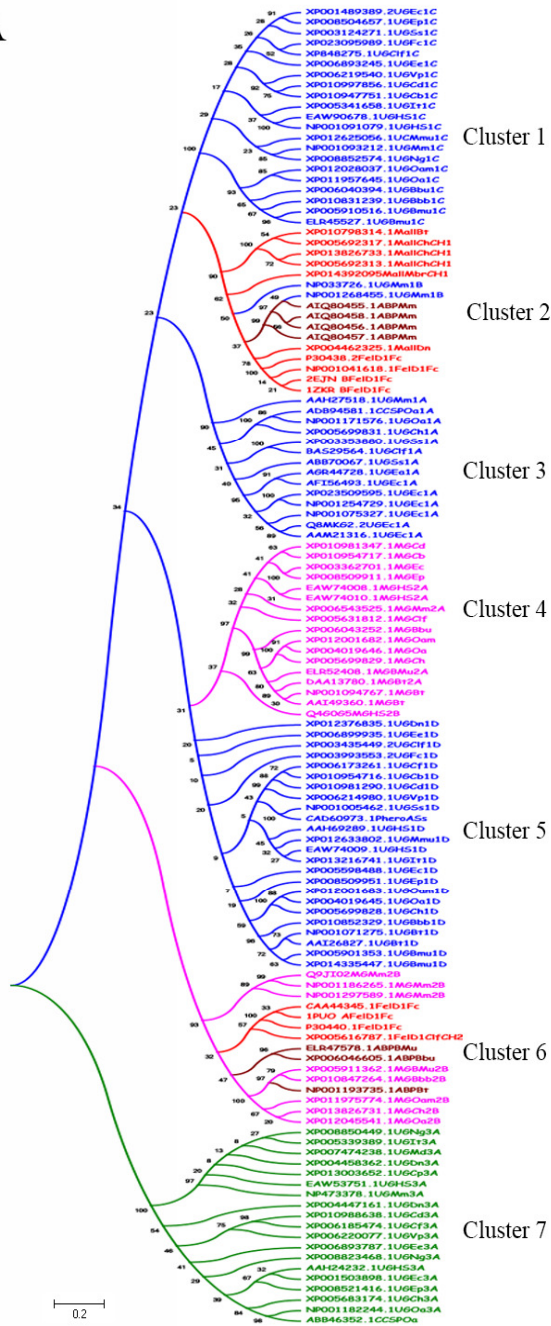
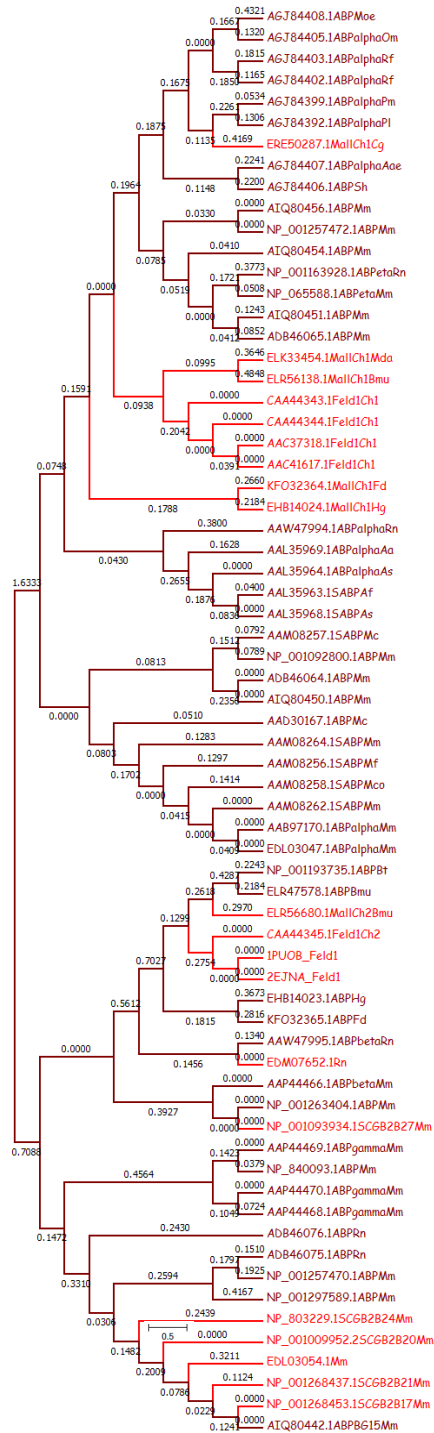


