAE_CS42_1BS_TGACv ----- 330
TRIAE_CS42_5BS_TGACv ----- 1022
TRIAE_CS42_5DS_TGACv ----- 989

Fig. S_2D: *CsIE* subfamily.

S.No	Gene name with number of splice variants (<i>CsIE</i>)	No. of amino acids (aa)
1	TRIAE_CS42_6DL_TGACv1_526558_AA1687090.1	738 aa
2	TRIAE_CS42_6AL_TGACv1_471004_AA1500600.1_3_SPLICE	737 aa
3	TRIAE_CS42_6BL_TGACv1_499967_AA1596110.2	736 aa
4	TRIAE_CS42_U_TGACv1_683314_AA2158770.1	446 aa
5	TRIAE_CS42_5DL_TGACv1_433536_AA1415840.1	756 aa
6	TRIAE_CS42_5BL_TGACv1_406235_AA1342610.1	728 aa
7	TRIAE_CS42_5AL_TGACv1_376126_AA1232370.2	728 aa
8	TRIAE_CS42_5DL_TGACv1_433536_AA1415830.1_2_SPLICE	728 aa
9	TRIAE_CS42_5BL_TGACv1_406235_AA1342600.1_2_SPLICE	734 aa
10	TRIAE_CS42_6DS_TGACv1_543277_AA1737920.1	725 aa

Color Align Conservation results

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TRIAE_CS42_5DL_TGACv1 MVAIGRRGTQQHGHWRLLAAESPPYLGPRDGEHEAVRDGDSRPGGVQAPRRHGGRILLLLYYRATRVPAAEGRAAWL 80
TRIAE_CS42_5BL_TGACv1 -----MERSRRLFETETHGGRAAYRLHAVTVAAGILLVLYRATHVPAAGEGRATWL 52
TRIAE_CS42_U_TGACv1 ----- 0
TRIAE_CS42_5AL_TGACv1 -----MERTRLFETETHGGRAAYRLHAVTVAAGILLLLYYRATRVPAAEGRAAWL 51
TRIAE_CS42_6DS_TGACv1 -----MERRLFETVRHGGRALYRLHAVTVAASLLVLYRATRVPVSGGRRAAWL 50
TRIAE_CS42_5DL_TGACv1 -----MERTRRLFETETHGGRAAYRLHAVTVAAGILLVLYRATHVPAAGEGRAAWL 52
TRIAE_CS42_5BL_TGACv1 -----MERSRRLFETETHGGRAAYRLHAVTVAAGILLVLYRATRVPAAEGRAAWL 52
TRIAE_CS42_6AL_TGACv1 -----MAGSSVSGGGRRPPLFATEKPKRVLAYRVIYAGTIFAGILLIWFYRATHIPARGSSSLGWR 60
TRIAE_CS42_6BL_TGACv1 -----MAGSSVSGGGRRPPLFATEKPKRVLAYRVIYAGTIFAGILLIWFYRATHIPERGDSSSLGWR 59
TRIAE_CS42_6DL_TGACv1 -----MAGSSVSGGGRRPPLFATEKPKRVLAYRVIYAGTIFAGILLIWFYRATHIPARGSSSLGWR 61

TRIAE_CS42_5DL_TGACv1 G---MLAAELWYAAWVVTQSVRWSVPRRRPFIDRLAARHG-ETLPCVDIFVCTADPYSEPPSLVSTVLSLMAYNYPPE 156
TRIAE_CS42_5BL_TGACv1 G---MLAAELWYAAWVVTQSVRWSVPRRRPFIDRLAARHG-ERLPCVDIFVCTADPYSEPPSLVSTVLSLMAYNYPPE 128
TRIAE_CS42_U_TGACv1 ----- 0
TRIAE_CS42_5AL_TGACv1 G---MLAAELWYAAWVVTQSVRWSVPRRRPFDRDLAARHG-ERLPSVDIFVCTADPYSEPPSLVSTVLSLMAYNYPPE 127
TRIAE_CS42_6DS_TGACv1 G---MLAAELWYAAWVVTQSVRWSVPRRRPFDRDLAARHG-DRLPVDFVCTADPLSEPPSLVSTVLSLMAYNYLAE 126
TRIAE_CS42_5DL_TGACv1 G---MLAAELWYAAWVVTQSVRWSVPRRLLPFIDRLAARYG-ERLPCVDIFVCTADPHSEPPSLVSTVLSLMAYNYPAE 128
TRIAE_CS42_5BL_TGACv1 G---MLAAELCYAAWVVTQSVRWSPLHRRPCRDRLAARYG-ERLPCVDIFVCTADPHSEPPSLVSTVLSLMAYNYPAE 128
TRIAE_CS42_6AL_TGACv1 AGLGLLVAELFLFGLYWVLTLSVRWNPVRRRTFKDRLSERYDDQLPGVDIFVCTADPALEPPMLVISTVLSVMAYDYDPE 140
TRIAE_CS42_6BL_TGACv1 AGLGLLVAELFLFGLYWVLTLSVRWNPVRRRTFKDRLSERYDDQLPGVDIFVCTADPALEPPMLVISTVLSVMAYDYDPE 139
TRIAE_CS42_6DL_TGACv1 AGLGLLVAELFLFGLYWVLTLSVRWNPVRRRTFKDRLSERYDDQLPGVDIFVCTADPALEPPMLVISTVLSVMAYDYDPE 141

TRIAE_CS42_5DL_TGACv1 KLSVYLSDDGGSILTFYGMWEASLFAKHWPFCFKRYNIEPRSPAAYFSES DGHQELCNPKEWSLIKDMFDKMERIDTVV 236
TRIAE_CS42_5BL_TGACv1 KLSVYLSDDGGSILTFYGMWEASLFAKHWPFCFKRYNIEPRSPAAYFSES DGHQELCNPKEWSLIKDMFDKMERIDTAV 208
TRIAE_CS42_U_TGACv1 ----- 0
TRIAE_CS42_5AL_TGACv1 KLSVYLSDDGGSILTFYGMWEASLFAKHWPFCFKRYNIEPRSPAAYFSES DGHQELCNPKEWSLIKDMFDKMERIDTAV 207
TRIAE_CS42_6DS_TGACv1 KLSVYLSDDGGSVLTFFYAMWEASLFAKHWPFCFKRYNIEPRSPAAYFSES --YQDLCTPKWSFIKDMYDEMTERIDTAV 204
TRIAE_CS42_5DL_TGACv1 KLSVYLSDDGGSVLTFFYALWEASLFAKHWPFCFKRYNIEPRSPAAYFSES DGHQDLCPKWSLIREMYDEMTERIDTAV 208
TRIAE_CS42_5BL_TGACv1 KLSVYLSDDGGSILTFYALWEASLFAKHWPFCFKRYNIEPRSPAAYFSES DGHQDMCTPKWSLIREMYDEMTERIDTAA 208
TRIAE_CS42_6AL_TGACv1 KLNLYLSDDAGSAVTFYALHEASEFAKHWPFCFKNYKVEPRSPAAYFAEGATPHDACSPOELLRMKELYKDLTDRVNSVV 220
TRIAE_CS42_6BL_TGACv1 KLNLYLSDDAGSAVTFYALHEASEFAKHWPFCFKNYKVEPRSPAAYFAEGATPHDACSPOELLRMKELYKDLTDRVNSVV 219
TRIAE_CS42_6DL_TGACv1 KLNLYLSDDAGSAVTFYALHEASEFAKHWPFCFKNYKVEPRSPAAYFAEGATPHDACSPOEFLRMKELYKDLTDRMNSVV 221

TRIAE_CS42_5DL_TGACv1 MSGKVPEEIKASHKGFYEWNQEITSKNHQPIVQILIDGKQNAV DNEGKVLPTLVYMAREKRPQHNNFKAGAMNALTRV 316
TRIAE_CS42_5BL_TGACv1 MSGKVPEEIKARHKGFYEWNQEISSKNHQPIVQILIDGKQNAV DNEGKVLPTLVYMAREKRPQHNNFKAGAMNALTRV 288
TRIAE_CS42_U_TGACv1 -----MQITRV 5
TRIAE_CS42_5AL_TGACv1 MSGKVPEEIKARQKGFHEWNEQEITSKNHQPIVQILIDGKQNAV DNEGKVLPTLVYMAREKRPQHNNFKAGAMNALTRV 287
TRIAE_CS42_6DS_TGACv1 ISRKIPPEIRSNHKGFYEWNEPITSKNHQPIVQILIDGKQKGV DSEGNVPTLVYMAREKRPQHNNFKAGAMNALTRV 284
TRIAE_CS42_5DL_TGACv1 LSGKISEEVKANHKGFEHWQDQENTSKNHQPIVQILIEGKDKNAN DDEGNVPTLVYMAREKRPQHNNFKAGAMNALTRV 288
TRIAE_CS42_5BL_TGACv1 LSGKISEEVKENHKGFEHWQDQENTSKNHQPIVQILIEGKDKNAN DDEGNVPTLVYMAREKRPQHNNFKAGAMNALTRV 288
TRIAE_CS42_6AL_TGACv1 HSGKIPEVPECNHRGSEWNEPITSGDHPSVQVILIDRNKRKA VDV DGNALPKLVYMSREKRPQEQHFFKAGSLNALTRV 300
TRIAE_CS42_6BL_TGACv1 HSGKIPEVPECNHRGFSVWNETITSGDHPSVQVILIDRNKRKA VDV DGNALPKLVYMAREKRPQEQHFFKAGSLNALTRV 299
TRIAE_CS42_6DL_TGACv1 HSGKIPEVPECNHRGFSWNETITSGDHPSVQVILIDRNKRKA VDV DGNALPKLVYMAREKRPQEQHFFKAGSLNALTRV 301

TRIAE_CS42_5DL_TGACv1 SSVISNSPITMNVDCDLYSNNNDARDFALCFFLDEEMGHKIGFVQY PONYNNLSKNNIYGNLSLHVINEVEMGGDLSLGGP 396
TRIAE_CS42_5BL_TGACv1 SSVISNSPITMNVDCDLYSNNNDARDFALCFFLDEEMGHKIGFVQY PONYNNLSKNNIYGNLSLHVINEVEMGGDLSLGGP 368
TRIAE_CS42_U_TGACv1 SSVISNSPITMNVDCDLYSNNNDARDFALCFFLDEEMGHKIGFVQY PONYNNLSKNNIYGNLSLHVINEVEMGGDLSLGGP 85
TRIAE_CS42_5AL_TGACv1 SSVISNSPITMNVDCDLYSNNNDARDFALCFFLDEEMGHKIGFVQY PONYNNLSKNNIYGNLSLHVINEVEMGGDLSLGGP 367
TRIAE_CS42_6DS_TGACv1 SSVISNSPITMNVDCDLYSNNNDARDFALCFFLDEEMGHKIGFVQY PONYNNMTKNNIYGNLSLHVINEVEMGGDLSLGGP 364
TRIAE_CS42_5DL_TGACv1 SSVISNSPITMNVDCDLYSNNNDARDFALCFFLDEEMGHKIGFVQY PONYNNLTNNIYGNLSLHVINEVEMGGDLSLGGP 368
TRIAE_CS42_5BL_TGACv1 SSVISNSPITMNVDCDLYSNNNDARDFALCFFLDEEMGHKIGFVQY PONYNNLTNNIYGNLSLHVINEVEMGGDLSLGGP 368
TRIAE_CS42_6AL_TGACv1 SSVISNSPITMNVDCDLYSNNNDARDFALCFFLDEEMGHKIGFVQY PONYNNVNDIYGNP INNVNDELNDCDLSLGGM 380
TRIAE_CS42_6BL_TGACv1 SSVISNSPITMNVDCDLYSNNNDARDFALCFFLDEEMGHKIGFVQY PONYNNVNDIYGNP INNVNDELNDCDLSLGGM 379

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TRIAE_CS42_6DL_TGACv **SSVTSNSPVLNVDCDMYSNNS**ESIRDALCFFLDDEEQODLGFVQYQPNEDNVVENDSYGNPINVNFELDNPCLDGWMGM 381

TRIAE_CS42_5DL_TGACv **MYIGTGCFFHREILQCRKRETDYQEDWNAGIKDKLQES-IDETEEKAKSLAACYEHC**TQWAD**EH**GVKYGCVVEDVNTGL 475
TRIAE_CS42_5BL_TGACv **MYIGTGCFFHREILQCRKRETDYQEDWNAGIKDKLQES-IDETEEKAKSLAACYEHC**TQWGD**EH**GVKYGCVVEDVNTGF 447
TRIAE_CS42_U_TGACv1 **LYIGTGCFFHREILQCRKRETDYQEDWNAGIKDKLQES-IDETEEKAKSLAACYEHC**TQWGD**EH**GVKYGCAVEDVITGL 164
TRIAE_CS42_5AL_TGACv **LYIGTGCFFHREILQCRKRETDYQEDWNAGIKDKLQES-IDETEEKAKSLAACYEHC**TQWGD**EH**GVKYGCAVEDVITGL 446
TRIAE_CS42_6DS_TGACv **LYIGTGCFFHREILQCRKRETDYQEDWNGGKGRICDTSIGEIEEKASLACTCYEHC**TQWGD**EH**GLRYGCFVEDVITGL 444
TRIAE_CS42_5DL_TGACv **MYVGTGCFFHREILQCRRETDYKREDWNGGKDKTQES-IVIEEKASLAASTYEH**DTQWGD**EH**ICIRYGYFAEDIVTGL 447
TRIAE_CS42_5BL_TGACv **MYVGTGCFFHREILQCRRETDYKREDWNGGKDKTQES-IVIEEKASLAASTYEH**DTQWGD**EH**ICIRYGYFAEDIVTGL 447
TRIAE_CS42_6AL_TGACv **QYVGTGCFFHREITLSCQIYSKDYKEDWDRGVGIAENAD---**ELEETS**KSLTCTCYEHN**TPWGI**EK**GVRYGCFLEDVITGL 457
TRIAE_CS42_6BL_TGACv **QYVGTGCFFHREITLSCQIYSKDYKEDWDRGVGIAENAD---**ELEETS**KSLTCTCYEHN**TPWGI**EK**GVRYGCFLEDVITGL 456
TRIAE_CS42_6DL_TGACv **QYVGTGCFFHREITLSCQIYSKDYKEDWDRGVGIAENAD---**ELEETS**KSLTCTCYEHN**TPWGI**EK**GVRYGCFLEDVITGL 458

TRIAE_CS42_5DL_TGACv **AHCRGWSVYNNPKRPFPMGCGPTTLAQTILQHKRW**SEGIFSFISLSRYNVFLF**HGRTKLRHOMGYH**YGLWAFNSLAT 555
TRIAE_CS42_5BL_TGACv **AHCRGWSVYNNPKRPFPMGCGPTTLAQTILQHKRW**SEGIFSFISLSRYNVFLF**HGRTKLRHOMGYH**YGLWAFNSLAT 527
TRIAE_CS42_U_TGACv1 **AHCRGWSVYNNPKRPFPMGCGPTTLAQTILQHKRW**SEGNSLSIFLSRYNVFLF**HGRTKLRHOMGYH**YGLWAFNSLAT 244
TRIAE_CS42_5AL_TGACv **AHCRGWSVYNNPKRPFPMGCGPTTLAQTILQHKRW**SEGNSLSIFLSRYNVFLF**HGRTKLRHOMGYH**YGLWAFNSLAT 526
TRIAE_CS42_6DS_TGACv **AHCRGWSVYNNPKRPFPMGCGPTTLAQTILQHKRW**SEGSFSFISLSRYCFPLF**HGRTKLRHOMGYH**YGLWAFNSLPT 524
TRIAE_CS42_5DL_TGACv **GHCRGWSVHSNPPRPFALGVAPTTLAQTILQHKRW**SEGSFSFISLSRYCFPMF**HGRTKLRHOMGYH**YGLWAFNSIPT 527
TRIAE_CS42_5BL_TGACv **GHCRGWSVHSNPPRPFALGVAPTTLAQTILQHKRW**SEGSFSFISLSRYCFPMF**HGRTKLRHOMGYH**YGLWAFNSIPT 527
TRIAE_CS42_6AL_TGACv **QTCRGRWSVYNNPARKGFLGMAPTSLGQILVQHKRW**SEGFQISLSNYSFLL**HGRIKLRGLQMGYSV**CFWALNSPPT 537
TRIAE_CS42_6BL_TGACv **QTCRGRWSVYNNPARKGFLGMAPTSLGQILVQHKRW**SEGFQISLSNYSFLL**HGRIKLRGLQMGYSV**CFWALNSPPT 536
TRIAE_CS42_6DL_TGACv **QTCRGRWSVYNNPARKGFLGMAPTSLGQILVQHKRW**SEGFQMSLSNYSFLL**HGRIKLRGLQMGYSV**CFWALNSPPT 538

