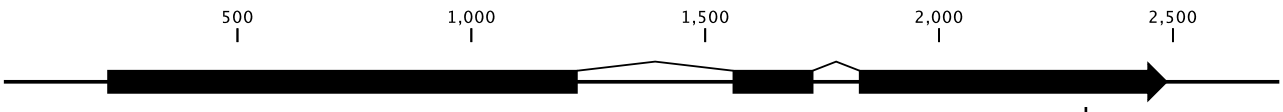
A

```
                                                  20                                                  40                                                  60                                                  80
Thlaspi arvense Ta1.0_26225 FRIGIDA   MASRNGSLIPRLGYAN-YSSVREEQPSLLPSPATIPRLHQRHQSEQRRGEFPAVIRTETINKEFTIGQSKHPQFLKSIDE 79
Eutrema salsugineium XP006402021 FRIGIDA   MAFRNGSMIPTRGYSHHYPSTTEEKPS---SPATIPRLHQRDQSE-RRGDFPAINRTEPTNKEITSGDSKHPQFMKSIDD 76
Bochera stricta AFJ66199 FRIGIDA   MAFRNGSLIPGLAYAN-YPPTMEAQPS----TAAIPRLHQRHLSERRRGEFPAVVETDSRTVEISIGHSKQPQFLKSIDD 75
Arabidopsis arenosa AAZ92551 FRIGIDA   MA-----------N-YPPTVAAQSS----TAAIPLLHQ---SERRRGELPAVVETESTAMEISIGQSKQPQFLKSIDE 59
Arabidopsis lyrata ABY51887 FRIGIDA   MA-----------N-YPPTVAAQSS----TAAIPLLHQRHQSERRRGELPAVVETESTAMEISIGQSKQPQFLKSIDE 62
Arabidopsis thaliana AHL43028 FRIGIDA   MS-----------N-YPPTVAAQPT----TTANPLL-QRHQSEQRRRELPKIVETESTSMDITIGQSKQPQFLKSIDE 61
Camelina sativa XP_010426308 FRIGIDA   M-------IPALAYAN-YPPSMEPQPS----TAAIPR-----QSERRRGQLPAVVETD----QITIGQSNQPQFLKSIDD 59
AFV28956 Capsella FRIGIDA   MAFRNGSMIPGV-----------AQPS----TATIPRLHQSHQSERRLGELPAVFETE-----HITIGESKQPEFFKSIDD 61
                                                 100                                                 120                                                 140                                                 160
Thlaspi arvense Ta1.0_26225 FRIGIDA   LTAFSAAVDAFKRQYDDLQKHMDYIENAIESKLKSNGIEIAAASSSFHSQS-SPPRN----VVPAAVVCQSPKETT---- 150
Eutrema salsugineium XP006402021 FRIGIDA   LAKFSAAFDAFKRHYDDLQKHMDDIENAIESKLKSNGVD---DSSSHSPE-HDASR----EIATAIVCPPPPEEA---- 143
Bochera stricta AFJ66199 FRIGIDA   LAAFSAAVDVFKRQFDDLQKHIESIENAIESKLKSNGVYLAA-SSNFHQP-LSPPRNNASGEIT-VTVSQSSQEPA---- 148
Arabidopsis arenosa AAZ92551 FRIGIDA   LAAFSVAVEAFKRQFDDLQKHIDSIENAIESKLKSNGADLAA-SSNFHQPLLSPPRNNASVETT-VSVSQSSQEPA---- 133
Arabidopsis lyrata ABY51887 FRIGIDA   LAAFSVAVEAFKRQFDDLQKHIDSIENAIESKLKSNGADLAA-SSNFHQPLLSPPRNNVSVETT-VSVSQSSQEPA---- 136
Arabidopsis thaliana AHL43028 FRIGIDA   LAAFSVAVETFKRQFDDLQKHIESIENAIDSKLESNGVVLAARNNNFHQPMLSPPRNNVSVETT-VTVSQPSQE-----  134
Camelina sativa XP_010426308 FRIGIDA   LAAFSAAVDAFKRQFDDLQKHIESIENAIDTKLKSNGVDIAA-SSDFHQP-LSPPRDNASVETTTVTVSQSSQDPVPAIS 137
AFV28956 Capsella FRIGIDA   LAAFSTAVEAFKRQFDDLRKHIESVENAIDSELKSNGVDIAA-SSNSHQP-LSPPRNNASAETT-VTVSQSSQEPA---- 134
                                                 180                                                 200                                                 220                                                 240
