

A

CsFAD2_A 1 MGAGGRMPVPFSSS.....KKSETDAIKRVPCCKPPTLGLKKAIPPCCFKRSIPRSFSYLLIDIIASCFFYYVATNYFSLLPQPLSYLAWPLYWACQGCVLTVGVWVIAHECGHAFSD
CsFAD2_B 1 MGAGGRMPVPFSSS.....KKSETDAIKRVPCCKPPTLGLKKAIPPCCFKRSIPRSFSYLLIDIIASCFFYYVATNYFSLLPQPLSYLAWPLYWACQGCVLTVGVWVIAHECGHAFSD
CsFAD2_C 1 MGAGGRMPVPFSSS.....KKSETDAIKRVPCCKPPTLGLKKAIPPCCFKRSIPRSFSYLLIDIIASCFFYYVATNYFSLLPQPLSYLAWPLYWACQGCVLTVGVWVIAHECGHAFSD
AtFAD2 1 MGAGGRMPVPFSSS.....KKSETDAIKRVPCCKPPTLGLKKAIPPCCFKRSIPRSFSYLLIDIIASCFFYYVATNYFSLLPQPLSYLAWPLYWACQGCVLTVGVWVIAHECGHAFSD
BrFAD2 1 MGAGGRMPVPFSSS.....KKSETDAIKRVPCCKPPTLGLKKAIPPCCFKRSIPRSFSYLLIDIIASCFFYYVATNYFSLLPQPLSYLAWPLYWACQGCVLTVGVWVIAHECGHAFSD
GmFAD2-3 1 MGAGGRMPVPFSSS.....KKSETDAIKRVPCCKPPTLGLKKAIPPCCFKRSIPRSFSYLLIDIIASCFFYYVATNYFSLLPQPLSYLAWPLYWACQGCVLTVGVWVIAHECGHAFSD
ZmFAD2 1 MGAGGRMTKEKEREKEQLAAGGAACORSEVEKPPPTLGLKKAIPPCHCFERSVLSFSFYVYHDLVIAAALLVFAIAIIPALSPICHTAAWPLYWIAQGCVLTVGVWVIAHECGHAFSD

H2

CsFAD2_A 116 YQWLDDTVGLIFHSFLLVPYFSWKYSHRRHHSNTGSLERDEVFVPKQKSAIKWYGYLYNNPGRIMMLTVQFVLGWPLYLAFNVSGRPYDG..FACHFFPNAPIYNDRELRLOIYLSDAGI
CsFAD2_B 116 YQWLDDTVGLIFHSFLLVPYFSWKYSHRRHHSNTGSLERDEVFVPKQKSAIKWYGYLYNNPGRIMMLTVQFVLGWPLYLAFNVSGRPYDG..FACHFFPNAPIYNDRELRLOIYLSDAGI
CsFAD2_C 116 YQWLDDTVGLIFHSFLLVPYFSWKYSHRRHHSNTGSLERDEVFVPKQKSAIKWYGYLYNNPGRIMMLTVQFVLGWPLYLAFNVSGRPYDG..FACHFFPNAPIYNDRELRLOIYLSDAGI
AtFAD2 115 YQWLDDTVGLIFHSFLLVPYFSWKYSHRRHHSNTGSLERDEVFVPKQKSAIKWYGYLYNNPGRIMMLTVQFVLGWPLYLAFNVSGRPYDG..FACHFFPNAPIYNDRELRLOIYLSDAGI
BrFAD2 115 YQWLDDTVGLIFHSFLLVPYFSWKYSHRRHHSNTGSLERDEVFVPKQKSAIKWYGYLYNNPGRIMMLTVQFVLGWPLYLAFNVSGRPYDG..FACHFFPNAPIYNDRELRLOIYLSDAGI
GmFAD2-3 115 YQWLDDTVGLIFHSFLLVPYFSWKYSHRRHHSNTGSLERDEVFVPKQKSAIKWYGYLYNNPGRIMMLTVQFVLGWPLYLAFNVSGRPYDG..FACHFFPNAPIYNDRELRLOIYLSDAGI
ZmFAD2 121 YSLDDTVGLIFHSFLLVPYFSWKYSHRRHHSNTGSLERDEVFVPKQKSAIKWYGYLYNNPGRIMMLTVQFVLGWPLYLAFNVSGRPYDG..FACHFFPNAPIYNDRELRLOIYLSDAGI