TRIAE_CS42_5DL_TGACv **IYYVILPSLAILKGTSLFPBITSPWIAFFVYVFCVKNMYSIYEAL**SSGDT**KGWWNGQRMWLVKRITSYL**FGVLDNIRKL 635
TRIAE_CS42_5BL_TGACv **IYYVILPSLAILKGTSLFPBITSPWIAFFVYVFCVKNMYSIYEAL**SSGDT**KGWWNGQRMWLVKRITSYL**FGVLDNIRKL 607
TRIAE_CS42_U_TGACv1 **IYYVILPSLAILKGTSLFPBITSPWIAFFVYVFCVKNMYSIYEAL**SSGDT**KGWWNGQRMWLVKRITSYL**FGVLDNIRKL 324
TRIAE_CS42_5AL_TGACv **IYYVILPSLAILKGTSLFPBITSPWIAFFVYVFCVKNMYSIYEAL**SSGDT**KGWWNGQRMWLVKRITSYL**FGVLDNIRKL 606
TRIAE_CS42_6DS_TGACv **IYYVILPSLAILKGTSLFPBITSPWIAFFVYVFCVKNMYSIYEAL**SSGDT**KGWWNGQRMWLVKRITSYL**FGVLDNIRKL 604
TRIAE_CS42_5DL_TGACv **IYYVILPSLAILKGTSLFPBITSPWMSFFIYVLCVKNMYSIYEAL**SSGDT**KGWWNEQRMWLVKRITSYL**FGVLDNIRKL 607
TRIAE_CS42_5BL_TGACv **IYYVILPSLAILKGTSLFPBITSPWISFFIYVLCVKNMYSIYEAL**SSGDT**KGWWNEQRMWLVKRITSYL**FGVLDNIRKL 607
TRIAE_CS42_6AL_TGACv **FYYVILPSLCHLSVSVFPEITSPWCIFFIYVVAVSYSWSIMES**LQCGDT**AVEWNAQRMWLMRRITSYL**LAADITIGGM 617
TRIAE_CS42_6BL_TGACv **FYYVILPSLCHLSVSVFPEITSPWCIFFIYVVAVSYSWSIMES**LQCGDT**AVEWNAQRMWLMRRITSYL**LAADITIGGM 616
TRIAE_CS42_6DL_TGACv **FYYVILPSLCHLSVSVFPEITSPWCIFFIYVVAVSYSWSIMES**LQCGDT**AVEWNAQRMWLMRRITSYL**LAADITIGGM 618

TRIAE_CS42_5DL_TGACv **LGLSKMNFVVPKVSDEDESKRYEQEIMFEGSSDPEVVIITATVALLNIVCLLGGISKVMKGGWN-VH**DALFPPQLILCGM 714
TRIAE_CS42_5BL_TGACv **LGLSKMNFVVPKVSDEDESKRYEQEIMFEGSSDPEVVIITATVALLNIVCLLGGISKVMKGGWN-EH**DALFPPQLILCGM 686
TRIAE_CS42_U_TGACv1 **LGLSKMNFVVPKVSDEDESKRYEQEIMFEGSSDPEVVIITATVALLNIVCLLGGISKVMKGGWN-NH**DALFPPQLILCGM 404
TRIAE_CS42_5AL_TGACv **LGLSKMNFVVPKVSDEDESKRYEQEIMFEGSSDPEVVIITATVALLNIVCLLGGISKVMKGGWN-NH**DALFPPQLILCGM 686
TRIAE_CS42_6DS_TGACv **LGLSKMNFVVPKVSIEDESKRYEQEIMFEGSSDPEVVIITATVALLNIVCLLGGISQIMTGAWN-IH**DAFSPQLILCGM 683
TRIAE_CS42_5DL_TGACv **LGLSKMNFVVPKVSSEESKRYEQEIMFEGSSAPEVVIITATVALLNIVCLLGGISQIMTGAWN-IH**DAFSPQLILCGM 686
TRIAE_CS42_5BL_TGACv **LGLSKMNFVVPKVSSEESKRYEQEIMFEGSSAPEVVIITATVALLNIVCLLGGISQIMTGAWN-IH**DAFSPQLILCGM 686
TRIAE_CS42_6AL_TGACv **LGVSESGELTVKVDQSALERYKKGKMEFCPISGMFVIIITATVALLNIVCLLGGISQIMTGAWN-IH**DAFSPQLILCGM 696
TRIAE_CS42_6BL_TGACv **LGVSESGELTVKVDQSALERYKKGKMEFCPISGMFVIIITATVALLNIVCLLGGISQIMTGAWN-IH**DAFSPQLILCGM 695
TRIAE_CS42_6DL_TGACv **LGVSESGELTVKVDQSALERYKKGKMEFCPISGMFVIIITATVALLNIVCLLGGISQIMTGAWN-IH**DAFSPQLILCGM 697

TRIAE_CS42_5DL_TGACv **LVITSIPEYEAFLRKDKGRIFPPVTLASIGFVMLALPAKIV**----- 756
TRIAE_CS42_5BL_TGACv **LVITSIPEYEAFLRKDKGRIFPPVTLASIGFVMLALPAKIV**----- 728
TRIAE_CS42_U_TGACv1 **LVITSIPEYEAFLRKDKGRIFPPVTLASIGFVMLALPAKIV**----- 446
TRIAE_CS42_5AL_TGACv **LVITSIPEYEAFLRKDKGRIFPPVTLASIGFVMLALPAKIV**----- 728
TRIAE_CS42_6DS_TGACv **LVITNMPYEAFLRNDKCKIPFPVTLASIGFVMLDFVPTIV**----- 725
TRIAE_CS42_5DL_TGACv **LVITNIPYEAFLRNDKCKIPFPVTLASIGFVMLALVPTIV**----- 728
TRIAE_CS42_5BL_TGACv **LVITNIPYEAFLRNDKCKIPFPVTLASIGFVMLALVPTIV**----- 734
TRIAE_CS42_6AL_TGACv **LVVINAPVYEAFLRDRSGSLFPYFVTLVSLCFVSSLCQAII**----- 737
TRIAE_CS42_6BL_TGACv **LVVINAPVYEAFLRDRSGSLFPYFVTLVSLCFVSSLCQAII**----- 736
TRIAE_CS42_6DL_TGACv **LVVINAPVYEAFLRDRSGSLFPYFVTLVSLCFVSSLCQAII**----- 738

Fig. S_2E: *Cs1F* subfamily.

S.No	Gene name with number of splice variants (<i>Cs1F</i>)	No. of amino acids (aa)
1	TRIAE_CS42_2DL_TGACv1_159781_AA0542640.1	845 aa
2	TRIAE_CS42_7BL_TGACv1_580651_AA1914920.1	614 aa
3	TRIAE_CS42_7AL_TGACv1_557532_AA1782680.1	837 aa
4	TRIAE_CS42_7DL_TGACv1_602590_AA1961740.1	835 aa
5	TRIAE_CS42_2AL_TGACv1_094713_AA0301960.1	865 aa
6	TRIAE_CS42_2DL_TGACv1_160109_AA0546890.1	862 aa
7	TRIAE_CS42_2BL_TGACv1_130934_AA0420130.1	663 aa
8	TRIAE_CS42_2DS_TGACv1_178985_AA0603230.1	870 aa
9	TRIAE_CS42_2AS_TGACv1_112790_AA0345230.1	878 aa
10	TRIAE_CS42_2BS_TGACv1_148027_AA0489970.1	877 aa
11	TRIAE_CS42_2AS_TGACv1_113659_AA0359050.1	847 aa
12	TRIAE_CS42_2DS_TGACv1_177641_AA0581710.2_2_SPLICE	847 aa
13	TRIAE_CS42_2BS_TGACv1_148608_AA0494060.1	851 aa
14	TRIAE_CS42_U_TGACv1_641498_AA2096480.1	857 aa
15	TRIAE_CS42_2BS_TGACv1_146146_AA0456710.1	754 aa
16	TRIAE_CS42_2DS_TGACv1_179076_AA0604160.1_2_SPLICE	783 aa
17	TRIAE_CS42_2AS_TGACv1_112322_AA0335290.1	878 aa
18	TRIAE_CS42_2BS_TGACv1_147667_AA0486240.1_2_SPLICE	877 aa
19	TRIAE_CS42_2DS_TGACv1_177329_AA0573830.1	875 aa
20	TRIAE_CS42_2BS_TGACv1_148916_AA0495580.1	701 aa
21	TRIAE_CS42_2DS_TGACv1_178471_AA0596060.1	701 aa
22	TRIAE_CS42_2AS_TGACv1_112322_AA0335280.1	897 aa
23	TRIAE_CS42_5BL_TGACv1_409916_AA1366600.2_2_SPLICE	815 aa
24	TRIAE_CS42_5DL_TGACv1_433902_AA1424880.1	808 aa
25	TRIAE_CS42_5AL_TGACv1_374191_AA1193100.1_2_SPLICE	807 aa
26	TRIAE_CS42_7BL_TGACv1_577473_AA1876170.1	941 aa
27	TRIAE_CS42_7AL_TGACv1_555973_AA1751470.1	899 aa
28	TRIAE_CS42_7DL_TGACv1_607937_AA2011180.1	498 aa
29	TRIAE_CS42_1BS_TGACv1_049866_AA0163180.1	856 aa

Color Align Conservation results

TRIAE_CS42_5DL_TGACv	-----MSMTYITKKHDYAATLDEKEP	21
TRIAE_CS42_5AL_TGACv	-----MSMTYITKKHDYVASLDGKES	21
TRIAE_CS42_5BL_TGACv	-----MSMTYISKKHDYAATLDEKEQ	21
TRIAE_CS42_2AS_TGACv	-----MTTSPATHDGAATGLSEPLLPNRNGVHAGALVVTVPVANGHGGDKLKGDLKAKDKYWKVDQPDVVAA	69
TRIAE_CS42_2BS_TGACv	-----MTTSPATAAGAATGLSEPLLSNGNGVHAGALVVTVPVANGHGG-DKLKGDLLKAKDKYWKVDQPDVVAA	68
TRIAE_CS42_2DS_TGACv	-----MTTSPATDAGAATGLSEPLLSNRNGVHAGALVVTVPVAANGHGG-----KAKDKYWKVDQPDGDMV	61
TRIAE_CS42_2AS_TGACv	-----MASAAGAGGANAGLADPLLAS-----AKKPVGAKGKHVVAADK-DQRR	43
TRIAE_CS42_2DS_TGACv	-----MASAAGAGGANAGLADPLLAS-----AKKPVGAKGKHVVAADK-DQRR	43
TRIAE_CS42_2BS_TGACv	-----MASAVGAGGANAGLADPLLASRD-----GGAKKPVGAKGKHVVAADK-DQRR	47
TRIAE_CS42_2DL_TGACv	-----MAAAVTRRSNALRVDPGGEAVAVSVAADSPVAKRGLGAKDDVWVADE	49
TRIAE_CS42_2BL_TGACv	-----	0
TRIAE_CS42_2AL_TGACv	-----MMAAAVTRRSNALRVDPDGDAVAVSVVADSPVAKRGLGAKEDVWVADE	50
TRIAE_CS42_2DL_TGACv	-----MAAAVTRRVNLRVEVPDG-----NADTANAPAAKRILDAKDDVWVSAD	44
TRIAE_CS42_2BS_TGACv	-----MAAAVTRRANALRVEAPDGNTEGRASLAADSPVAKRAVDKDDVWVADEGEA	54
TRIAE_CS42_2DS_TGACv	-----MAAAVTRRANALRAEAPDGNTEGRASLAADSPVAKRAVDKDDVWVADEGDT	54
TRIAE_CS42_7AL_TGACv	-----MPLRVEALVATDTASAAAEGRRAKDDVWVAEEGDM	36
TRIAE_CS42_7DL_TGACv	-----MALRVEALVATDTAAAEGR--RAKDDVWVAEEGDM	34
TRIAE_CS42_7BL_TGACv	-----MATDTVADAAEGRRARDVWVAEEGDM	28
TRIAE_CS42_U_TGACv1	-----MPSPAAVGGGRLADPLLAAAD-----VVVGAKDKYWVPADEREILASQK	43
TRIAE_CS42_1BS_TGACv	-----MASPAAGGGGLADPLLATD-----VVVGPKDKYWVPADEREILASHR	43
TRIAE_CS42_2AS_TGACv	-----MVSPATGGGRGNAGLAEPLLATNDSDGAKHVFAGAKHWPVPADEKEMASRE	54
TRIAE_CS42_2BS_TGACv	-----MVSPATSGGRGNAGLADPLLATNDSDGARHVFAGAKYWPVPADEKEMASRE	54
TRIAE_CS42_2DS_TGACv	-----MVSFAASGGGNAGLADPLLATNDNSEGARHVFAGAKYWVPVPADEKEIASRE	52
TRIAE_CS42_2BS_TGACv	-----	0
TRIAE_CS42_2DS_TGACv	-----	0
TRIAE_CS42_2AS_TGACv	----MGSLAAANGAGHASNGAGVADQALALENGTGNHGKAGVANRATPPLQANGSKVAKKISPDKYVWVADEGEMAAA	76
TRIAE_CS42_7AL_TGACv	MAPAVAGGRRVRSNEPAAAAAPAAASGKPCVCGFQVCACTGSAAVASAASSLDMDIVAMQIGAVNDESWVGVELGEDGE	80
TRIAE_CS42_7DL_TGACv	-----	0
TRIAE_CS42_7BL_TGACv	MAPAVAGGRRVRSNEP----AAAAADKPCVCGFQVCACTGSAAVASAASSLDMDIVAMQIGAVNDESWVGVELGEDGE	76
TRIAE_CS42_5DL_TGACv	SEDQKSASVKNLLVRTTKLTTVTIKLYRLMVFVRLTIFVLFKWRVSTALTIVISDGTTRARAMWTMSIAGELWFLMWWL	101
TRIAE_CS42_5AL_TGACv	PEHEKSASVERLLVRTTKLTTVTIKLYRLVVFVRMIFVLFKWRSTALAMISDGTTRVRAMWTMSIAGELWFLMWWL	101