Thlaspi arvense Ta1.0_26225 FRIGIDA   ---------ETVPEM---SNKPEGQRLC----SKGLRKYIYSNISDRAKLMKEIPEALKLAKEPAKFVLECIGKFYLQGR 214
Eutrema salsugineium XP006402021 FRIGIDA   ---------ETAPEMITSNDKAEGQRLCESMCSKGLRKYIYANISERAKLMEEIPAGLKLAKEPAKFVLECIGKFYLQGR 214
Bochera stricta AFJ66199 FRIGIDA   ---------ETVPAI---SNKPERERLCELMCSKGLRKYIYANISDRAKLMEEIPSALKLAKEPAKFVLECIGKFYLQGR 216
Arabidopsis arenosa AAZ92551 FRIGIDA   ---------ETVPET---SNKTEGERLCELMCSKGLRKYIYANISDRAKLMEEIPSALKLAKEPAKFVLECIGKFYLQGR 201
Arabidopsis lyrata ABY51887 FRIGIDA   ---------ETVPET---SNKTEGERLCELMCSKGLRKYIYANISDRAKLMEEIPSALKLAKEPAKFVLECIGKFYLQGR 204
Arabidopsis thaliana AHL43028 FRIGIDA   ---------IVPET---SNKPEGERMCELMCSKGLRKYIYANISDQAKLMEEIPSALKLAKEPAKFVLDCIGKFYLQGR 201
Camelina sativa XP_010426308 FRIGIDA   DKPEGGRLCDPVPAI---SDKSEGERLCESMCSKGLRKYIYGNISDRAKLLEEIPVALKLAKEPAKFVFECIGKFYLQGR 214
AFV28956 Capsella FRIGIDA   ---------ETVPET---SNKPEGERLCELMCSKGLRHYICGNISHRAKLMEEIPAALKLAKEPAKFVLECIGKFYLQGR 202
                                                 260                                                 280                                                 300                                                 320
Thlaspi arvense Ta1.0_26225 FRIGIDA   KAFANNNSPMIPARKASLLILECFLLMLDPGEEKNLKFKIESSVKDEADAAAFAWKRRLMNEGGLAAAEAIDARGLLLLI 294
Eutrema salsugineium XP006402021 FRIGIDA   KAFSHD-SHMIPARQVSLLILECFLLMIEPGEEK-VKSMIESSVKEEAEAAAFAWKRRIMNEGKLATAEAIDARGLLLLI 292
Bochera stricta AFJ66199 FRIGIDA   RAFSKD-SPMISARQVSLLILESFLLMPDPGEGM-AKIEIESCIKDEAETAAVAWRKRLMGEGGLAAAEQMDARGLLLLI 294
Arabidopsis arenosa AAZ92551 FRIGIDA   RAFTKE-SPMVSARQVSLLILESFLLMPDRGKG---KVKIESCIKDEAETAAVAWRKRLMSEGGLAAAEKMDARGLLLLV 277
Arabidopsis lyrata ABY51887 FRIGIDA   RAFTKE-SPMVSARQVSLLILESFLLMPDRGKG---KVKIESCIKDEAETAAVAWRKRLMSEGGLAAAEKMDARGLLLLV 280
Arabidopsis thaliana AHL43028 FRIGIDA   RAFTKE-SPMSSARQVSLLILESFLLMPDRGKG---KVKIESWIKDEAETAAVAWRKRLMTEGGLAAAEKMDARGLLLLV 277
Camelina sativa XP_010426308 FRIGIDA   RAFSKD-SPMISARHVSLLIMESFLLMPDPGEGK-AKIKIERYVKDEAEAAAVAWRKRLIGEGGLAAAELMDARGLLLLI 292
AFV28956 Capsella FRIGIDA   KAYSKD-SPMISARQVSLLILESFLLMPDPGKG---KLKIESSVKDEAEMAAVAWKKRLMGEGGLAVAEQIDARGLLLLI 278
                                                 340                                                 360                                                 380                                                 400
Thlaspi arvense Ta1.0_26225 FRIGIDA   ACFGVPSSFGNTDLLDLVRQSGAAEIAGALKRSPFLATIVSGIVDSSIKRGTQIKALEMVYTFGLEDKFPPSSLLTSFLR 374