H3

CsFAD2_A 234 LAVCFGLYRYAAAGQASMICLYGVPLLIYNFAFLVLTITYLQHTHPALPHYDSSEWDWLRGALATVDRDYGILNKVFHNITDTVAHHLFSTMPHYNAMEATKAIPILGDYQFDGTFWY
CsFAD2_B 234 LAVCFGLYRYAAAGQASMICLYGVPLLIYNFAFLVLTITYLQHTHPALPHYDSSEWDWLRGALATVDRDYGILNKVFHNITDTVAHHLFSTMPHYNAMEATKAIPILGDYQFDGTFWY
CsFAD2_C 234 LAVCFGLYRYAAAGQASMICLYGVPLLIYNFAFLVLTITYLQHTHPALPHYDSSEWDWLRGALATVDRDYGILNKVFHNITDTVAHHLFSTMPHYNAMEATKAIPILGDYQFDGTFWY
AtFAD2 233 LAVCFGLYRYAAAGQASMICLYGVPLLIYNFAFLVLTITYLQHTHPALPHYDSSEWDWLRGALATVDRDYGILNKVFHNITDTVAHHLFSTMPHYNAMEATKAIPILGDYQFDGTFWY
BrFAD2 233 LAVCFGLYRYAAAGQASMICLYGVPLLIYNFAFLVLTITYLQHTHPALPHYDSSEWDWLRGALATVDRDYGILNKVFHNITDTVAHHLFSTMPHYNAMEATKAIPILGDYQFDGTFWY
GmFAD2-3 233 LAVCFGLYRYAAAGQASMICLYGVPLLIYNFAFLVLTITYLQHTHPALPHYDSSEWDWLRGALATVDRDYGILNKVFHNITDTVAHHLFSTMPHYNAMEATKAIPILGDYQFDGTFWY
ZmFAD2 240 LAVCFGLYRYAAAGQASMICLYGVPLLIYNFAFLVLTITYLQHTHPALPHYDSSEWDWLRGALATVDRDYGILNKVFHNITDTVAHHLFSTMPHYNAMEATKAIPILGDYQFDGTFWY

CsFAD2_A 354 VAMYREAKECIIYVEPDREGDKKGVYWNKLL
CsFAD2_B 354 VAMYREAKECIIYVEPDREGDKKGVYWNKLL
CsFAD2_C 354 VAMYREAKECIIYVEPDREGDKKGVYWNKLL
AtFAD2 353 VAMYREAKECIIYVEPDREGDKKGVYWNKLL
BrFAD2 353 VAMYREAKECIIYVEPDREGDKKGVYWNKLL
GmFAD2-3 353 VAMYREAKECIIYVEPDREGDKKGVYWNKLL
ZmFAD2 360 VAMYREAKECIIYVEPDREGDKKGVYWNKLL

B

CsFAE1_A 1 MT.....SVN.....AKLLYHYVITNENFLCLFPLTALLAGKASRLTIDOLHNFYS.HLQHNLTIVLLFAFTAFGLVLYIVTRPKPVYLVDSYCYLPPHKKVSV
CsFAE1_B 1 MT.....SVN.....AKLLYHYVITNENFLCLFPLTALLAGKASRLTIDOLHNFYS.HLQHNLTIVLLFAFTAFGLVLYIVTRPKPVYLVDSYCYLPPHKKVSV
CsFAE1_C 1 MT.....SVN.....AKLLYHYVITNENFLCLFPLTALLAGKASRLTIDOLHNFYS.HLQHNLTIVLLFAFTAFGLVLYIVTRPKPVYLVDSYCYLPPHKKVSV
AtFAE1 1 MT.....SVN.....AKLLYHYVITNENFLCLFPLTALLAGKASRLTIDOLHNFYS.HLQHNLTIVLLFAFTAFGLVLYIVTRPKPVYLVDSYCYLPPHKKVSV
CaFAE1 1 MT.....SVN.....AKLLYHYVITNENFLCLFPLTALLAGKASRLTIDOLHNFYS.HLQHNLTIVLLFAFTAFGLVLYIVTRPKPVYLVDSYCYLPPHKKVSV
BrFAE1_Heac 1 MT.....SVN.....AKLLYHYVITNENFLCLFPLTALLAGKASRLTIDOLHNFYS.HLQHNLTIVLLFAFTAFGLVLYIVTRPKPVYLVDSYCYLPPHKKVSV
BrFAE1_Leac 1 MT.....SVN.....AKLLYHYVITNENFLCLFPLTALLAGKASRLTIDOLHNFYS.HLQHNLTIVLLFAFTAFGLVLYIVTRPKPVYLVDSYCYLPPHKKVSV
LaFAE1 1 MGETKPEKPLIATVKNITLDPDLKLSLNKMKLYHYVITNENFLCLFPLTALLAGKASRLTIDOLHNFYS.HLQHNLTIVLLFAFTAFGLVLYIVTRPKPVYLVDSYCYLPPHKKVSV
TmFAE1 1 MGETKATS.....VSVPLPDFKQSVNLKLYHYVITNENFLCLFPLTALLAGKASRLTIDOLHNFYS.HLQHNLTIVLLFAFTAFGLVLYIVTRPKPVYLVDSYCYLPPHKKVSV