TRIAE_CS42_5BL_TGAcv PKDQKSASVESLLVRTTKLTTVTKLYRIMVFRMAIFVLFKWRISTALAMISDGATTVRAMWMTPIAGELWLFALMWVL 101
TRIAE_CS42_2AS_TGAcv APDLENGGRRPLLFNRRVKNIILYPYRVLLIRVIAVILFVGVWRK-----HNNSDVMWFVWMSVADVWFVSLSWLS 142
TRIAE_CS42_2BS_TGAcv APDLENGGRRPLLFNRRVKNIILYPYRVLLIRVIAVILFVGVWRK-----HNNSDVMWFVWMSVADVWFVSLSWLS 141
TRIAE_CS42_2DS_TGAcv APDLENGGRRPLLFNRRVKNIILYPYRVLLIRVIAVILFVGVWRK-----NNNSDVMWFVWISVADVWFVSLSWLS 134
TRIAE_CS42_2AS_TGAcv AKESGGEDGRPLLFRTYKVKGTLLHPYRALIFIRLIAVLLFFVWRK-----HNKSDVMWFVWMSVVGDFVWFGFSWLL 116
TRIAE_CS42_2DS_TGAcv AKESGGEDGRPLLFRTYKVKGTLLHPYRALIFIRLIAVLLFFVWRK-----HNKSDIMWFVWMSVVGDFVWFGFSWLL 116
TRIAE_CS42_2BS_TGAcv AKESGGEGRRPLLFRTYKVKGTLLHPYRALIFIRLIAVLLFFVWRK-----HNKSDIMWFVWMSVVGDFVWFGFSWLL 120
TRIAE_CS42_2DL_TGAcv GGIMSGDGNRPLLFRTMKVKGSILHPYRFLMLVRLVAIVAVFAFFKWHVE-----HKNQDSVWLWTASMTADPWFVWFGFSWLL 122
TRIAE_CS42_2BL_TGAcv ----- 0
TRIAE_CS42_2AL_TGAcv GG-MSGDGNRPLLFRTMKVKGSILHPYRFLMLVRLVAIVAVFAFFKWRME-----HKNHDGVWLWTVSMTADVWVWFGFSWLL 122
TRIAE_CS42_2DL_TGAcv DGTSAGNGNQPLLFRTMKVKGSILHPYRFLMLVRLVAIVAVFAFFAWRLE-----HRNHGDTWLWATSMVADAWVWFGFSWLL 117
TRIAE_CS42_2BS_TGAcv SGSIAGDGNRTPFLFRTFKVKGSILHPYRFLMLVRLVAIVAVFAFFAWRVK-----HKNHDGVWLWATSMVADVWVWFGFSWLL 127
TRIAE_CS42_2DS_TGAcv SGAIAGDGNRPLFRTFKVKGSILHPYRFLMLVRLVAIVAVFAFFAWRVK-----HKNHDGVWLWATSMVADVWVWFGFSWLL 127
TRIAE_CS42_7AL_TGAcv SGASAG---RPLLFRTMKVKGSILHPYRFLMLVRLVAIVAVFAFFAWRVE-----HRNHGDTWLWATSMVADAWVWFGFSWLL 106
TRIAE_CS42_7DL_TGAcv SGASAG---RPLLFRTMKVKGSILHPYRFLMLVRLVAIVAVFAFFAWRVE-----HRNHGDMWLWATSMVADAWVWFGFSWLL 104
TRIAE_CS42_7BL_TGAcv PEASAG---RPLLFRTMKVKGSILHPYRFLMLVRLVAIVAVFAFFAWRVE-----HRNHGDTWLWATSMVADAWVWFGFSWLL 98
TRIAE_CS42_U_TGAcv1 SGAG-EDGRAPLLYRTFRVKGFLINLYRLLTLVRLVAIVAVFAFFAWRMR-----HRSDAMMLLWVIVSVDGLWVFGVTWLL 115
TRIAE_CS42_1BS_TGAcv SGAGGDDGRAPLLYRTFRVKGFLINLYRLLTLVRLVIVVILFFTWRRM-----HRSDAMMLLWVIVSVDGLWVFGVTWLL 116
TRIAE_CS42_2AS_TGAcv CGGE---DGRPLLYRTFKVGRFLVNTYRFLNLARLTAVIVFAFFAWRVQ-----HPDSAMMLLWVIVSVDGLWVFGVLSWLL 124
TRIAE_CS42_2BS_TGAcv CSGE---DGRPLLYRTFKVGRFLVNTYRFLNLARLTAVIVFAFFAWRVQ-----HPDSAMMLLWVIVSVDGLWVFGVLSWLL 124
TRIAE_CS42_2DS_TGAcv CGGE---DGRPLLYRTFKVGRFLVNTYRFLNLARLTAVIVFAFFAWRVQ-----HPDSAMMLLWVIVSVDGLWVFGVLSWLL 122
TRIAE_CS42_2BS_TGAcv ----- 0
TRIAE_CS42_2DS_TGAcv ----- 0
TRIAE_CS42_2AS_TGAcv IADGGEDGRRPLLYRTFKVKGILLHPYRLLSLRLVAIVLFFVWRVR-----HPYADGMMLLWVIVSVDGLWVFGVTWLL 149
TRIAE_CS42_7AL_TGAcv TDESGVAVDDRPFVFRTEKIKGVLLHPYRVLIFVRLIAFTLFIWIRIS-----HKNPDAMMLLWVIVSVDGLWVFGVLSWLL 153
TRIAE_CS42_7DL_TGAcv ----- 0
TRIAE_CS42_7BL_TGAcv TDESGAAVDDRPFVFRTEKIKGVLLHPYRVLIFVRLIAFTLFIWIRIS-----HKNPDAMMLLWVIVSVDGLWVFGVLSWLL 149

TRIAE_CS42_5DL_TGAcv DQLPKMQPVRRTVYVTALE-----EPLRPTMDVFVTTTDPKEPPLVTVNTILSILAADYPPDKLTCYVSDDGGALL 173
TRIAE_CS42_5AL_TGAcv DQLPKMQPVRRTVYATALE-----ESLPLAMDVFVTTADPEKPPVTVNTILSILAADYPPDKLTCYVSDDGGALL 173
TRIAE_CS42_5BL_TGAcv DQLPKMQPVRRTVFATALE-----EPLRPTMDVFVTTADPEKPPVTVNTILSILAADYPPDKLTCYVSDDGGALL 173
TRIAE_CS42_2AS_TGAcv YQLPKYNPIKMIPLDALTLRKQFDTPGRSSQLPGIDVIVTTASATDEPILYTMNCVLSILAADYHIGRCNCYLSDDSGSLV 222
TRIAE_CS42_2BS_TGAcv YQLPKYNPIKMIPLDALTLRKQFDTPGRSSQLPGIDVIVTTASATDEPILYTMNCVLSILAADYHIGRCNCYLSDDSGSLV 221
TRIAE_CS42_2DS_TGAcv YQLPKYNPIKMIPLDALTLRKQFDTPGRSSQLPGIDVIVTTASATDEPILYTMNCVLSILAADYHIGRCNCYLSDDSGSLV 214
TRIAE_CS42_2AS_TGAcv NQLPKFNPVKTIIPDMVALRRQYDLPDGTSTLPGIDVIVTTADPIDEPILYTMNCVLSILASDYPVDRACACYSDDSGALI 196
TRIAE_CS42_2DS_TGAcv NQLPKFNPVKTIIPDMVALRRQYDLPDGTSTLPGIDVIVTTADPIDEPILYTMNCVLSILASDYPVDRACACYSDDSGALI 196
TRIAE_CS42_2BS_TGAcv NQLPKFNPVKTIIPDMVALRRQYDLPDGTSTLPGIDVIVTTADPIDEPILYTMNCVLSILASDYPVDRACACYSDDSGALI 200
TRIAE_CS42_2DL_TGAcv NQLPKLNPVKRVP---DLADRHD-----DNLPLRQDVFVTTADPIDEPILYTMNCVLSILASDYPVDRACACYSDDSGALI 195
TRIAE_CS42_2BL_TGAcv ----- 0
TRIAE_CS42_2AL_TGAcv NQLPKLNPVKRVPDLAALADRHD-----DNLPLRQDVFVTTADPIDEPILYTMNCVLSILASDYPVDRACACYSDDSGALI 198
TRIAE_CS42_2DL_TGAcv NQLPKLNPVKRVPDLATLADQHG-----DNLPLRQDVFVTTADPIDEPILYTMNCVLSILASDYPVDRACACYSDDSGALI 193
TRIAE_CS42_2BS_TGAcv NQLPKLNPVKRVPDLAALADHSG-----DNLPLRQDVFVTTADPIDEPILYTMNCVLSILASDYPVDRACACYSDDSGALI 203
TRIAE_CS42_2DS_TGAcv NQLPKLNPVKRVPDLAALADHSG-----DNLPLRQDVFVTTADPIDEPILYTMNCVLSILASDYPVDRACACYSDDSGALI 203
TRIAE_CS42_7AL_TGAcv NQLPKLNPVKRVPDLVALADRHG-----DNLPLRQDVFVTTADPIDEPILYTMNCVLSILASDYPVDRACACYSDDSGALI 182
TRIAE_CS42_7DL_TGAcv NQLPKLNPVKRVPDLAALADLHG-----DNLPLRQDVFVTTADPIDEPILYTMNCVLSILASDYPVDRACACYSDDSGALI 180
TRIAE_CS42_7BL_TGAcv NQLPKLNPVKRVPDLAALADRHG-----DNLPLRQDVFVTTADPIDEPILYTMNCVLSILASDYPVDRACACYSDDSGALI 174
TRIAE_CS42_U_TGAcv1 NQITPKLRPRKCVPSISVLRDHLQDQDGGSDLPGLDVFINTVDPVDEPMLYTMNSILSILATDYPVDRACACYSDDSGALI 195
TRIAE_CS42_1BS_TGAcv NQITPKLRPRKCVPSISVLRDHLQDQDGGSDLPGLDVFINTVDPVDEPMLYTMNSILSILATDYPVDRACACYSDDSGALI 196
TRIAE_CS42_2AS_TGAcv NQVPKLNPTICIPITPLLRQQFDLPDGGSNLPLVDVFI STVDPVDEPMLHTMNSILSILATDYPVDRACACYSDDSGALI 204
TRIAE_CS42_2BS_TGAcv NQVPKLNPTICIPITPLLRQQFDLPDGGSNLPLVDVFI STVDPVDEPMLHTMNSILSILATDYPVDRACACYSDDSGALI 204
TRIAE_CS42_2DS_TGAcv NQVPKLNPTICIPITPLLRQQFDLPDGGSNLPLVDVFI STVDPVDEPMLHTMNSILSILATDYPVDRACACYSDDSGALI 202
TRIAE_CS42_2BS_TGAcv -----MIYTMNSIISILAADYPVDRACACYSDDSGALI 33
TRIAE_CS42_2DS_TGAcv -----MIYTMNSIISILAADYPVDRACACYSDDSGALI 33
TRIAE_CS42_2AS_TGAcv NQVAKLNPVKRVPDLTLEQQFDLPDGGSNLPLVDVFI STVDPVDEPMLHTMNSIISILAADYPVDRACACYSDDSGALI 229
TRIAE_CS42_7AL_TGAcv DQLPKLNPINRVPDLAVLRQRFRDPRDGTSTLPLGLDIFVTTADPIKEPILSTANSVLSILAADYPVDRACACYSDDSGALI 233
TRIAE_CS42_7DL_TGAcv ----- 0
TRIAE_CS42_7BL_TGAcv DQLPKLNPINRVPDLAVLRQRFRDPRDGTSTLPLGLDIFVTTADPIKEPILSTANSVLSILAADYPVDRACACYSDDSGALI 229

TRIAE_CS42_5DL_TGAcv TREAVAHAACFARLWVFPFCRKHGVEPRNPEAYFCPGVKARVVSRAADYMGSRWPELARDRRRVRREYEEELRLRIDALHAGD 253
TRIAE_CS42_5AL_TGAcv TREAVAQAARFARLWVFPFCRKHGVEPRNPEAYFCPGVKARVVSRAADYRAKSWPELARDRRRVRREYEEELRLRIDALHAGD 253
TRIAE_CS42_5BL_TGAcv TREAVAHAARFARLWVFPFCRKHGVEPRNPEAYFCPGVKARVVSRAADYMGSRWPELARDRRRVRREYEEELRLRIDALHAGD 253
TRIAE_CS42_2AS_TGAcv LYEALVETAKFAALWVFPFCRKHQIEPRAPESYFELEGT-----LYTGSAPPEEFKNDHNSVYIEYDEFKHELDLSLSAI 295
TRIAE_CS42_2BS_TGAcv LYEALVETAKFAALWVFPFCRKHQIEPRAPESYFELEGT-----LYTGSAPPEEFKNDHNSVYIEYDEFKHELDLSLSAI 294
TRIAE_CS42_2DS_TGAcv LYEALVETAKFAALWVFPFCRKHQIEPRAPESYFELEGP-----LYTGSAPPEEFKNDHNSVYIEYDEFKHELDLSLSAI 287
TRIAE_CS42_2AS_TGAcv QYEALVETAKFATLWVFPFCRKHCIIEPRAPESYFELEAP-----LYTGSAPPEEFKNDHNSVYIEYDEFKHELDLSLSAI 269
TRIAE_CS42_2DS_TGAcv QYEALVETAKFATLWVFPFCRKHCIIEPRAPESYFELEAP-----LYTGSAPPEEFKNDHNSVYIEYDEFKHELDLSLSAI 269
TRIAE_CS42_2BS_TGAcv QYEALVETAKFATLWVFPFCRKHCIIEPRAPESYFELEAP-----LYTGSAPPEEFKNDHNSVYIEYDEFKHELDLSLSAI 273
TRIAE_CS42_2DL_TGAcv HYEAMVQVAFALWVFPFCRKHCVPEPRSPENYFGMKTR-----SYAGGMAGEFMRDHRVRREYEEFKVRIDSLSTTI 268
TRIAE_CS42_2BL_TGAcv ---MVQVAFALWVFPFCRKHCVPEPRSPENYFGMKTR-----SYAGGMAGEFMRDHRVRREYEEFKVRIDSLSTTI 69
TRIAE_CS42_2AL_TGAcv HYEAMVQVAFALWVFPFCRKHCVPEPRSPENYFGMKTR-----SYAGGMAGEFMRDHRVRREYEEFKVRIDSLSTTI 271
TRIAE_CS42_2DL_TGAcv HYEAMVQVAFALWVFPFCRKHCVPEPRSPENYFGMKTR-----SYAGGMAGEFMRDHRVRREYEEFKVRIDSLSTTI 266
TRIAE_CS42_2BS_TGAcv HYEAMVQVAFALWVFPFCRKHCVPEPRSPENYFGMKTR-----SYAGGMAGEFMRDHRVRREYEEFKVRIDSLSTTI 276
TRIAE_CS42_2DS_TGAcv HYEAMVQVAFALWVFPFCRKHCVPEPRSPENYFGMKTR-----SYAGGMAGEFMRDHRVRREYEEFKVRIDSLSTTI 276
TRIAE_CS42_7AL_TGAcv HYEAMVQVAFALWVFPFCRKHCVPEPRSPENYFGMKTR-----SYAGGMAGEFMRDHRVRREYEEFKVRIDSLSTTI 255
TRIAE_CS42_7DL_TGAcv HYEAMVQVAFALWVFPFCRKHCVPEPRSPENYFGMKTR-----SYAGGMAGEFMRDHRVRREYEEFKVRIDSLSTTI 253
TRIAE_CS42_7BL_TGAcv HYEAMVQVAFALWVFPFCRKHCVPEPRSPENYFGMKTR-----SYAGGMAGEFMRDHRVRREYEEFKVRIDSLSTTI 247
TRIAE_CS42_U_TGAcv1 HYEGLQLAAEFAASWVFPFCRKHCVPEPRAPESYFWMKRG-----EYAGSAPKEFLDHRMRRAAYEEFKARLDGLSAAI 269
TRIAE_CS42_1BS_TGAcv HYEGLQLAAEFAASWVFPFCRKHCVPEPRAPESYFWMKRG-----EYAGSAPKEFLDHRMRRAAYEEFKARLDGLSAAI 270
TRIAE_CS42_2AS_TGAcv HYDGLVETAKFAALWVFPFCRKHCVPEPRAPESYFWMKTR-----PYKGNLPEEFLDHRMRRAAYEEFKARLDGLSAAI 277
TRIAE_CS42_2BS_TGAcv HYDGLVETAKFAALWVFPFCRKHCVPEPRAPESYFWMKTR-----PYKGNLPEEFLDHRMRRAAYEEFKARLDGLSAAI 277
TRIAE_CS42_2DS_TGAcv HYDGLVETAKFAALWVFPFCRKHCVPEPRAPESYFWMKTR-----PYKGNLPEEFLDHRMRRAAYEEFKARLDGLSAAI 275