Eutrema salsugineium XP006402021 FRIGIDA   ACFGVPSSFRSMDLLDLIRQSGTSEIAGALKRSPFLVPIVSGIVDSCLKRGTNIEALEIVFTFGMEDKISPSSLLTPFLR 372
Bochera stricta AFJ66199 FRIGIDA   ACFGVPSNFRSMDLLDLIRTSGSNEIAGALRRSPFLVPMISGVVESSIKRGMHIEALEMVYTFGMEDKFSAFSVLTSFLR 374
Arabidopsis arenosa AAZ92551 FRIGIDA   ACFGVPSNFRSMDLLDLIRMSGSNEIAGALKRSPFLVPMISGIVESSIKRGMHIEALEMVYTFGMEDKFSASSVLTSFLR 357
Arabidopsis lyrata ABY51887 FRIGIDA   ACFGVPSNFRSMDLLDLIRMSGSNEIAGALKRSPFLVPMISGIVESSIKRGMHIEALEMVYTFGMEDKFSASSVLTSFLR 360
Arabidopsis thaliana AHL43028 FRIGIDA   ACFGVPSNFRSTDLLDLIRMSGSNEIAGALKRSQFLVPMVSGIVESSIKRGMHIEALEMVYTFGMEDKFSAALVLTSFLK 357
Camelina sativa XP_010426308 FRIGIDA   ACYGVPSNFRSMDLLDLILTCGFNEIAGALRRSRFLAPMVSGIVESSIKRGKHIEALEMVYNFAMEDKFSASTVLTSFLK 372
AFV28956 Capsella FRIGIDA   ACYGVPSDFRSMDLLDLIRTSGSNEIVGALRRSPFLAPMISGIVESSIKRGMHIEALEMVYTFGMEDKFSASTVLTSFLR 358
                                                 420                                                 440                                                 460                                                 480
Thlaspi arvense Ta1.0_26225 FRIGIDA   MSKESFEKAKRKTQSPMAFKKAIEKQLAALSSVMRCLETHKLDPTKEAPGWQIKEQMVKLKKDARQVDKQMEEQARSISL 454
Eutrema salsugineium XP006402021 FRIGIDA   KSKESFELAKRKAHSPTAFKEAIEKQLAALLSVTKCLEAHKLDPAKEIPGWPIKEQIVKLEKDTLQIDKQMEEQARSISL 452
Bochera stricta AFJ66199 FRIGIDA   MSKESFERAKRKAQSPMAFKEATEKQLGAFSSVMQCMETHKLDPAKEIPGWQIKEEIAKLENDILQLDREMEEKARSISL 454
Arabidopsis arenosa AAZ92551 FRIGIDA   MSKESFERAKRKAQSPLAFKEAAAKQLAALSSVMQCMETHKLDPVKELPGWQIKEQIVNLEKDTLQLDKEMEEKARSISL 437
Arabidopsis lyrata ABY51887 FRIGIDA   MSKESFERTKRKAQSPLAFKEAAAKQLAALSSVMRCMETHKLDPAKELPGWQIKEQIVNLEKDTLQLDKEMEEKARSISL 440
Arabidopsis thaliana AHL43028 FRIGIDA   MSKESFERAKRKAQSPLAFKEAATKQLAVLSSVMQCMETHKLDPAKELPGWQIKEQIVSLEKDTLQLDKEMEEKARSLSL 437
Camelina sativa XP_010426308 FRIGIDA   MSKESFDKAKRKAHSPLAFKEATEKQIGTLSSVMQTMETHKLDPAKELPGWQIKEEIVKLEGDTLQLRREMEEKARSISL 452
AFV28956 Capsella FRIGIDA   MKKESFEREKQKAQSPMAYKEAAEKQLGALSSVMQCMKTHKLDPAKEIPGWQIKEEIVKLENVTRQLNREMEEKARSITL 438
                                                 500                                                 520                                                 540                                                 560
Thlaspi arvense Ta1.0_26225 FRIGIDA   MEEAELTKRLYSQQQQMKRPRLSDMEMPTAPVASSSYSPIYRDRSFPSHNRNEDRDEISALVNSYLGPSSSFPHRSSLRR 534
Eutrema salsugineium XP006402021 FRIGIDA   MEEAVLTKRLYNQQ--MKRPRLSEMEMP--PAASSSYSPIYRDRNFPSHI-DGDRDEISALVSSYLGPSSSFPHRSSLRR 527