CsFAE1_A 96 SKAMDIFYQIRKADSRN.VACDDPSSLDLFRKIQERSGLGDETSPEGLINVPFRKTPFAASREETEEOVIIGALELKFENTKVNPRIGILVNVSSMFNPTPSLSAMVVNTFKLRNSIKS
CsFAE1_B 96 SKAMDIFYQIRKADSRN.VACDDPSSLDLFRKIQERSGLGDETSPEGLINVPFRKTPFAASREETEEOVIIGALELKFENTKVNPRIGILVNVSSMFNPTPSLSAMVVNTFKLRNSIKS
CsFAE1_C 96 SKMYDIFYQIRKADSRN.VACDDPSSLDLFRKIQERSGLGDETSPEGLINVPFRKTPFAASREETEEOVIIGALELKFENTKVNPRIGILVNVSSMFNPTPSLSAMVVNTFKLRNSIKS
AtFAE1 96 SKMYDIFYQIRKADSRN.VACDDPSSLDLFRKIQERSGLGDETSPEGLINVPFRKTPFAASREETEEOVIIGALELKFENTKVNPRIGILVNVSSMFNPTPSLSAMVVNTFKLRNSIKS
CaFAE1 96 SKMYDIFYQIRKADSRN.VACDDPSSLDLFRKIQERSGLGDETSPEGLINVPFRKTPFAASREETEEOVIIGALELKFENTKVNPRIGILVNVSSMFNPTPSLSAMVVNTFKLRNSIKS
BrFAE1_Heac 96 SKMYDIFYQIRKADSRN.VACDDPSSLDLFRKIQERSGLGDETSPEGLINVPFRKTPFAASREETEEOVIIGALELKFENTKVNPRIGILVNVSSMFNPTPSLSAMVVNTFKLRNSIKS
BrFAE1_Leac 96 SKMYDIFYQIRKADSRN.VACDDPSSLDLFRKIQERSGLGDETSPEGLINVPFRKTPFAASREETEEOVIIGALELKFENTKVNPRIGILVNVSSMFNPTPSLSAMVVNTFKLRNSIKS
LaFAE1 120 EHKMGCSGSGSTEDN.....DFCRKIVARSGLGDETSPEGLINVPFRKTPFAASREETEEOVIIGALELKFENTKVNPRIGILVNVSSMFNPTPSLSAMVVNTFKLRNSIKS
TmFAE1 116 RERVYITIRGSGTYTEEN.....DFCRKIVARSGLGDETSPEGLINVPFRKTPFAASREETEEOVIIGALELKFENTKVNPRIGILVNVSSMFNPTPSLSAMVVNTFKLRNSIKS

CsFAE1_A 215 FLNGMGCSAGVIAIDLAKDLLVHKNTYALVSVSTENITQCIYAGENSMMVSNCLFRVGGAAILLSNKPGDRRRSKYELVHTVTRTHGADDKSFRVCVQGGDBSGKIGVLSKSDITVA
CsFAE1_B 215 FLNGMGCSAGVIAIDLAKDLLVHKNTYALVSVSTENITQCIYAGENSMMVSNCLFRVGGAAILLSNKPGDRRRSKYELVHTVTRTHGADDKSFRVCVQGGDBSGKIGVLSKSDITVA
CsFAE1_C 215 FLNGMGCSAGVIAIDLAKDLLVHKNTYALVSVSTENITQCIYAGENSMMVSNCLFRVGGAAILLSNKPGDRRRSKYELVHTVTRTHGADDKSFRVCVQGGDBSGKIGVLSKSDITVA
AtFAE1 216 FLNGMGCSAGVIAIDLAKDLLVHKNTYALVSVSTENITQCIYAGENSMMVSNCLFRVGGAAILLSNKPGDRRRSKYELVHTVTRTHGADDKSFRVCVQGGDBSGKIGVLSKSDITVA
CaFAE1 216 FLNGMGCSAGVIAIDLAKDLLVHKNTYALVSVSTENITQCIYAGENSMMVSNCLFRVGGAAILLSNKPGDRRRSKYELVHTVTRTHGADDKSFRVCVQGGDBSGKIGVLSKSDITVA
BrFAE1_Heac 215 FLNGMGCSAGVIAIDLAKDLLVHKNTYALVSVSTENITQCIYAGENSMMVSNCLFRVGGAAILLSNKPGDRRRSKYELVHTVTRTHGADDKSFRVCVQGGDBSGKIGVLSKSDITVA
BrFAE1_Leac 216 FLNGMGCSAGVIAIDLAKDLLVHKNTYALVSVSTENITQCIYAGENSMMVSNCLFRVGGAAILLSNKPGDRRRSKYELVHTVTRTHGADDKSFRVCVQGGDBSGKIGVLSKSDITVA
LaFAE1 230 FLNGMGCSAGVIAIDLAKDLLVHKNTYALVSVSTENITQCIYAGENSMMVSNCLFRVGGAAILLSNKPGDRRRSKYELVHTVTRTHGADDKSFRVCVQGGDBSGKIGVLSKSDITVA
TmFAE1 226 FLNGMGCSAGVIAIDLAKDLLVHKNTYALVSVSTENITQCIYAGENSMMVSNCLFRVGGAAILLSNKPGDRRRSKYELVHTVTRTHGADDKSFRVCVQGGDBSGKIGVLSKSDITVA