TRIAE_CS42_2BS_TGAcv HYDGLLETAKFAALWVPFCRKHSIEPRAPESYFSLNTR-----PYTGNAPQDFVNDRRHMCREYDEFKERLDALFTLI 106
TRIAE_CS42_2DS_TGAcv HYDGLLETAKFAALWVPFCRKHSIEPRAPESYFSLNTR-----PYTGNAPQDFVNDRRHMCREYDEFKERLDALFTLI 106
TRIAE_CS42_2AS_TGAcv HYDGLLETAKFAALWVPFCRKHSIEPRAPESYFSLNTR-----PYTGNAPQDFVNDRRHMCREYDEFKERLDALFTLI 302
TRIAE_CS42_7AL_TGAcv TYEALAESSKFATLWVPFCRKHGIEPRGPESYFELKSH-----YMGRAQDFVNDRRRVRKEYDEFKARINLSLEHDI 306
TRIAE_CS42_7DL_TGAcv ----- 0
TRIAE_CS42_7BL_TGAcv TYEALAESSKFATLWVPFCRKHGIEPRGPESYFELKSH-----YMGRAQDFVNDRRRVRKEYDEFKARINLSLEHDI 302
TRIAE_CS42_5DL_TGAcv VRPQ-----QWSRGTAEHNHAGVVEVLVGGPPGSTPELG-----VSDLLDLSSV 295
TRIAE_CS42_5AL_TGAcv VRRQ-----QWSRGTAEHNHAGVVEVLVGGPPGSTPELG-----VSDLLDLSSV 295
TRIAE_CS42_5BL_TGAcv VRRQ-----PWSRGTPEYHAGVVEVLVGGPPGSTPELG-----VSDLLDLSSV 295
TRIAE_CS42_2AS_TGAcv RQRSDIYSRTGTK--DEDATVTWMADG-TQWPGTWLDPTEKHRHGHAGIVKIVQSHPEHVPLG-VQESNDNPLNFDV 371
TRIAE_CS42_2BS_TGAcv RQRSDIYSKTGTK--DEDAKVWTMADG-TQWPGTWLDPTEKHRHGHAGIVKIVQSHPEHVPLG-VQESNDNPLNFDV 370
TRIAE_CS42_2DS_TGAcv RQRADIYSKTGTK--DEDAKVWTMADG-TQWPGTWLDPTEKHRHGHAGIVKIVQSHPEHVPLG-VHESNDSSLNFDV 363
TRIAE_CS42_2AS_TGAcv SKRSDAYNSMKTE--EGDANATWMANG-TQWPGSWIDTTEIHRKGHHAGIVKIVLDHSIRGHNLG-SQASTHN-LNFAST 344
TRIAE_CS42_2DS_TGAcv SKRSDAYNSMKTE--EGDAKATWMANG-TQWPGSWIDTTEIHRKGHHAGIVKIVLDHSIRGHNLG-SQASTNN-LNFAST 344
TRIAE_CS42_2BS_TGAcv SKRSDAYNSMKTG--EGDAKATWMANG-TQWPGSWIDTTEIHRKGHHAGIVKIVLDHSIRGHNLG-SQASTHN-LNFAST 348
TRIAE_CS42_2DL_TGAcv RQRS---DAYNS-SNKGVSATWMADG-TQWPGTWVEQAENHRRGQHAGIVQVLLDHPSCPKQLGSSASTD-NPFDNSV 342
TRIAE_CS42_2BL_TGAcv RQRS---DAYNS-SNKGVSATWMADG-TQWPGTWVEQAENHRRGQHAGIVQVLLDHPSCPKQLGSSASTD-NPFDNSV 143
TRIAE_CS42_2AL_TGAcv RQRS---DAYNS-SNKGVSATWMADG-TQWPGTWVEQAENHRRGQHAGIVQVLLDHPSCPEPQLGSSASTD-NPFDNSV 345
TRIAE_CS42_2DL_TGAcv RQRS---DAYNS--NGDGVHATRMADG-TQWPGTWVEQAENHRRGQHAGIVQVILEHPGCKPQLGSSASTD-NPFDNSV 338
TRIAE_CS42_2BS_TGAcv RQRS---DAYNSSTKGDVVRATWMADG-TQWPGTWVEQAENHRRGQHAGIVQVILGHPSCPKQLGSSASTD-NPFDNSV 351
TRIAE_CS42_2DS_TGAcv RQRS---DAYNSSTKGDVVRATWMADG-TQWPGTWVEQAENHRRGQHAGIVQVILGHPSCPKQLGSSASTD-NPFDNSV 351
TRIAE_CS42_7AL_TGAcv RRRS---DAYN--KGDGVHATRMADG-TQWPGTWVEQAENHRRGQHAGIVQVMLDHPSCPKQLGSSASTD-NPFDNSV 328
TRIAE_CS42_7DL_TGAcv RRRS---DAYN--KRDDGVHATRMADG-TQWAGTWIEQADNHRGQHAGIVQVMLDHPSCPKQLGSSASTD-NPFDNSV 326
TRIAE_CS42_7BL_TGAcv RRRS---DAYN--KGDGVHATRMADG-TQWPGTWIEQADNHRGQHAGIVKIVMLDHPSCPKQLGSSASTD-KPVDLSNV 320
TRIAE_CS42_U_TGAcv1 EQRSEACNRANGKDEECANATWMADGSTQWQGTWIKPAKGRKGGHHPAILQVMLDQPSKDPPELGMAASSD-HPLDLSAV 348
TRIAE_CS42_1BS_TGAcv EQRSEACNRANG--KEEGADATWMADGSTQWQGTWIKPAKGRKGGHHPAILQVMLDQPSKDPPELGMAASSD-HPLDLSAV 347
TRIAE_CS42_2AS_TGAcv QORSEAHGREDAK--GGG-GKATWMADG-TQWPGTWIEQAENHRRGQHAGIVQVMSQPSSEPELGEPASSDDPLDLSAV 355
TRIAE_CS42_2BS_TGAcv QORSEAHGREDAK--GGG-GKATWMADG-TQWPGTWIEQAENHRRGQHAGIVQVMSQPSSEPELGEPASSDDPLDLSAV 354
TRIAE_CS42_2DS_TGAcv QORSEAHGREDAK--GGG-GKATWMADG-TQWPGTWIEQAENHRRGQHAGIVQVMSQPSSEPELGEPASSDHSPLDLSAV 352
TRIAE_CS42_2BS_TGAcv PKRSDVYNHAAAK---EGAKATWMADG-TQWPGTWIDPAENHRRGQHAGIVKIVMLKHPSEPELGLGASTN-SPLDLSAV 181
TRIAE_CS42_2BS_TGAcv PKRSDVYNHAAAK---EGAKATWMADG-TQWPGTWIDPAENHRRGQHAGIVKIVMLKHPSEPELGLGASTN-SPLDLSAV 181
TRIAE_CS42_2AS_TGAcv PKRSDVYNHAAAK---EGAKATWMADG-TQWPGTWIDPAENHRRGQHAGIVKIVMLKHPSEPELGLGASTN-SPLDLSAV 377
TRIAE_CS42_7AL_TGAcv QORNDGYNAANAH--REGEPRTWMADG-TQWQGTWVDASENHRGQHAGIVLVLNHPSHRRQTGPPASAD-NPLDLSGV 383
TRIAE_CS42_7DL_TGAcv ----- 0
TRIAE_CS42_7BL_TGAcv QORNDGYNAANAH--REGEPRTWMADG-TQWQGTWVDASENHRGQHAGIVLVLNHPSHRRQTGPPASAD-NPLDLSGV 379
TRIAE_CS42_5DL_TGAcv DVVRPAVVYMCREKRHRVHHRKAGAMNALLRTSAVLSNAPFILLNDCDHYVNSQALRAGVCLMLD-RGGSNVAVFQFP 374
TRIAE_CS42_5AL_TGAcv DVVRPAVVYMCREKRHRVHHRKAGAMNALLRTSAVLSNAPFILLNDCDHYVNSQALRAGVCLMLD-RGGSNVAVFQFP 374
TRIAE_CS42_5BL_TGAcv DVVRPAVVYMCREKRHRVHHRKAGAMNALLRTSAVLSNAPFILLNDCDHYVNSQALRAGVCLMLD-RGGSNVAVFQFP 374
TRIAE_CS42_2AS_TGAcv DMRLPMLVYVAREKSPGVEHNKAGALNAELRISALLSNAPFFINFCDDHYINNSEALRAAICFMLDPRDQNTAFVQFP 451
TRIAE_CS42_2BS_TGAcv DMRLPMLVYVAREKSPGVEHNKAGALNAELRISALLSNAPFFINFCDDHYINNSEALRAAICFMLDPRDQNTAFVQFP 450
TRIAE_CS42_2DS_TGAcv DMRLPMLVYVAREKCPGVEHNKAGALNAELRISALLSNAPFFINFCDDHYINNSEALHAAVCFMLDPRDQNTAFVQFP 443
TRIAE_CS42_2AS_TGAcv DMRLPMLVYISRGKNPSYDNHKKAGALNAELRISALLSNAPFFINFCDDHYINNSEALRAAICFMLDPRDQNTAFVQFP 424
TRIAE_CS42_2DS_TGAcv DVRLPMLVYISRGKNPSYDNHKKAGALNAELRISALLSNAPFFINFCDDHYINNSEALRAAICFMLDPRDQNTAFVQFP 424
TRIAE_CS42_2BS_TGAcv DVRLPMLVYISRGKNPSYDNHKKAGALNAELRISALLSNAPFFINFCDDHYINNSEALRAAICFMLDPRDQNTAFVQFP 428
TRIAE_CS42_2DL_TGAcv DVRLPMLVYISREKRPGYDNQKKAGAMNMLRVSALLSNAPFFINFCDDHYINNSEALRAAICFMLDPRDQNTAFVQFP 422
TRIAE_CS42_2BL_TGAcv DTRLPMLVYISREKRPGYDNQKKAGAMNMLRVSALLSNAPFFINFCDDHYINNSEALRAAICFMLDPRDQNTAFVQFP 223
TRIAE_CS42_2AL_TGAcv DTRLPMLVYISREKRPGYDNQKKAGAMNMLRVSALLSNAPFFINFCDDHYINNSEALRAAICFMLDPRDQNTAFVQFP 425
TRIAE_CS42_2DL_TGAcv DTRLPMLVYISREKRPGYDNQKKAGAMNMLRVSALLSNAPFFINFCDDHYINNSEALRAAICFMLDPRDQNTAFVQFP 418
TRIAE_CS42_2BS_TGAcv DTRLPMLVYMSREKRPGYDNQKKAGAMNMLRVSALLSNAPFFINFCDDHYINNSEALRAAICFMLDPRDQNTAFVQFP 431
TRIAE_CS42_2DS_TGAcv DTRLPMLVYMSREKRPGYDNQKKAGAMNMLRVSALLSNAPFFINFCDDHYINNSEALRAAICFMLDPRDQNTAFVQFP 431
TRIAE_CS42_7AL_TGAcv DTRLPMLVYISREKHPGYDNQKKAGAMNMLRVSALLSNAPFFINFCDDHYINNSEALRAAICFMLDPRDQNTAFVQFP 408
TRIAE_CS42_7DL_TGAcv DTRLPMLVYISREKHPGYDNQKKAGAMNMLRVSALLSNAPFFINFCDDHYINNSEALRAAICFMLDPRDQNTAFVQFP 406
TRIAE_CS42_7BL_TGAcv DTRLPMLVYISREKRPGYDNQKKAGAMNMLRVSALLSNAPFFINFCDDHYINNSEALRAAICFMLDPRDQNTAFVQFP 400
TRIAE_CS42_U_TGAcv1 DARLPMLVYIAREKRPGYDHQKKAGALNVQLRVSALLSNAPFFINFCDDHYVNSQAFRAAICFMLDPRDQNTAFVQFP 428
TRIAE_CS42_1BS_TGAcv DARLPMLVYIAREKRPGYDHQKKAGALNVQLRVSALLSNAPFFINFCDDHYVNSQAFRAAICFMLDPRDQNTAFVQFP 427
TRIAE_CS42_2AS_TGAcv DVRLPMLVYVAREKRPGYDHQKKAGALNVQLRVSALLSNAPFFINFCDDHYVNSQAFRAAICFMMDRRDGDNVAVFQFP 435
TRIAE_CS42_2BS_TGAcv DVRLPMLVYVAREKRPGYDHQKKAGALNVQLRVSALLSNAPFFINFCDDHYVNSQAFRAAICFMMDRRDGDNVAVFQFP 434
TRIAE_CS42_2DS_TGAcv DVRLPMLVYVAREKRPGYDHQKKAGALNVQLRVSALLSNAPFFINFCDDHYVNSQAFRAAICFMMDRRDGDNVAVFQFP 432
TRIAE_CS42_2BS_TGAcv DVRLPMLVYISREKSPSCDHQKKAGAMNMLRVSALLSNAPFFINFCDDHYVNSKAFRAGICFMLDRREGDNTAFVQFP 261
TRIAE_CS42_2DS_TGAcv DVRLPMLVYISREKSPSCDHQKKAGAMNMLRVSALLSNAPFFINFCDDHYVNSKAFRAGICFMLDRREGDNTAFVQFP 261
TRIAE_CS42_2AS_TGAcv DVRLPMLVYISREKSPSCDHQKKAGAMNMLRVSALLSNAPFFINFCDDHYVNSKAFRAGICFMLDRREGDNTAFVQFP 457
TRIAE_CS42_7AL_TGAcv DVRLPMLVYVXXXXX-----XXXXXX-XXXXXXXXXXXX 416
TRIAE_CS42_7DL_TGAcv -----MVG-RDSDTAVFVQFP 15
TRIAE_CS42_7BL_TGAcv DARLPMLVYVAREKRPGYDHQKKAGAMNMLRVSALLSNAPFFINFCDDHYVNSQALRAGICFMMVG-RDSDTAVFVQFP 458
TRIAE_CS42_5DL_TGAcv QRFDDVDPADRYANHNRFVDTTELGLDGLQGTIVYGTGCMFRRALYIADPPLWRPHGGDRDAGK----- 440
TRIAE_CS42_5AL_TGAcv QRFDDVDPADRYANHNRFVDTTELGLDGLQGTIVYGTGCMFRRALYIADPPLWRPHG-DRDAGK----- 439
TRIAE_CS42_5BL_TGAcv QRFDDVDPADRYANHNRFVDTTELGLDGLQGTIVYGTGCMFRRALYIADPPLWRPHGGDRDAGK----- 440
TRIAE_CS42_2AS_TGAcv QRFDDVDPDRYGNHNRFVDTAMYGILNGOQGTIVYGTGCMFRRALYIADPPLWRPHGGDRDAGK----- 516
TRIAE_CS42_2BS_TGAcv QRFDDVDPDRYGNHNRFVDTAMYGILNGOQGTIVYGTGCMFRRALYIADPPLWRPHGGDRDAGK----- 515
TRIAE_CS42_2DS_TGAcv QRFDDVDPDRYGNHNRFVDTAMYGILNGOQGTIVYGTGCMFRRALYIADPPLWRPHGGDRDAGK----- 508
TRIAE_CS42_2AS_TGAcv QRFDDVDPDRYGNHNRFVDTMLALNGLQGTIVYGTGCMFRRALYIADPPEWRHANIIVDDK----- 489
TRIAE_CS42_2DS_TGAcv QRFDDVDPDRYGNHNRFVDTMLALNGLQGTIVYGTGCMFRRALYIADPPEWRHANIIVDDK----- 489
TRIAE_CS42_2BS_TGAcv QRFDDVDPDRYGNHNRFVDTMLALNGLQGTIVYGTGCMFRRALYIADPPEWRHANIIVDDK----- 493
TRIAE_CS42_2DL_TGAcv QRFDDVDPDRYANHNRFVDTMLALNGLQGTIVYGTGCMFRRALYIADPPEWRHANIIVDDK----- 487
TRIAE_CS42_2BL_TGAcv QRFDDVDPDRYANHNRFVDTMLALNGLQGTIVYGTGCMFRRALYIADPPEWRHANIIVDDK----- 288
TRIAE_CS42_2AL_TGAcv QRFDDVDPDRYANHNRFVDTMLALNGLQGTIVYGTGCMFRRALYIADPPEWRHANIIVDDK----- 490
TRIAE_CS42_2DL_TGAcv QRFDDVDPDRYANHNRFVDTMLALNGLQGTIVYGTGCMFRRALYIADPPEWRHANIIVDDK----- 483
TRIAE_CS42_2BS_TGAcv QRFDDVDPDRYANHNRFVDTMLALNGLQGTIVYGTGCMFRRALYIADPPEWRHANIIVDDK----- 496

TRIAE_CS42_2DS_TGAcv QRFDDVDPTDRYANHNRFVFDSTMLSLNGLQGFVYLGFGTMFRRWALYGMSEPPRYRAENIKLAGK----- 496
TRIAE_CS42_7AL_TGAcv QRFDDVDPTDRYSNHNRFVFDSTMLSLNGLQGFVYLGFGTMFRRWALYGMSEPPRYKAENIKLVGK----- 473
TRIAE_CS42_7DL_TGAcv QRFDDVDPTDRYSNHNRFVFDSTMLSLNGLQGFVYLGFGTMFRRWALYGMSEPPRYRAENIKLVGK----- 471
TRIAE_CS42_7BL_TGAcv QRFDDVDPTDRYSNHNRFVFDSTMLSLNGLQGFVYLGFGTMFRRWALYGMSEPPRYRAENIKLVGK----- 465
TRIAE_CS42_U_TGAcv1 QRFDDVDPTDRYCNHNRFVFDATLLGLNGLIQGFSVVGTCMFRRWALYSADEPRWRPDDAKEAKAS----- 494
TRIAE_CS42_1BS_TGAcv QRFDDVDPTDRYCNHNRFVFDATLLGLNGLIQGFSVVGTCMFRRWALYSADEPRWRPDDAKEAKAS----- 493
TRIAE_CS42_2AS_TGAcv QRFDDVDPTDRYANHNRFVFDATMLGMNGIQGFSVVGTCMFRRWALYGADEPRWRPDDVKVLEN----- 500
TRIAE_CS42_2BS_TGAcv QRFDDVDPTDRYANHNRFVFDATMLGMNGIQGFSVVGTCMFRRWALYGADEPRWRPDDVKVLEN----- 499
TRIAE_CS42_2DS_TGAcv QRFDDVDPTDRYANHNRFVFDATMLGMNGIQGFSVVGTCMFRRWALYGADEPRWRPDDVKVLEN----- 497
TRIAE_CS42_2BS_TGAcv QRFDDVDPTDRYCNHNRFVFDATLLGLNGLIQGFSVVGTCMFRRWALYGVDEPRWRPDDVKIVDS----- 326
TRIAE_CS42_2DS_TGAcv QRFDDVDPTDRYCNHNRFVFDATLLGLNGLIQGFSVVGTCMFRRWALYGVDEPRWRPDDVKIVDS----- 326
TRIAE_CS42_2AS_TGAcv QRFDDVDPTDRYCNHNRFVFDATLLGLNGLIQGFSVVGTCMFRRWALYGVDEPRWRPDDVKIVDS----- 522
TRIAE_CS42_7DL_TGAcv XXXXXXXXXXXXXVYANHNRFVFDSTRALDGMQGFVYVGTGCLFRRITVYGFDEPRINVGGPCFPRLAGLFAKTKYEKPGLE 496
TRIAE_CS42_7DL_TGAcv QRFEGVPTDLYANHNRFVFDSTRALDGMQGFVYVGTGCLFRRITVYGFDEPRINVGGPCFPRLAGLFAKTKYEKPGLE 95
TRIAE_CS42_7BL_TGAcv QRFEGVPTDLYANHNRFVFDSTRALDGMQGFVYVGTGCLFRRITVYGFDEPRINVGGPCFPRLAGLFAKTKYEKPSLE 538