Bochera stricta AFJ66199 FRIGIDA   MEEAVLTKRLYNQQ--MKRPRLSPMEMP--PVASSSYSPIYRDQTFPSQ-RDEDRDEISALVSSYLGPSASFPHRSSIRR 529
Arabidopsis arenosa AAZ92551 FRIGIDA   MEEAVLAKRMYNQQ--MKRPRLSPMEMP--PVASSSYSPLYLDRSFPSQ-RDEDRDEISALVSSYLGPSSSFPHRSSLRR 512
Arabidopsis lyrata ABY51887 FRIGIDA   MEEAVLAKRIYNQQ--MKRPRLSPMEMP--PVASSSYSSIYLDRSFHSQ-RDEDRDEISALVSSYLGPSSSFPHRSSLRR 515
Arabidopsis thaliana AHL43028 FRIGIDA   MEEAALAKRMYNQQ--IKRPRLSPMEMP--PVTSSSYSPIYRDRSFPSQ-RDDDQDEISALVSSYLGPSTSFPHRS--RR 510
Camelina sativa XP_010426308 FRIGIDA   MEEAVLTKRLYNQQ--MKRPRLSPMETP--PVASSSYSPLYRDRTFPSQ-RDEDRDEISALVSSYLGPSSSFPHRSSLRR 527
AFV28956 Capsella FRIGIDA   MEEELLSKRLYNEQ--MKRPRLSPMEMP--PVSSSSYTPIYRDQTFPSQ-RDEDSDEISALVNSYLGPSSSFPHRSSLRR 513
                                                 580                                                 600                                                 620                                                 640
Thlaspi arvense Ta1.0_26225 FRIGIDA   SPEYMVP--P--------SYEQLHSSSYTS-----VQRRHSP--VHEQRLPREYSP------Q-IPYGIQRVYRHSPSVE 590
Eutrema salsugineium XP006402021 FRIGIDA   SPEYMVP--PGGLGRSVSAYEHLLPSSY-----------SP--VHGQRLPREYSPPVHGQQQ-IPYGLQRVYRHSPSVE 590
Bochera stricta AFJ66199 FRIGIDA   SPEYMVP--PGGLGRSVYAYEHLPPNSYSPSNGQRLPRHYSP--VHGQRRPRQFSPPIYGQQQ-IPFGLQRVYRHSPSEE 604
Arabidopsis arenosa AAZ92551 FRIGIDA   SPEYMVPLPPGGLGRSVYAYEHLPPNSYSPGHGQRLPRQYSPSPVHGQRHPRQYSPPIHGQQQ-IPFGLQRVYRHSPSEE 591
Arabidopsis lyrata ABY51887 FRIGIDA   SPEYIVPLPPGGLGRSVYAYEHLPPNSYSPGHGQRLPRQYSPSPVHGQRHPRQYSPPIHGQQQ-IPFGLQRVYRHSPSEE 594
Arabidopsis thaliana AHL43028 FRIGIDA   SPEYMVPLPHGGLGRSVYAYEHLAPNSYSPGHGHRLHRQYSPSLVHGQRHPLQYSPPIHGQQQ-LPYGIQRVYRHSPSEE 589
Camelina sativa XP_010426308 FRIGIDA   SPEYMVP--PGGLGRSVYAYEHLPPNSYPPANGQRVPRQYSP--VHGQRHPRQYSPPIHGQQQQIPYGLQRVYRHSPSEE 603
AFV28956 Capsella FRIGIDA   SPEYMVP--PGGLGRSVYAYEHLPPNSYSPGNGQRLARQYSP--VHG-RHPPQYTPPTHGQQQ-IPYGLQRVYIHSPSEE 587
                                                 660
Thlaspi arvense Ta1.0_26225 FRIGIDA   RYLGLPHHRSPR-NSSQDSRGGM* 613
Eutrema salsugineium XP006402021 FRIGIDA   RLLTLPHHRSPR-NSSQDHIGGM- 612
Bochera stricta AFJ66199 FRIGIDA   RYLGLSNHRSPRSNSSLDPT---- 624
Arabidopsis arenosa AAZ92551 FRIGIDA   RYLGLSNHRSPRSNSSLDPK---- 611
Arabidopsis lyrata ABY51887 FRIGIDA   RYLGLSNHRSPRSNSSLDPK---- 614
Arabidopsis thaliana AHL43028 FRIGIDA   RYLGLSNQRSPRSNSSLDPK---- 609
Camelina sativa XP_010426308 FRIGIDA   RYLGLSNHRSPRSNSSLDHT---- 623
AFV28956 Capsella FRIGIDA   RYLGISNHKSPRSNSSLDHT---- 607
```

B



MN106 TAC**A**CTT
MN111 TAC**T**CTT
MN108 TAC**T**CTT
c.2085A>T