CsFAE1_A 335 CHALKKNIATLGLLPLSEKLLFFVTFAKKLKDKDKIKHYVPDFKLAIDHFCIHAGGRAVIDVLEKNLGLSPIDVEASRSTLHRFGNTSSSIWYELAYIEAKGRMKKNRAVQIALG
CsFAE1_B 335 CHALKKNIATLGLLPLSEKLLFFVTFAKKLKDKDKIKHYVPDFKLAIDHFCIHAGGRAVIDVLEKNLGLSPIDVEASRSTLHRFGNTSSSIWYELAYIEAKGRMKKNRAVQIALG
CsFAE1_C 335 CHALKKNIATLGLLPLSEKLLFFVTFAKKLKDKDKIKHYVPDFKLAIDHFCIHAGGRAVIDVLEKNLGLSPIDVEASRSTLHRFGNTSSSIWYELAYIEAKGRMKKNRAVQIALG
AtFAE1 336 CTRVKKNIATLGLLPLSEKLLFFVTFAKKLKDKDKIKHYVPDFKLAIDHFCIHAGGRAVIDVLEKNLGLSPIDVEASRSTLHRFGNTSSSIWYELAYIEAKGRMKKNRAVQIALG
CaFAE1 336 CTRVKKNIATLGLLPLSEKLLFFVTFAKKLKDKDKIKHYVPDFKLAIDHFCIHAGGRAVIDVLEKNLGLSPIDVEASRSTLHRFGNTSSSIWYELAYIEAKGRMKKNRAVQIALG
BrFAE1_Heac 335 CTRVKKNIATLGLLPLSEKLLFFVTFAKKLKDKDKIKHYVPDFKLAIDHFCIHAGGRAVIDVLEKNLGLSPIDVEASRSTLHRFGNTSSSIWYELAYIEAKGRMKKNRAVQIALG
BrFAE1_Leac 335 CTRVKKNIATLGLLPLSEKLLFFVTFAKKLKDKDKIKHYVPDFKLAIDHFCIHAGGRAVIDVLEKNLGLSPIDVEASRSTLHRFGNTSSSIWYELAYIEAKGRMKKNRAVQIALG
LaFAE1 350 CHALKKNIATLGLLPLSEKLLFFVTFAKKLKDKDKIKHYVPDFKLAIDHFCIHAGGRAVIDVLEKNLGLSPIDVEASRSTLHRFGNTSSSIWYELAYIEAKGRMKKNRAVQIALG
TmFAE1 346 CHALKKNIATLGLLPLSEKLLFFVTFAKKLKDKDKIKHYVPDFKLAIDHFCIHAGGRAVIDVLEKNLGLSPIDVEASRSTLHRFGNTSSSIWYELAYIEAKGRMKKNRAVQIALG

CsFAE1_A 455 SGFKCNSAVVVALQNVKASNN.SPWEHCIDRYPVQIDSSSKSBTHVNGRS
CsFAE1_B 455 SGFKCNSAVVVALQNVKASNN.SPWEHCIDRYPVQIDSSSKSBTHVNGRS
CsFAE1_C 455 SGFKCNSAVVVALQNVKASNN.SPWEHCIDRYPVQIDSSSKSBTHVNGRS
AtFAE1 456 SGFKCNSAVVVALQNVKASNN.SPWEHCIDRYPVQIDSSSKSBTHVNGRS
CaFAE1 456 SGFKCNSAVVVALQNVKASNN.SPWEHCIDRYPVQIDSSSKSBTHVNGRS
BrFAE1_Heac 455 SGFK.....
BrFAE1_Leac 456 SGFK.....
LaFAE1 469 SGFKCNSAVVVALQNVKASNN.SPWEHCIDRYPVQIDSSSKSBTHVNGRS
TmFAE1 465 SGFKCNSAVVVALQNVKASNN.SPWEHCIDRYPVQIDSSSKSBTHVNGRS