TRIAE_CS42_5DL_TGAcv -----DVATEADKFGISITPFLGSRVALLGLNRSEQWNTTTPRPSFDGAAVGEATALVSCGYEDRTA 502
TRIAE_CS42_5AL_TGAcv -----DVAAEADKFGISITPFLGSRVALLNLNQSEQWNTTS-PPRPSFDGAAVGEATALVSCGYEDRTA 500
TRIAE_CS42_5BL_TGAcv -----DVATEADKFGISITPFLVSVRAALNLNRSEQWNTTS-PPRPSFDGAAVGEATALVSCGYEDRTA 501
TRIAE_CS42_2AS_TGAcv -----RFGNSLFLNLSVLAALIKQEEG-----VTLQPLDDSFLEEMTKVYVSSSYDSDSD 565
TRIAE_CS42_2BS_TGAcv -----RFGNSLFLNLSVLAALIKQEEG-----VTLPPPLDDSFLEEMTKVYVSSSYDSDSD 564
TRIAE_CS42_2DS_TGAcv -----RFGNSLFLNLSVLAALIKQEEG-----VTLPTLDDSFLEEMTKVYVSSSYDSDSD 557
TRIAE_CS42_2AS_TGAcv -----RFGSSITPFLNLSVSKAINQER-----STIPPISETLVAMERVVSASHDKATG 537
TRIAE_CS42_2DS_TGAcv -----RFGSSITPFLNLSVSKAINQER-----STIPPISETLVAMERVVSASHDKATG 537
TRIAE_CS42_2BS_TGAcv -----RFGSSITPFLNLSVSKAINQER-----STIPPISETLVAMERVVSASHDKATG 541
TRIAE_CS42_2DL_TGAcv -----TGEFGYSTSFINSVPDAAIQDR-----SITPVLVDEHLRKLATLMTCAYEDGSS 537
TRIAE_CS42_2BL_TGAcv -----TGEFGYSTSFINSVPDAAIQDR-----SITPVLVDERLSKDLATLMTCAYEDGSS 338
TRIAE_CS42_2AL_TGAcv -----AGEFGYSTSFINSVPDAAIQDR-----SITPVLVDEGLRKLATLMTCAYEDGSS 540
TRIAE_CS42_2DL_TGAcv -----AHEFGYSTSFINSMPDCAIQER-----SITPVLVDEGLINDLATLMTCAYEDGSS 533
TRIAE_CS42_2BS_TGAcv -----VNEFGYSTSFINSMPDCAIQER-----SITPVLVDEALSNDLATLMTCAYEDGSS 546
TRIAE_CS42_2DS_TGAcv -----VNEFGYSTSFINSMPDCAIQER-----SITPVLVDEALSNDLATLMTCAYEDGSS 546
TRIAE_CS42_7AL_TGAcv -----AAELGNSITPFLNLSIPDCAIQER-----SITPVLVDEALTSDLATLMTCAYEDRTS 523
TRIAE_CS42_7DL_TGAcv -----AAELGNSITPFLNLSIPDCAIQER-----SITPVLVDEGLSNDIATLMTCTYEDGSS 521
TRIAE_CS42_7BL_TGAcv -----GAELGKSTPFLNLSIPDCAIQDR-----SITPVSVDEGLMSDLATLMTCAYEDRTS 515
TRIAE_CS42_U_TGAcv1 -----RYRPNMFGKSTSFINSMPAAANQERS-----VPSPATVGE---ABLADAMTCAYEDGTE 545
TRIAE_CS42_1BS_TGAcv -----RYRPNMFGKSTSFINSVPAAANQERS-----VPSPATVGE---ABLADAMTCAYEDGTE 544
TRIAE_CS42_2AS_TGAcv -----PNKFGKSTMTFINSIPVAANQERS-----VMSPVSLDEPATTELADVMTCAYEDGTE 551
TRIAE_CS42_2BS_TGAcv -----PNKFGKSTMTFINSIPVAANQERS-----VMSPVSLDEPATTELADVMTCAYEDGTE 550
TRIAE_CS42_2DS_TGAcv -----PNKFGKSTMTFINSIPVAANQERS-----VMSPVSLDEPATTELADVMTCAYEDGTE 548
TRIAE_CS42_2BS_TGAcv -----STKFGSSASTFISILPAAADQERS-----IMSPPALEEPVMAADLAHVMTCAYEDGTE 377
TRIAE_CS42_2DS_TGAcv -----STKFGSSASTFISILPAAADQERS-----IMSPPALEESVMAADLAHVMTCAYEDGTE 377
TRIAE_CS42_2AS_TGAcv -----STKFGSSASTFISILPAAADQERS-----IMSPPALEEPVMAADLAHVMTCAYEDGTE 573
TRIAE_CS42_7AL_TGAcv MTMAKAKAAPVPAKGKHGFLPLPKKTYGKSDAFVDSIPRASHSPY----AAAAEGIVADEATIVEAVNVTAFAFEKKTG 522
TRIAE_CS42_7DL_TGAcv MTMAKAKAAPVPAKGKHGFLPLPKKTYGKSDAFVDSIPRASHSPY----AAAAEGIVADEATIVEAVNVTAFAFEKKTG 171
TRIAE_CS42_7BL_TGAcv MTMAKAKAAPVPAKGKHGFLPLPKKTYGKSDAFVDSIPRASHSPY----AAAAEGIVADEATIVEAVNVTAFAFEKKTG 614

TRIAE_CS42_5DL_TGAcv WGRDVGWYIYGTATEDVATGFCMHRGWRSMACATAPDAFRGTAPINLTERLYOVLRWVWAGSLEIFFSRNNALLAGARLHP 582
TRIAE_CS42_5AL_TGAcv WGRDVGWYIYGTATEDVATGFCMHRGWRSMACATAPDAFRGTAPINLTERLYOVLRWVWAGSLEIFFSRNNALLAGARLHP 580
TRIAE_CS42_5BL_TGAcv WGRDVGWYIYGTATEDVATGFCMHRGWRSMACATAPDAFRGTAPINLTERLYOVLRWVWAGSLEIFFSRNNALLAGARLHP 581
TRIAE_CS42_2AS_TGAcv WGRGIGYLYNMATEDVATGFERIHGCGWRSMYATMERDAFRGTAPINLTERLYOVLRWVWAGSLEIFFSRNNALLAGARLHP 645
TRIAE_CS42_2BS_TGAcv WGRGIGYLYNMATEDVATGFERIHGCGWRSMYATMERDAFRGTAPINLTERLYOVLRWVWAGSLEIFFSHISPLFAGRRLSL 644
TRIAE_CS42_2DS_TGAcv WGRGIGYLYNMATEDVATGFERIHGCGWRSMYATMERDAFRGTAPINLTERLYOVLRWVWAGSLEIFFSHISPLFAGRRLSL 637
TRIAE_CS42_2AS_TGAcv WKGKVGYYDYDIATEDVATGFERIHGCGWRSMYCTMERDAFCGHTAPINLTERLYOVLRWVWAGSLEIFFSLLNPLIGGRRIQS 617
TRIAE_CS42_2DS_TGAcv WKGKVGYYDYDIATEDVATGFERIHGCGWRSMYCTMERDAFCGHTAPINLTERLYOVLRWVWAGSLEIFFSLLNPLIGGRRIQS 617
TRIAE_CS42_2BS_TGAcv WKGKVGYYDYDIATEDVATGFERIHGCGWRSMYCTMERDAFCGHTAPINLTERLYOVLRWVWAGSLEIFFSLLNPLIGGRRIQS 621
TRIAE_CS42_2DL_TGAcv WGRDVGWYNIATEDVATGFERIHGCGWRSMYCSMEPAFRGTAPINLTERLYOVLRWVWAGSLEVFFSHSNALIASRRLHP 617
TRIAE_CS42_2BL_TGAcv WGRDVGWYNIATEDVATGFERIHGCGWRSMYCSMEPAFRGTAPINLTERLYOVLRWVWAGSLEVFFSHSNALIASRRLHP 418
TRIAE_CS42_2AL_TGAcv WGRDVGWYNIATEDVATGFERIHGCGWRSMYCSMEPAFRGTAPINLTERLYOVLRWVWAGSLEVFFSHSNALIASRRLHL 620
TRIAE_CS42_2DL_TGAcv WGRDVGWYNIATEDVATGFERIHGCGWRSMYCSMEPAFRGTAPINLTERLYOVLRWVWAGSLEVFFSHSNALIASRRLHP 613
TRIAE_CS42_2BS_TGAcv WGRDVGWYNIATEDVATGFERMHRGWRSMYCSMEPAFRGTAPINLTERLYOVLRWVWAGSLEMFSSHSNALMAGRRLHP 626
TRIAE_CS42_2DS_TGAcv WGRDVGWYNIATEDVATGFERMHRGWRSMYCSMEPAFRGTAPINLTERLYOVLRWVWAGSLEMFSSHSNALMAGRRLHP 626
TRIAE_CS42_7AL_TGAcv WGRDVGWYNIATEDVATGFERIHGCGWRSMYCSMEPAFRGTAPINLTERLYOVLRWVWAGSLEAFFSHSNALIASRRLHP 603
TRIAE_CS42_7DL_TGAcv WGRDVGWYNIATEDVATGFERIHGCGWRSMYCSMEPAFRGTAPINLTERLYOVLRWVWAGSLEVFFSHSNALIASRRLN 601
TRIAE_CS42_7BL_TGAcv WGRDVGWYNIATEDVATGFERIHGCGWRSMYCSMEPAFRGTAPINLTERLYOVLGG----- 572
TRIAE_CS42_U_TGAcv WGRDVGWYNIATEDVATGFERLHRTGWRSMYCSMEPAFRGTAPINLTERLYOVLRWVWAGSLEMFSSRFPCLLAGRRLHP 625
TRIAE_CS42_1BS_TGAcv WGRDVGWYNIATEDVATGFERLHRTGWRSMYCSMEPAFRGTAPINLTERLYOVLRWVWAGSLEMFSSRFPCLLAGRRLHP 624
TRIAE_CS42_2AS_TGAcv WGDGVGWYDMATEDVATGFERLHRTGWRSMYCSMEPAFRGTAPINLTERLYOVLRWVWAGSLEVFFSSRFPCLLAGRRLHP 631
TRIAE_CS42_2BS_TGAcv WGDGVGWYDMATEDVATGFERLHRTGWRSMYCSMEPAFRGTAPINLTERLYOVLRWVWAGSLEVFFSSRFPCLLAGRRLHP 630
TRIAE_CS42_2DS_TGAcv WGDGVGWYDMATEDVATGFERLHRTGWRSMYCSMEPAFRGTAPINLTERLYOVLRWVWAGSLEVFFSSRFPCLLAGRRLHP 628
TRIAE_CS42_2BS_TGAcv WGREVGWYNIATEDVATGFERLHRTGWRSMYCSMEPAFRGTAPINLTERLYOVLRWVWAGSLEMFSSRFPCLLAGRRLHP 457
TRIAE_CS42_2DS_TGAcv WGREVGWYNIATEDVATGFERLHRTGWRSMYCSMEPAFRGTAPINLTERLYOVLRWVWAGSLEMFSSRFPCLLAGRRLHP 457
TRIAE_CS42_2AS_TGAcv WGREVGWYNIATEDVATGFERLHRTGWRSMYCSMEPAFRGTAPINLTERLYOVLRWVWAGSLEMFSSRFPCLLAGRRLHP 653
TRIAE_CS42_7AL_TGAcv WKEHVGWYDVTATEDVATGFERMHRGWRSMYCSYIPHAFIGTAPINLTERLYOVLRWVWAGSLEIFFSKNNPLFGSTYLHP 652
TRIAE_CS42_7DL_TGAcv WKEHVGWYDVTATEDVATGFERMHRGWRSMYCSYIPHAFIGTAPINLTERLYOVLRWVWAGSLEIFFSKNNPLFGSTYLHP 251
TRIAE_CS42_7BL_TGAcv WKEHVGWYDVTATEDVATGFERMHRGWRSMYCSYIPHAFIGTAPINLTERLYOVLRWVWAGSLEIFFSKNNPLFGSTYLHP 694

TRIAE_CS42_5DL_TGAcv LQRLAYLNTTVYPPTSIFLLLYCLLPAIPLVTRASASAFSVNTMPPSGTYMGFVAALMLTLAMVAVLEVRWSGITLGEWW 662
TRIAE_CS42_5AL_TGAcv LQRLAYLNTTVYPPTSIFLLLYCLLPAIPLVTRASTASAFSVNTMPPSATYIGFVAALMLTLAMVAVLEVRWSGITLGEWW 660
TRIAE_CS42_5BL_TGAcv LQRLAYLNTTVYPPTSIFLLLYCLLPAIPLVTRASASTASAFSVNTMPPSATYIGFVAALMLTLAMVAVLEVRWSGITLGEWW 661
TRIAE_CS42_2AS_TGAcv VQRLSYINFTIYPLTSLFILMYAFCPVMWLLP-----TEILVQRPYTRYIVYLIIVIAMIHVGMFIMWAGITWLDWW 719
TRIAE_CS42_2BS_TGAcv VQRLSYINFTIYPLTSLFILMYAFCPVMWLLP-----TEILVQRPYTRYIVYLIIVIAMIHVGMFIMWAGITWLDWW 718

TRIAE_CS42_2DS_TGACv VQRLSYINFTIYPLTSLFILMYAFCPVMWLLP-----TEILVQRPYTRYIVYLIIVIVMHIHVIGMFEIMWAGITWLDWW 711
TRIAE_CS42_2AS_TGACv LQRVSYLNMTVYPVTSFLFILLYALSPVMWLLIP-----DEVYIQRPFYKYVVFLLVILMIHVIGWLEIKWAGVWTLDDY 691
TRIAE_CS42_2DS_TGACv LQRVSYLNMTVYPVTSFLFILLYALSPVMWLLIP-----DEVYIQRPFYKYVVFLLVILMIHVIGWLEIKWAGVWTLDDY 691
TRIAE_CS42_2BS_TGACv LQRVSYLNMTVYPVTSFLFILLYALSPVMWLLIP-----DEVYIQRPFYKYVVFLLVILMIHVIGWLEIKWAGVWTLDDY 695
TRIAE_CS42_2DL_TGACv LQRIAYLNMTSTHPIVTVFILSYNFFPVMWLF-----EQLYIQRPFYKYVVFLLVILMIHVIGWLEIKWAGVWTLDDY 691
TRIAE_CS42_2BL_TGACv LQRIAYLNMTSTHPIVTVFILSYNFFPVMWLF-----EQLYIQRPFYKYVVFLLVILMIHVIGWLEIKWAGVWTLDDY 492
TRIAE_CS42_2AL_TGACv LQRIAYLNMTSTHPIVTVFILSYNFFPVMWLF-----EQLYIQRPFYKYVVFLLVILMIHVIGWLEIKWAGVWTLDDY 694
TRIAE_CS42_2DL_TGACv LQRIAYLNMTSTHPIVTVFILSYNFFPVMWLF-----EQLYIQRPFYKYVVFLLVILMIHVIGWLEIKWAGVWTLDDY 687
TRIAE_CS42_2BS_TGACv LQRIAYLNMTSTHPIVTVFILSYNFFPVMWLF-----EQLYIQRPFYKYVVFLLVILMIHVIGWLEIKWAGVWTLDDY 693
TRIAE_CS42_2DS_TGACv LQRIAYLNMTSTHPIVTVFILSYNFFPVMWLF-----EQLYIQRPFYKYVVFLLVILMIHVIGWLEIKWAGVWTLDDY 700
TRIAE_CS42_7AL_TGACv LQRIAYLNMTSTHPIVTVFILSYNFFPVMWLF-----EQLYIQRPFYKYVVFLLVILMIHVIGWLEIKWAGVWTLDDY 678
TRIAE_CS42_7DL_TGACv LQRIAYLNMTSTHPIVTVFILSYNFFPVMWLF-----EQLYIQRPFYKYVVFLLVILMIHVIGWLEIKWAGVWTLDDY 676
TRIAE_CS42_7BL_TGACv LQRIAYLNMTSTHPIVTVFILSYNFFPVMWLF-----EQLYIQRPFYKYVVFLLVILMIHVIGWLEIKWAGVWTLDDY 572
TRIAE_CS42_U_TGACv1 MQRVAYINMTTYPVSTFFICMYIYLPVMWLFQ-----GEFYIQRPFYKYVVFLLVILMIHVIGWLEIKWAGVWTLDDY 699
TRIAE_CS42_1BS_TGACv MQRVAYINMTTYPVSTFFICMYIYLPVMWLFQ-----GEFYIQRPFYKYVVFLLVILMIHVIGWLEIKWAGVWTLDDY 698
TRIAE_CS42_2AS_TGACv MQRVAYINMTTYPVSTFFICMYIYLPVMWLFQ-----GEFYIQRPFYKYVVFLLVILMIHVIGWLEIKWAGVWTLDDY 705
TRIAE_CS42_2BS_TGACv MQRVAYINMTTYPVSTFFICMYIYLPVMWLFQ-----GEFYIQRPFYKYVVFLLVILMIHVIGWLEIKWAGVWTLDDY 704
TRIAE_CS42_2DS_TGACv MQRVAYINMTTYPVSTFFICMYIYLPVMWLFQ-----GEFYIQRPFYKYVVFLLVILMIHVIGWLEIKWAGVWTLDDY 702
TRIAE_CS42_2BS_TGACv MQRVAYINMTTYPVSTFFICMYIYLPVMWLFQ-----GEFYIQRPFYKYVVFLLVILMIHVIGWLEIKWAGVWTLDDY 531
TRIAE_CS42_2DS_TGACv MQRVAYINMTTYPVSTFFICMYIYLPVMWLFQ-----GEFYIQRPFYKYVVFLLVILMIHVIGWLEIKWAGVWTLDDY 531
TRIAE_CS42_2AS_TGACv MQRVAYINMTTYPVSTFFICMYIYLPVMWLFQ-----GEFYIQRPFYKYVVFLLVILMIHVIGWLEIKWAGVWTLDDY 727
TRIAE_CS42_7AL_TGACv LQRVAYINITTYPTAIFLIFYTTPALSFTVG-----HFIVQRPTMFMVYVYLGIVLSTLLVIAVLEVKWAGVTFEWF 726
TRIAE_CS42_7DL_TGACv LQRVAYINITTYPTAIFLIFYTTPALSFTVG-----HFIVQRPTMFMVYVYLGIVLSTLLVIAVLEVKWAGVTFEWF 325
TRIAE_CS42_7BL_TGACv LQRVAYINITTYPTAIFLIFYTTPALSFTVG-----HFIVQRPTMFMVYVYLGIVLSTLLVIAVLEVKWAGVTFEWF 768

TRIAE_CS42_5DL_TGACv RNEQFWMVSATSAYAAAVVQVALKVSAGKEIAFKLTSKQRAS-SPGGGVKERFAELYAVRWTVLMVPTAVVLAVNVMSMA 741
TRIAE_CS42_5AL_TGACv RNEQFWMVSATSAYAAAVVQVALKVAAGKEIAFKLTSKHRASNSGGGVVDRFAELYAVRWTVLMVPTAVVLAVNVMSMA 740
TRIAE_CS42_5BL_TGACv RNEQFWMVSATSAYAAAVVQVALKVAAGKEIAFKLTSKQRASAGGGVVKRQVGVAREMDGADGSDGGGADGERGVHG 741
TRIAE_CS42_2AS_TGACv RNEQFFMIGSVTAYPTAVLHMVNNLLTKKGIHFRVTTKQPVADTDDK-----YAEMYEVHVVPMMPAVVLFNSILAIG 794
TRIAE_CS42_2BS_TGACv RNEQFFMIGSVTAYPTAVLHMVNNLLTKKGIHFRVTTKQPVADTDDK-----YAEMYEVHVVPMMPAVVLFNSILAIG 793
TRIAE_CS42_2DS_TGACv RNEQFFMIGSVTAYPTAVLHMVNNLLTKKGIHFRVTTKQPVADTDDK-----YAEMYEVHVVPMMPAVVLFNSILAIG 786
TRIAE_CS42_2AS_TGACv RNEQFFMIGSVTAYPTAVLHMVNNLLTKKGIHFRVTTKQPVADTDDK-----YAEMYEVHVVPMMPAVVLFNSILAIG 766
TRIAE_CS42_2DS_TGACv RNEQFFMIGSVTAYPTAVLHMVNNLLTKKGIHFRVTTKQPVADTDDK-----YAEMYEVHVVPMMPAVVLFNSILAIG 766
TRIAE_CS42_2BS_TGACv RNEQFFMIGSVTAYPTAVLHMVNNLLTKKGIHFRVTTKQPVADTDDK-----YAEMYEVHVVPMMPAVVLFNSILAIG 770
TRIAE_CS42_2DL_TGACv RNEQFFMIGSVTAYPTAVLHMVNNLLTKKGIHFRVTTKQPVADTDDK-----YAEMYEVHVVPMMPAVVLFNSILAIG 766
TRIAE_CS42_2BL_TGACv RNEQFFMIGSVTAYPTAVLHMVNNLLTKKGIHFRVTTKQPVADTDDK-----YAEMYEVHVVPMMPAVVLFNSILAIG 567
TRIAE_CS42_2AL_TGACv RNEQFFMIGSVTAYPTAVLHMVNNLLTKKGIHFRVTTKQPVADTDDK-----YAEMYEVHVVPMMPAVVLFNSILAIG 769
TRIAE_CS42_2DL_TGACv RNEQFFMIGSVTAYPTAVLHMVNNLLTKKGIHFRVTTKQPVADTDDK-----YAEMYEVHVVPMMPAVVLFNSILAIG 762
TRIAE_CS42_2BS_TGACv RNEQFFMIGSVTAYPTAVLHMVNNLLTKKGIHFRVTTKQPVADTDDK-----YAEMYEVHVVPMMPAVVLFNSILAIG 754
TRIAE_CS42_2DS_TGACv RNEQFFMIGSVTAYPTAVLHMVNNLLTKKGIHFRVTTKQPVADTDDK-----YAEMYEVHVVPMMPAVVLFNSILAIG 753
TRIAE_CS42_7AL_TGACv RNEQFFMIGSVTAYPTAVLHMVNNLLTKKGIHFRVTTKQPVADTDDK-----YAEMYEVHVVPMMPAVVLFNSILAIG 753
TRIAE_CS42_7DL_TGACv RNEQFFMIGSVTAYPTAVLHMVNNLLTKKGIHFRVTTKQPVADTDDK-----YAEMYEVHVVPMMPAVVLFNSILAIG 751
TRIAE_CS42_7BL_TGACv RNEQFFMIGSVTAYPTAVLHMVNNLLTKKGIHFRVTTKQPVADTDDK-----YAEMYEVHVVPMMPAVVLFNSILAIG 614
TRIAE_CS42_U_TGACv1 RNEQFYIIIGTGVYPMAMHLIILRLSLGKIGVYFRLTSKQTEACSRDK-----FADLYDMRWVPMPLIPTTVLIANVGAIG 774
TRIAE_CS42_1BS_TGACv RNEQFYIIIGTGVYPMAMHLIILRLSLGKIGVYFRLTSKQTEACSRDK-----FADLYDMRWVPMPLIPTTVLIANVGAIG 773
TRIAE_CS42_2AS_TGACv RNEQFYIIIGTGVYPMAMHLIILRLSLGKIGVYFRLTSKQTEACSRDK-----FADLYDMRWVPMPLIPTTVLIANVGAIG 780
TRIAE_CS42_2AS_TGACv RNEQFYIIIGTGVYPMAMHLIILRLSLGKIGVYFRLTSKQTEACSRDK-----FADLYDMRWVPMPLIPTTVLIANVGAIG 779
TRIAE_CS42_2DS_TGACv RNEQFYIIIGTGVYPMAMHLIILRLSLGKIGVYFRLTSKQTEACSRDK-----FADLYDMRWVPMPLIPTTVLIANVGAIG 777
TRIAE_CS42_2BS_TGACv RNEQFYIIIGTGVYPMAMHLIILRLSLGKIGVYFRLTSKQTEACSRDK-----FADLYDMRWVPMPLIPTTVLIANVGAIG 606
TRIAE_CS42_2DS_TGACv RNEQFYIIIGTGVYPMAMHLIILRLSLGKIGVYFRLTSKQTEACSRDK-----FADLYDMRWVPMPLIPTTVLIANVGAIG 606
TRIAE_CS42_2AS_TGACv RNEQFYIIIGTGVYPMAMHLIILRLSLGKIGVYFRLTSKQTEACSRDK-----FADLYDMRWVPMPLIPTTVLIANVGAIG 802
TRIAE_CS42_7AL_TGACv RNEQFYIIIGTGVYPMAMHLIILRLSLGKIGVYFRLTSKQTEACSRDK-----FADLYDMRWVPMPLIPTTVLIANVGAIG 802
TRIAE_CS42_7DL_TGACv RNEQFYIIIGTGVYPMAMHLIILRLSLGKIGVYFRLTSKQTEACSRDK-----FADLYDMRWVPMPLIPTTVLIANVGAIG 401
TRIAE_CS42_7BL_TGACv RNEQFYIIIGTGVYPMAMHLIILRLSLGKIGVYFRLTSKQTEACSRDK-----FADLYDMRWVPMPLIPTTVLIANVGAIG 844

TRIAE_CS42_5DL_TGACv AAVQEGRWK-----GPAAVLAMAFNAWVVHLPFALGIMGRWSKTLSPLLLLVVGFTVLSLFCVFLHHLML----- 808
TRIAE_CS42_5AL_TGACv AAVQEGRWK-----GPAAVLAMAFNAWVVHLPFALGIMGRWSKTLSPLLLLVVGFTVLSLFCVFLHHLML----- 807
TRIAE_CS42_5BL_TGACv SSGTRGTVEE-----RPRGGARDGVQRVGGGASPPVRPWSHGPLEQDVEPPALARRSVHSSITMFCPPAYALIWLLF 814
TRIAE_CS42_2AS_TGACv VAIGKSVLYMGTWSAAQRRHGALGLLFLNLMVLLYPFALAIIGRWAKRTGILFILLPIAFLSTALMYIGHTFLHFFFP 874
TRIAE_CS42_2BS_TGACv VAIGKSVLYMGTWSAAQRRHGALGLLFLNLMVLLYPFALAIIGRWAKRTGILFILLPIAFLSTALMYIGHTFLHFFFP 873
TRIAE_CS42_2DS_TGACv VAIGKSVLYMGTWSAAQRRHGALGLLFLNLMVLLYPFALAIIGRWAKRTGILFILLPIAFLSTALMYIGHTFLHFFFP 866
TRIAE_CS42_2AS_TGACv VAMGKTIIVYMGAWTIAQKTHAALGLLFLNLMVLLYPFALAIIGRWAKRTGILFILLPIAFLSTALMYIGHTFLHFFFP 846
TRIAE_CS42_2DS_TGACv VAMGKTIIVYMGAWTIAQKTHAALGLLFLNLMVLLYPFALAIIGRWAKRTGILFILLPIAFLSTALMYIGHTFLHFFFP 846
TRIAE_CS42_2BS_TGACv VAMGKTIIVYMGAWTIAQKTHAALGLLFLNLMVLLYPFALAIIGRWAKRTGILFILLPIAFLSTALMYIGHTFLHFFFP 850
TRIAE_CS42_2DL_TGACv AAIKKAATWG--FFTDEARHALLGMVFNMGILVLLYPFALGIMGKWRKPIILFIVLVAISVGLLYVTLHAPYTGWS 844
TRIAE_CS42_2BL_TGACv AAIKKAATWG--FFTDEARHALLGMVFNMGILVLLYPFALGIMGKWRKPIILFIVLVAISVGLLYVTLHAPYTGWS 845
TRIAE_CS42_2AL_TGACv AAIKKAATWG--FFTDEARHALLGMVFNMGILVLLYPFALGIMGKWRKPIILFIVLVAISVGLLYVTLHAPYTGWS 847
TRIAE_CS42_2DL_TGACv AAIKKAATWG--FFTDEARHALLGMVFNMGILVLLYPFALGIMGKWRKPIILFIVLVAISVGLLYVTLHAPYTGWS 840
TRIAE_CS42_2BS_TGACv AAIKKAATWG--FFTDEARHALLGMVFNMGILVLLYPFALGIMGKWRKPIILFIVLVAISVGLLYVTLHAPYTGWS 754
TRIAE_CS42_2DS_TGACv SRPSWCSS----- 783
TRIAE_CS42_7AL_TGACv AAIKKAATWG--FFTQAWHAVLGMVFNMGILVLLYPFALGIMGQWKRKPIILVLMVMAIGTVGLLYVTLQDGHMSF 831
TRIAE_CS42_7DL_TGACv AAIKKAATWG--FFTQAWHAVLGMVFNMGILVLLYPFALGIMGQWKRKPIILVLMVMAIGTVGLLYVTLQDGHMSF 829
TRIAE_CS42_7BL_TGACv AAIKKAATWG--FFTQAWHAVLGMVFNMGILVLLYPFALGIMGQWKRKPIILVLMVMAIGTVGLLYVTLQDGHMSF 614
TRIAE_CS42_U_TGACv1 AAAGKAIAGR--WSAAQVAGAASGLVFNVMWLLLLYPFALGIMGRWSKRPYILFIVLVAATAASMYVALAGSLPYLHS 852
TRIAE_CS42_1BS_TGACv AAAGKAIAGR--WSAAQVAGAASGLVFNVMWLLLLYPFALGIMGRWSKRPYILFIVLVAATAASMYVALAGSLPYLHS 851
TRIAE_CS42_2AS_TGACv AAVGKAITWG--WSAGQVVEAASGLMNFVWLLLMFYFPALGIVGRWKRKPYVLFAMFVAFAAIAAVVAVQAALAGNLP 858
TRIAE_CS42_2BS_TGACv AAVGKAITWG--WSAGQVVEAASGLMNFVWLLLMFYFPALGIVGRWKRKPYVLFAMFVAFAAIAAVVAVQAALAGNLP 857
TRIAE_CS42_2DS_TGACv AAVGKAITWG--WSAGQVVEAASGLMNFVWLLLMFYFPALGIVGRWKRKPYVLFAMFVAFAAIAAVVAVQAALAGNLP 855
TRIAE_CS42_2BS_TGACv ASIGKAIVGG--WSLMQADAGLGLVFNWLLVLLYPFALGIMGRWSKRPYILFIVLVAIFLIALVDIAIQAMRSGFVR 684
TRIAE_CS42_2DS_TGACv ASIGKAIVGG--WSLMQADAGLGLVFNWLLVLLYPFALGIMGRWSKRPYILFIVLVAIFLIALVDIAIQAMRSGFVR 684
TRIAE_CS42_2AS_TGACv ASIGKAIVGG--WSLMQADAGLGLVFNWLLVLLYPFALGIMGRWSKRPYILFIVLVAIFLIALVDIAIQAMRSGFVR 880

TRIAE_CS42_7AL_TGACv VAFAKVLDGEW----THWLKVAGGVFFNFVWLFHLYPFPAKGILGKHGKTPVVVVLVWVAFTFVITAVLYINIPHMSSGGK 878
TRIAE_CS42_7DL_TGACv VAFAKVLDGEW----THWLKVAGGVFFNFVWLFHLYPFPAKGILGKHGKTPVVVVLVWVAFTFVITAVLYINIPHMSSGGK 477
TRIAE_CS42_7BL_TGACv VAFAKVLDGEW----THWLKVAGGVFFNFVWLFHLYPFPAKGILGKHGKTPVVVVLVWVAFTFVITAVLYINIPHMSSGGK 920

TRIAE_CS42_5DL_TGACv ----- 808
TRIAE_CS42_5AL_TGACv ----- 807
TRIAE_CS42_5BL_TGACv G----- 815
TRIAE_CS42_2AS_TGACv SMLI----- 878
TRIAE_CS42_2BS_TGACv SMLI----- 877
TRIAE_CS42_2DS_TGACv SMLI----- 870
TRIAE_CS42_2AS_TGACv F----- 847
TRIAE_CS42_2DS_TGACv F----- 847
TRIAE_CS42_2BS_TGACv F----- 851
TRIAE_CS42_2DL_TGACv QVAVSLGKASLTGPSGSG--- 862
TRIAE_CS42_2BL_TGACv QVAVSLGKASLTGPSGSG--- 663
TRIAE_CS42_2AL_TGACv QVAVSLGKASLTGPSGSG--- 865
TRIAE_CS42_2DL_TGACv TFLSW----- 845
TRIAE_CS42_2BS_TGACv ----- 754
TRIAE_CS42_2DS_TGACv ----- 783
TRIAE_CS42_7AL_TGACv LTRPSG----- 837
TRIAE_CS42_7DL_TGACv LTRPSG----- 835
TRIAE_CS42_7BL_TGACv ----- 614
TRIAE_CS42_U_TGACv1 GIKLV----- 857
TRIAE_CS42_1BS_TGACv GIKLV----- 856
TRIAE_CS42_2AS_TGACv YFQLGHWSIGGAVSLPSRRV- 878
TRIAE_CS42_2BS_TGACv YFQLGHWSIGGAVSLPSRRV- 877
TRIAE_CS42_2DS_TGACv YFQLGHRSIGGAVSLASRRV- 875
TRIAE_CS42_2BS_TGACv FHFKSSGGATFPTSWSGL---- 701
TRIAE_CS42_2DS_TGACv FHFKSSGGATFPTSWSGL---- 701
TRIAE_CS42_2AS_TGACv FHFKSSGGATFPTSWSGL---- 897
TRIAE_CS42_7AL_TGACv HTTVHGHGKKFVDAGYYNWP 899
TRIAE_CS42_7DL_TGACv HTTVHGHGKKFVDAGYYNWP 498
TRIAE_CS42_7BL_TGACv HTTVHGHGKKFVDAGYYNWP 941

Fig. S_2F: *CslH* & *CslJ* subfamilies.

S.No	Gene name with number of splice variants (<i>CslH</i>)	No. of amino acids (aa)
1	TRIAE_CS42_3DS_TGACv1_271739_AA0907200.1	714 aa
2	TRIAE_CS42_3AS_TGACv1_212952_AA0704280.1	331 aa
3	TRIAE_CS42_3B_TGACv1_222234_AA0760340.1	751 aa
4	TRIAE_CS42_3B_TGACv1_221049_AA0728260.1	458 aa
5	TRIAE_CS42_3DS_TGACv1_273502_AA0931770.1	579 aa
6	TRIAE_CS42_2AL_TGACv1_094351_AA0296300.3_3_SPLICE	752 aa
7	TRIAE_CS42_2DL_TGACv1_158387_AA0517170.1	752 aa
8	TRIAE_CS42_2BL_TGACv1_129372_AA0380770.1	799 aa

S.No	Gene name with number of splice variants (<i>CslJ</i>)	No. of amino acids (aa)
1	TRIAE_CS42_3DS_TGACv1_272297_AA0918580.1	738 aa
2	TRIAE_CS42_3AS_TGACv1_210908_AA0681280.2_2_SPLICE	766 aa
3	TRIAE_CS42_3B_TGACv1_221705_AA0747940.1	734 aa
4	TRIAE_CS42_3DS_TGACv1_272756_AA0924850.1_2_SPLICE	734 aa

TRIAE_CS42_2AL_TGACv1 -----MAGGKKLHERVALGR TAWMLAD FVILL LLL LALV 33
 TRIAE_CS42_2BL_TGACv1 MHRGEDSLSGLYKCTLAFVACGCGWVLLASLLLVASVLSATAMAGGKKLQERVALGRSAWMLAD FVILFVLV LALV 80
 TRIAE_CS42_2DL_TGACv1 -----MAGGKKLQERVALGR TAWMLAD FVILL LLL LALV 33
 TRIAE_CS42_3AS_TGACv1 ----- 0
 TRIAE_CS42_3B_TGACv1 -----MSSAMK LQERVSVPRTAWKLADIFILCLLF 30
 TRIAE_CS42_3DS_TGACv1 -----MSSAMK LQERVIVPRTAWKLADIFILCLLFALL 33
 TRIAE_CS42_3B_TGACv1 -----MSSAMK LQERTVPRTAWKLADIFILCLLLVLL 33
 TRIAE_CS42_3DS_TGACv1 -----MGSAMK LQERVILPRTAWKLADIFILCLLFALL 33

TRIAE_CS42_2AL_TGACv1 ARRAASLGE--RGGTWLAALVCEAWFAFVWILNMNGKWSVPRFDTYPENLSHRLEELPAVDMFVTTADPALEPPLITVNT 111
 TRIAE_CS42_2BL_TGACv1 ARRAASLGE--RGGTWLAALVCEAWFAFVWILNMNGKWSVPRFDTYPENLSHRMEELPAVDMFVTTADPALEPPLITVNT 158
 TRIAE_CS42_2DL_TGACv1 ARRAASLGE--RGGTWLAALVCEAWFAFVWILNMNGKWSVPRFDTYPENLSHRMEELPAVDMFVTTADPALEPPLITVNT 111
 TRIAE_CS42_3AS_TGACv1 ----- 0
 TRIAE_CS42_3B_TGACv1 ALLSCRVASLREGGASVAALVCEAWFTFVWILNMNIKWNVPRFNTYPENLSQRTDELPAVDMVLTADPELEPPLMTVNT 110
 TRIAE_CS42_3DS_TGACv1 SCRVLSLGEGGAGAASVAALVCEAWFTFVWILNMNIKWNVPRFHTYPENLSQRMDELPAVDMVLTADPELEPPLMTVNT 113
 TRIAE_CS42_3B_TGACv1 SCRVASLGEAGAG--AAALVCEAWFTFVWILNMNIKWNVPRFHTYPENLSQRMDELPAVDMVLTADPELEPPLMTVNT 110
 TRIAE_CS42_3DS_TGACv1 SCRVASLGGGAGAASVAALVCEAWFTFVWILNMNIKWNVPRFHTYPENLSQRMDELPAVDMVLTADPELEPPLMTVNT 113

TRIAE_CS42_2AL_TGACv1 VLSLLAIDYDPVVKLACYVSDDGCSPTVTCYALREAAKFASLWVDFCKRHDVGVRAFPFMYFSSAPEVGTGTADHDFLESWA 191
 TRIAE_CS42_2BL_TGACv1 VLSLLAIDYDPVVKLACYVSDDGCSPLTCYSLREAAKFASLWVDFCKRHDVGVRAFPFMYFSSAPEVGTGTADHDFLESWA 238
 TRIAE_CS42_2DL_TGACv1 VLSLLAIDYDPVGRKACYVSDDGCSPTVTCYALREAAKFAGLWVDFCKRHDVGVRAFPFMYFSSAPEVGNGTVDHDFLESWA 191
 TRIAE_CS42_3AS_TGACv1 ----- 0
 TRIAE_CS42_3B_TGACv1 VLSLLAIDYDPVDK LACYVSDDGCSPTVTCYALREAAGFARLWVDFCKRHGVGVRAFPFMYFAS--SRPELAG--DWTFI 186
 TRIAE_CS42_3DS_TGACv1 VLSLLAIDYDPVDK LACYVSDDGCSPTVTCYALHEAARFAGLWVDFCKRHGVGVRAFPFMYFAS--RPELAGDNFSDWT 191
 TRIAE_CS42_3B_TGACv1 VLSLLAIDYDPVDK LACYVSDDGCSPTVTCYALREAAGFARLWVDFCKRHGVGVRAFPFIYFAS--RPELAGDKFSDDWI 189
 TRIAE_CS42_3DS_TGACv1 VLSLLAIDYDPVDK LACYVSDDGCSPATCYALREAAWFARLWVDFCKRHDVVRVRAPIIYFAS--RLEPELAGDTFSDWT 191

TRIAE_CS42_2AL_TGACv1 LMKTEYEK LARSRIENADEVSI LR-DGGEEFAEFIDAEGRNHPTIVKVLWDNSKSK-AGEGPHLVYLSREKSPRHRHNFK 269
 TRIAE_CS42_2BL_TGACv1 LMKSEYEK LARSRIENADEVSI LR-DGGDEF AEFIDAEGRNHPTIVKVLWDNSKSK-TGEGPHLVYLSREKSPRHRHNFK 316
 TRIAE_CS42_2DL_TGACv1 LMKSQYEK LARSRIENADEGTIMR-DGGDEF AEFIDAEGRNHPTIVKVLWDNSKSK-AGEEFP HLVYLSREKSPRHRHNFK 269
 TRIAE_CS42_3AS_TGACv1 ----- 0
 TRIAE_CS42_3B_TGACv1 KSEYDKLVSRIESADEGSLLRHDDADFEFMEAKRGDHPAIVKVLWDNSKSSRTGSGDGFNLVYVVSREKTRKHDDHHYK 266
 TRIAE_CS42_3DS_TGACv1 FIKSEYDKLVSRIESADEGSLLRDDADFEFMEAKRGDHPAIVKVLWDNSKSSRTGEGFPNLVYVVSREKSRKHDDHHYK 271
 TRIAE_CS42_3B_TGACv1 FIKSEYDKLVSLIESADEASLLRHHDAGEFTEFKGAECDHPAIVKVLWDNSKSSGTGEGFPNLVYVVSREKSRKHDDHHYK 269
 TRIAE_CS42_3DS_TGACv1 FIKSEYDKLVSRIESADEGSLLRHDDADFEFMEAEARTDHPAIVKVLWDNSKSSRTGEAFPHLVYVVSSEKSRKHDDHHYK 271

TRIAE_CS42_2AL_TGACv1 AGAMNVLTRVSAVMTNAPIMLNDCD MFANNPQVALHAMCLLLGFDD EIHSGFVQAPQK FYGGLKDDPFGNQMVITTKI 349
 TRIAE_CS42_2BL_TGACv1 AGAMNVLTRVSAVMTNAPIMLNDCD MFANNPQVALHAMCLLLGFDD EIHSGFVQAPQK FYGGLKDDPFGNQMVITTKI 396
 TRIAE_CS42_2DL_TGACv1 AGAMNVLTRVSAVMTNAPIMLNDCD MFANNPQVALHAMCLLLGFDD EIHSGFVQAPQK FYGGLKDDPFGNQMVITTKI 349
 TRIAE_CS42_3AS_TGACv1 ----- 0
 TRIAE_CS42_3B_TGACv1 AGAMNVLARVSAVMTNAP IILNDCD MFVNNPQVVLHAMCLLLGFDD ETCSGFVQVPQR FYAKLDDPFGNQIEVLRK 346
 TRIAE_CS42_3DS_TGACv1 AGAMNVLARVSAVMTNAP IILNDCD MFVNNPQVVLHAMCLLLGFDD ETCSGFVQVPQR FYGKLDKDDPFGNQMEVLRK 351
 TRIAE_CS42_3B_TGACv1 AGAMNVLARVSAVMTNAP IILNDCD MFVNNPQVVLHATCLLLGFDD ETCSGFVQVPQR FYGKLDKDDPFGNQMEVLR-- 347
 TRIAE_CS42_3DS_TGACv1 AGAMNVLARVSAVMTNAP IILNDCD MFVNNPQVVLHAMCLLLGFDD ETCSGFVQVPQR FYGKLDKDDPFGNQMEVLRK 351

TRIAE_CS42_2AL_TGACv1 GGGLAGIQGTFYGGTGCFHRRKVIYGMPPPD--TVKHETRGS PSYKELQAKFGSSKELIESSRNIISGDL LARPTVDISS 427
 TRIAE_CS42_2BL_TGACv1 GGGLAGIQGTFYGGTGCFHRRKVIYGMPPPD--TVKHETRGS PSYKELQAKFGSSKELIESSRNIISGDL LARPTVDISS 474
 TRIAE_CS42_2DL_TGACv1 GGGLAGIQGMFYGGTGCFHRRKVIYGVPPPD--TVKHEMKGSPSYKELQAKFGSSKELIESSRNIISGDL LARPTVDISS 427
 TRIAE_CS42_3AS_TGACv1 -----MIDISS 6
 TRIAE_CS42_3B_TGACv1 LGGLSGLQGIYYLGTGCFHRRKVIYGVAPPFAAVKHERQGS LTYEDLRTKFGASVELAESARNIYSREIPLKPMIDISS 426

TRIAE_CS42_3DS_TGAcv FGGLAGLQGIYYLGMGCFHRRKIIYGVAPSSAAIKHEREGSRSYEDLRTKFGASVELVESARNIYSGEIIPSPMIDISS 431
TRIAE_CS42_3B_TGAcv1 -----LSYEDLLTKFGASVELVESARNIYSVEIPPKPMIDITS 385
TRIAE_CS42_3DS_TGAcv LGGLSGLQGIYFLGTGCFHRRKIIYGVAPSSFAAVKHEREGSLSYEDLRTKFGASVELVESARNIYSREIPPKPMVNISS 431

TRIAE_CS42_2AL_TGAcv RVE**MAKOV**GD**CNYE**AGT**GWGOE**IGWVYGSMTEDILTGQRIQAAGWESALLDTPPAFLGCAPTGGPASL**QFKRW**ATGLL 507
TRIAE_CS42_2BL_TGAcv RVE**MAKOV**GD**CNYE**AGT**GWGOE**IGWVYGSMTEDILTGQRIQAAGWESALLDTPPAFLGCAPTGGPASL**QFKRW**ATGLL 554
TRIAE_CS42_2DL_TGAcv RVE**MAKOV**GD**CNYE**AGT**GWGOE**IGWVYGSMTEDILTLGRIHAAGWESALLDTEPPAFLGCAPTGGPASL**QFKRW**ATGLL 507
TRIAE_CS42_3AS_TGAcv R**TOVAKOV**SS**CNYE**TG**HWGOE**IGWSYGSMAEDILTGQRIHSSGWKSTLLDTPPAFLGCAPTGGPASL**QYKRW**ATGLL 86
TRIAE_CS42_3B_TGAcv1 R**TOVAKOV**SS**CNYE**TG**HWGOE**IGWSYGSMAEDILTGQRIHSSGWKSTSPDTPPAFLGCAPTGGPASL**QYKRW**ATGLL 506
TRIAE_CS42_3DS_TGAcv R**TOVAKOV**SS**CNYE**TG**HWGOE**IGWSYGSMAEDILTGQRIHSSGWKSTLLDTPPAFLGCAPTGGPASL**QYKRW**ATGLL 511
TRIAE_CS42_3B_TGAcv1 R**TOVAKOV**SS**CNYE**TG**HWGOE**IGWSYGSMAEDILTGQRIHSSGWKSTLLDTPPAFLGCAPTGGPASL**QYKRW**ATGLL 511
TRIAE_CS42_3DS_TGAcv C**TOVAKOV**SS**CNYE**TG**HWGOE**IGWSYGSMAEDILTGQRIHSSGWKSTLLDTPPAFLGCAPTGGPASL**QYKRW**ATGVL 511

TRIAE_CS42_2AL_TGAcv EILSRNSPILGTIFRRL**LOLROCLAY**IVDPAWV**RAPE**ELCYALLG**P**FCLLTNQSFLPTASDEGFHIIPAALFLTYNIYHL 587
TRIAE_CS42_2BL_TGAcv EILSRNSPILGTIFRRL**LOLROCLAY**IVNPAWV**RAPE**EMCYALLG**P**FCLLTNQSFLPTASDEGFRIIPAAFLFLSYHYVHL 634
TRIAE_CS42_2DL_TGAcv EILSQNSPILGTIFRRL**LOLROCLAY**IIVEAWPV**RAPE**ELCYALLG**P**FCLLTNQSFLPTASDEGFRIIPAAFLFLCHIYHL 587
TRIAE_CS42_3AS_TGAcv EILGQNSPILATIFRRL**LOLROCLAY**IVFYVWSM**RAPE**ELCYALLG**P**FCLFRNQSFLKASNHGFSIQLALFLSYNIYNF 166
TRIAE_CS42_3B_TGAcv1 EILGPNTPIATIFRRL**LOLROCLAY**IVFYVWSM**RAPE**ELCYALLG**P**FCLFRNHSFLKASNHGFSIQLALFLSYNIYNF 586
TRIAE_CS42_3DS_TGAcv EILGQNSPILMATIFRRL**LOLROCLAY**IVFYVWSM**RAPE**ELCYALLG**P**FCLFRNQSFLKASNHGFSIQLALFLSYNIYNF 591
TRIAE_CS42_3B_TGAcv1 -FS**QLALFLSYNIYNFVEYKE**CGLSARTWNNM**MRINLL**LAPCFD----- 458
TRIAE_CS42_3DS_TGAcv EILGQNSPILATIFRRL**LOLROCLAY**IVFYVWSM**RAPE**ELCYALLG**P**FCLFRNHSFLKQHTMVSASN----- 579

TRIAE_CS42_2AL_TGAcv MEYKECGLSVRAWNNHRMQRITSAWLLAFLTVILKTLGLSETVFEVTRKESSTSSDGGAGTDDADPGLFTFDSAPVF 667
TRIAE_CS42_2BL_TGAcv MEYKECGLSVRAWNNHRMQRITSAWLLAFLTVILKTLGLSETVFEVTRKESSTSSDGGGTDEADTGLFTFDSAPVF 714
TRIAE_CS42_2DL_TGAcv MEYKECGLSVRAWNNHRMQRITSAWLLAFLTVILKTLGLSETVFEVTRKESSTSSDGGAGTDEADPGLFTFDSAPVF 667
TRIAE_CS42_3AS_TGAcv VEYMDGCLSAWNNHRMQRIVSLSWLLAFLSVVLKTLGLSKTVFEVTRKDKST-SDGDPSTHETDLGWFTFDSLVF 245
TRIAE_CS42_3B_TGAcv1 VEYMECGLSARTWNNHRMQRIVSLSWLLAFLSVVLKTLGLSKTVFEVTRKDKST-SDGDPSTHETDLGWFTFDSVPVF 665
TRIAE_CS42_3DS_TGAcv VEYMECGLSARTWNNHRMQRIVSLSWLLDFLSVVLKTLGLSKTVFEVTRKDKST-SDGDPSTHETDLGWFTFDSVPVF 670
TRIAE_CS42_3B_TGAcv1 ----- 458
TRIAE_CS42_3DS_TGAcv ----- 579

TRIAE_CS42_2AL_TGAcv IPVTALSMLNIVALVAWRAVVTAG-VHGGPGVGEFVCCGWMVLCFVFPVGRGLVSSGKYGIPWSVRVKAGLIVAAVF 746
TRIAE_CS42_2BL_TGAcv IPVTALSMLNIVALVAWRAVVTAG-VHGGPGVGEFVCCGWMVLCFVFPVGRGLVSSGKYGIPWSVRVKAGLIVAAVF 793
TRIAE_CS42_2DL_TGAcv IPVTALSMLNIVALVAWRAVVTAG-VHGGPGVGEFVCCGWMVLCFVFPVGRGLVSSGKYGIPWSVRVKAGLIVAAVF 746
TRIAE_CS42_3AS_TGAcv IPVTTVALLNIAATIAIGVWRHAI**FWMITGNH**DCQ**NI**GE**FL**CCGLMILYFWPF**IKGLVGRGRYGI**PWN**VKL**KAWVIVVAF 325
TRIAE_CS42_3B_TGAcv1 IPMTAVAILNI**VTTIAIGVWRHAI**F**WMITGNH**DCQ**NI**GE**FL**CCGLMILYFWPF**IKGLVGRGRYGI**PWN**VKL**KAWVIVVAF 745
TRIAE_CS42_3DS_TGAcv ILVTTVALLNIAATIAIGVWRHAI**FWMITGNH**DCQ**NI**GE**FL**CCGLMILYFWPF**IKGLVGRGRYGI**PWN**VKL**KAWVIVVAF 714
TRIAE_CS42_3B_TGAcv1 ----- 458
TRIAE_CS42_3DS_TGAcv ----- 579

TRIAE_CS42_2AL_TGAcv HLCTRN 752
TRIAE_CS42_2BL_TGAcv HLCTRN 799
TRIAE_CS42_2DL_TGAcv HICTRN 752
TRIAE_CS42_3AS_TGAcv YFCRGD 331
TRIAE_CS42_3B_TGAcv1 YFCRGD 751
TRIAE_CS42_3DS_TGAcv ----- 714
TRIAE_CS42_3B_TGAcv1 ----- 458
TRIAE_CS42_3DS_TGAcv ----- 579

Color Align Conservation results

TRIAE_CS42_3B_TGAcv1 **MAAR**PSQDAP**LO**LHTV**VD**Q**PH**ATVNR**LAA**LHVALAAAIAH**RG**AHV**MLAA**DLVLLFLWALSQAPMWRPVSR**RA**FP**SRL** 80
TRIAE_CS42_3DS_TGAcv **MATK**PSQDAP**PL**LHTV**VD**Q**PH**ATVNR**LAA**AVHLALGAAAIAH**RG**AHV**MLAA**DLVLLFLWALSQAPMWRPVSR**RA**FP**SRL** 80
TRIAE_CS42_3AS_TGAcv **MAAR**PSQDAP**LO**LHTV**VD**Q**PH**ATVNR**LAA**LHVALAAAIAH**RG**AHV**MLAA**DLVLLFLWALSQAPMWRPVSR**RA**FP**SRL** 80
TRIAE_CS42_3DS_TGAcv **MAAR**PSQDAP**LO**LHTV**VD**Q**PH**ATVNR**LAA**LHVALAAAIAH**RG**AHV**MLAA**DLVLLFLWALSQAPMWRPVSR**RA**FP**SRL** 80

TRIAE_CS42_3B_TGAcv1 **SRA**ALPAVDVMVVTAD**PK**E**PA**AKVMNTVVSAMAL**NY**PGGRLSV**YLS**DIAGSPRTLLAARKAYA**F**ARAWVPFCRKYGVR**C** 160
TRIAE_CS42_3DS_TGAcv **SRA**ALPAVDVMVVTAD**PK**E**PA**AKVMNTVVSAMAL**NY**PGGRLSV**YLS**DIAGSPRTLLAARKAYA**F**ARAWVPFCRKYGVR**C** 160
TRIAE_CS42_3AS_TGAcv **SRA**ALPAVDVMVVTAD**PK**E**PA**AKVMNTVVSAMAL**NY**PGGRLSV**YLS**DIAGSPRTLLAARKAYA**F**ARAWVPFCRKYGVR**C** 160
TRIAE_CS42_3DS_TGAcv **SRA**ALPAVDVMVVTAD**PK**E**PA**AKVMNTVVSAMAL**NY**PGGRLSV**YLS**DIAGSPRTLLAARKAYA**F**ARAWVPFCRKYGVR**C** 160

TRIAE_CS42_3B_TGAcv1 **PCPDR**FFAGD**Q**DI**DG**HH**R**CE**LD**DDRLR**IK**MY**ET**FE**EG**VE**VM**SDA**LS**Q**SW**TKADHD**AH**VE**I**ITGDE**-**Q**D**SS**NS**NS**G** 239
TRIAE_CS42_3DS_TGAcv **PCPDR**FFAGD**Q**DI**DG**HH**R**CE**LD**DDRLR**IK**MY**ET**FE**EG**VE**VM**SDA**LS**Q**SW**TKADHD**AH**VE**I**ITGDE**-**Q**D**SS**NS**NS**G** 239
TRIAE_CS42_3AS_TGAcv **PCPDR**FFAGD**Q**DI**DG**HH**R**CE**LD**DDRLR**IK**MY**ET**FE**EG**VE**VM**SDA**LS**Q**SW**TKADHD**AH**VE**I**ITGDE**-**Q**D**SS**NS**NS**G** 240
TRIAE_CS42_3DS_TGAcv **PCPDR**FFAGD**Q**DI**DG**HH**R**CE**LD**DDRLR**IK**MY**ET**FE**EG**VE**VM**SDA**LS**Q**SW**TKADHD**AH**VE**I**ITGDE**-**Q**D**SS**NS**NS**G** 233

TRIAE_CS42_3B_TGAcv1 **DG**E**DE**D**ED**AT**PL**LVVYSR**CK**RRSS**TH**HF**K**AGAL**NV**LLRVSS**LS**NS**SPY**VMV**LD**CD**Y**CNSR**SS**LEAMCFHLDGRRR**AD**LA 319
TRIAE_CS42_3DS_TGAcv **DG**E**DE**D**ED**AT**PL**LVVYSR**CK**RRSS**TH**HF**K**AGAL**NV**LLRVSS**LS**NS**SPY**VMV**LD**CD**Y**CNSR**SS**LEAMCFHLDGRRR**AD**LA 319
TRIAE_CS42_3AS_TGAcv **DG**E**DE**D**ED**AT**PL**LVVYSR**CK**RRSS**TH**HF**K**AGAL**NV**LLRVSS**LS**NS**SPY**VMV**LD**CD**Y**CNSR**SS**LEAMCFHLDGRRR**AD**LA 320
TRIAE_CS42_3DS_TGAcv **DG**E**DE**D**ED**AT**PL**LVVYSR**CK**RRSS**TH**HF**K**AGAL**NV**LLRVSS**LS**NS**SPY**VMV**LD**CD**Y**CNSR**SS**LEAMCFHLDGRRR**AD**LA 313

TRIAE_CS42_3B_TGAcv1 **FVQ**FP**Q**MFH**NLS**SSDIYAN**EL**RS**IF**WT-----RWKGLDGLR**GP**ILSGT**GFC**RR**DA**I 371
TRIAE_CS42_3DS_TGAcv **FVQ**FP**Q**MFH**NLS**SSDIYAN**EL**RS**IF**WT-----RWKGLDGLR**GP**ILSGT**GFC**RR**DA**I 371
TRIAE_CS42_3AS_TGAcv **FVQ**FP**Q**MFH**NLS**SSDIYAN**EL**RS**IF**W**R**KK**T**NR**PC**IAS**VI**SE**FS**SN**L**GAC**MV**Q**T**R**W**KGLDGLR**GP**ILSGT**GFC**RR**DA**V 400
TRIAE_CS42_3DS_TGAcv **FVQ**FP**Q**MFH**NLS**SSDIYAN**EL**RS**IF**W**A**G**P**TG-----LRDAV**ERR**GR**PP**GP**IL**SGT**GFC**RR**DA**V 372

TRIAE_CS42_3B_TGAcv1 **YGA**L**P**ASS**Q**D**Q**-**F**SGVE**V**EL**K**RR**F**GV**S**NG**H**IAS**L**RR**S**GT**G**ST**I**V**A**R**D**A**L**P**---**Q**D**A**E**L**V**A**S**C**D**Y**E**T**G**T**E**W**E**G**V**G**F**L**Y**Q 447
TRIAE_CS42_3DS_TGAcv **YGA**L**P**ASS**Q**D**Q**-**F**SGVE**V**EL**K**RR**F**GV**S**NG**H**IAS**L**RR**S**GT**G**ST**I**V**A**R**D**A**L**P**---**Q**D**A**E**L**V**A**S**C**D**Y**E**T**G**T**E**W**E**G**V**G**F**L**Y**Q 448
TRIAE_CS42_3AS_TGAcv **YGA**L**P**ASS**Q**D**Q**-**F**SGVE**V**EL**K**RR**F**GV**S**NG**H**IAS**L**RR**S**GT**G**ST**I**V**A**Q**D**V**L**P**---**Q**D**A**E**L**V**A**S**C**D**Y**E**T**G**T**E**W**E**G**V**G**F**L**Y**Q 477
TRIAE_CS42_3DS_TGAcv **YGA**L**P**ASS**Q**D**H**QS**G**VE**V**EL**K**RR**F**GV**S**NG**H**IAS**L**RR**S**GT**G**ST**I**V**A**R**D**G**L**P**Q**P**Q**Q**D**A**E**L**V**A**S**C**D**Y**E**T**G**T**E**W**E**G**V**G**F**L**Y**Q 452

TRIAE_CS42_3B_TGACv1	SVVEDYFTGYRQLYCR	GWTSVYCFPAT	GSRPFFLGSVPTNLNDALV	QNKRM	MSGM	LAVGLSRHCPLAS	AAAT	SV	PSMGF	527																																																
TRIAE_CS42_3DS_TGACv	SVVEDYFTGYRQLYCR	GWTSVYCFPAA	ASRPFPLGSVPTNLNDALV	QNKRM	MSGM	LAVGLSRHCPLAS	AAAT	CV	PSMGF	527																																																
TRIAE_CS42_3AS_TGACv	SVVEDYFTGYRQLYCR	GWTSVYCFPAT	GSRPFFLGSVPTNLNDALV	QNKRM	MSGM	LAVGLSRHCPLAS	AAAT	SV	PSMGF	557																																																
TRIAE_CS42_3DS_TGACv	SVVEDYFTGYRQLYCP	GWTSVYCFPAT	GTRPFFLGSVPTNLNDALV	QNKRM	MSGM	LAVGLSRHCPLAS	AAAT	SV	PSMGF	532																																																
TRIAE_CS42_3B_TGACv1	AYYAFM	ALYAFV	LCYAT	V	PQ	LCF	RG	TS	SFF	-EAS	TL	WF	AAV	F	SS	SL	QH	L	VE	VS	V	AK	R	GL	A	A	R	T	C	W	N	E	Q	R	F	W	A	L	N	A	V	T	606															
TRIAE_CS42_3DS_TGACv	AYYAFM	ALYAFV	LCYAT	V	PQ	LCF	RG	TS	SFF	GAA	SL	WF	AAV	F	SS	SL	QH	L	VE	VS	V	AK	R	GL	A	A	R	T	C	W	N	E	Q	R	F	W	A	L	N	A	V	T	607															
TRIAE_CS42_3AS_TGACv	AYYAFM	ALYAFV	LCYAT	V	PQ	LCF	RG	TS	SFF	EAA	SL	WF	AAV	F	SS	SL	QH	L	VE	VS	V	AK	R	GL	A	A	R	T	C	W	N	E	Q	R	F	W	A	L	N	A	V	T	637															
TRIAE_CS42_3DS_TGACv	AYYAFM	ALYAFV	LCYAT	V	PQ	LCF	RG	TS	SFF	-GE	SA	L	WF	AAV	L	SS	SL	QH	L	VE	VS	V	AK	R	GL	A	A	R	T	C	W	N	E	Q	R	F	W	A	L	N	A	V	T	611														
TRIAE_CS42_3B_TGACv1	GOLFAC	LS	VALN	LV	DG	AG	GRAV	DF	DL	TS	KAS	D	DR	LY	R	G	V	F	D	F	A	G	C	S	T	L	L	L	P	A	T	T	L	C	L	L	N	A	A	L	V	G	G	V	W	K	M	V	G	R	G	G	N	M	P	-	685	
TRIAE_CS42_3DS_TGACv	GOLFAC	LS	VALN	LV	G	AG	GRAV	DF	DL	TS	KAS	D	DR	LY	R	G	V	F	D	F	A	G	C	T	L	L	L	P	A	T	T	L	C	L	L	N	A	A	L	V	G	G	V	W	K	M	V	G	R	G	G	S	V	S	-	685		
TRIAE_CS42_3AS_TGACv	GOLFAC	LS	VALS	LV	G	AG	GRAV	DF	DL	TS	KAS	D	DR	LY	R	G	V	F	D	F	A	G	C	S	A	L	L	L	P	A	T	T	L	C	L	L	N	A	A	L	V	G	G	V	W	K	M	V	G	R	G	G	N	V	S	G	-	716
TRIAE_CS42_3DS_TGACv	GOLFAC	LS	VALS	LV	G	AG	GRAV	DF	DL	TS	KAS	D	DR	LY	R	S	V	F	D	F	A	G	C	S	A	L	L	L	P	A	T	T	L	C	L	L	N	A	A	L	V	G	G	V	W	K	M	V	G	R	G	G	S	V	S	-	689	
TRIAE_CS42_3B_TGACv1	-GELF	LL	CY	AA	LS	Y	P	L	L	O	G	M	F	L	R	R	D	P	A	R	V	P	A	R	I	T	A	M	S	V	A	V	A	T	L	L	S	L	F	G	734																	
TRIAE_CS42_3DS_TGACv	-GELF	LL	CY	AA	LS	Y	P	L	L	O	G	M	F	L	R	R	D	P	A	R	V	P	A	P	I	T	A	M	S	V	A	V	A	T	L	L	S	L	F	G	734																	
TRIAE_CS42_3AS_TGACv	TGELF	LL	CY	AA	LS	Y	P	L	L	O	G	M	F	L	R	R	D	P	A	R	V	P	A	R	I	T	A	M	S	V	A	V	A	T	L	L	S	L	F	G	766																	
TRIAE_CS42_3DS_TGACv	-GELF	LL	CY	AA	LS	Y	P	L	L	O	G	M	F	L	R	R	D	P	A	R	V	P	A	W	I	T	A	M	S	V	A	V	A	T	L	L	S	L	F	G	738																	