A



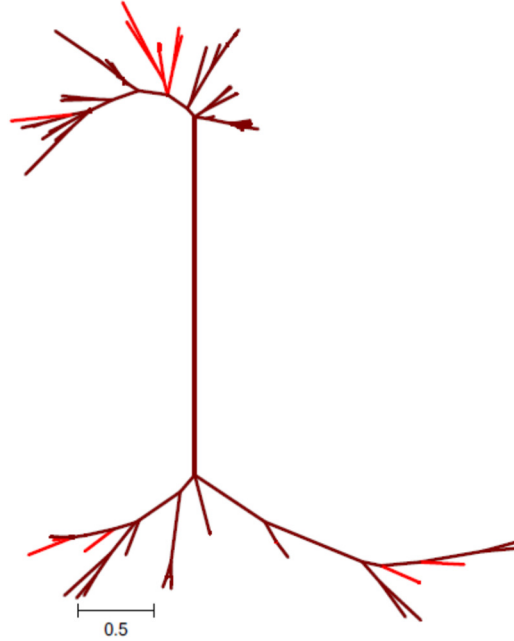
A



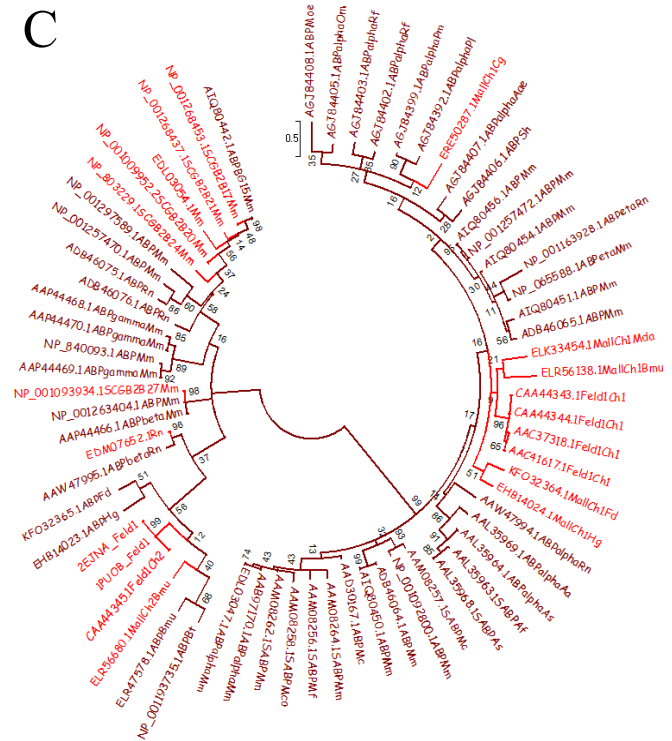
Cluster 2

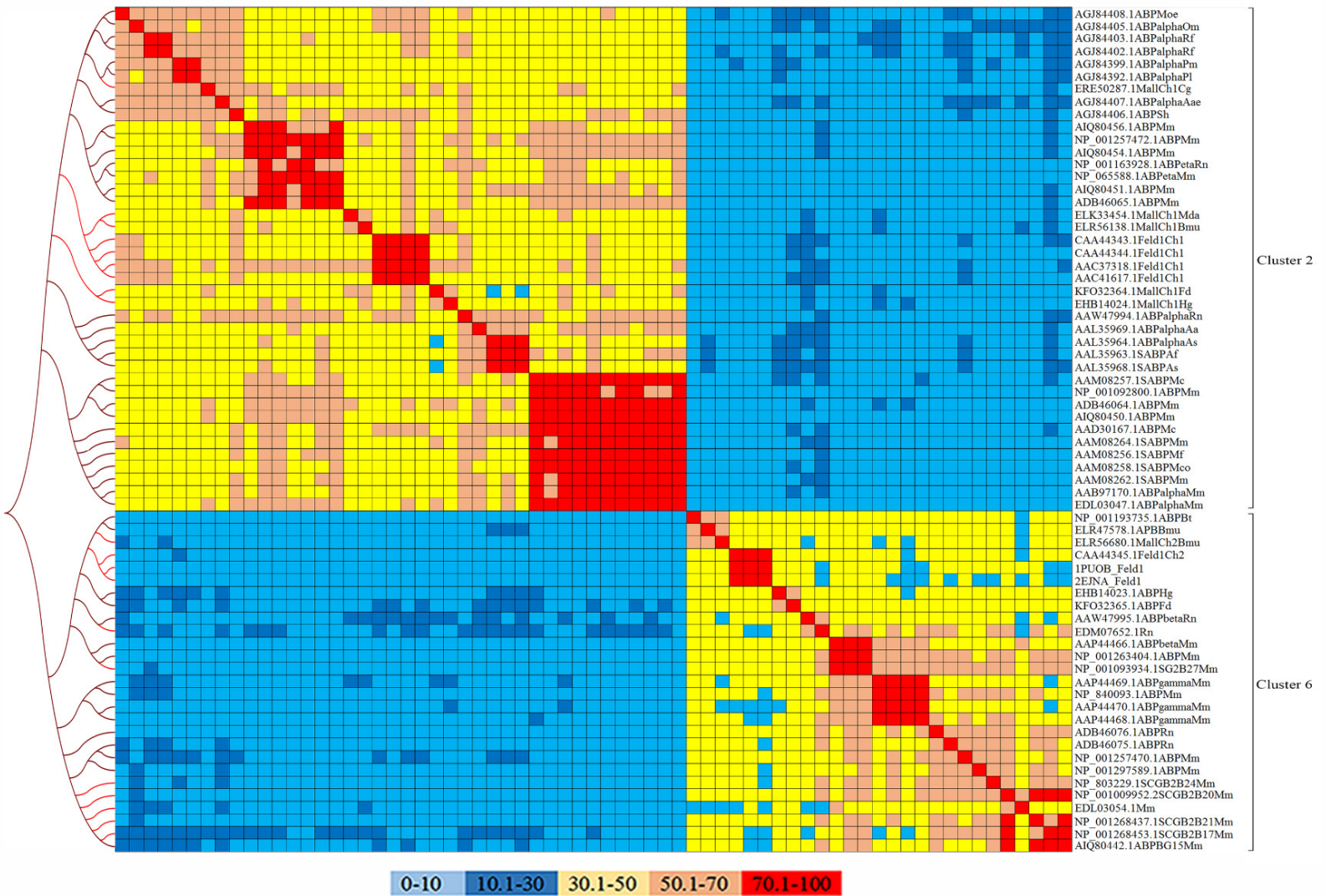
Cluster 6

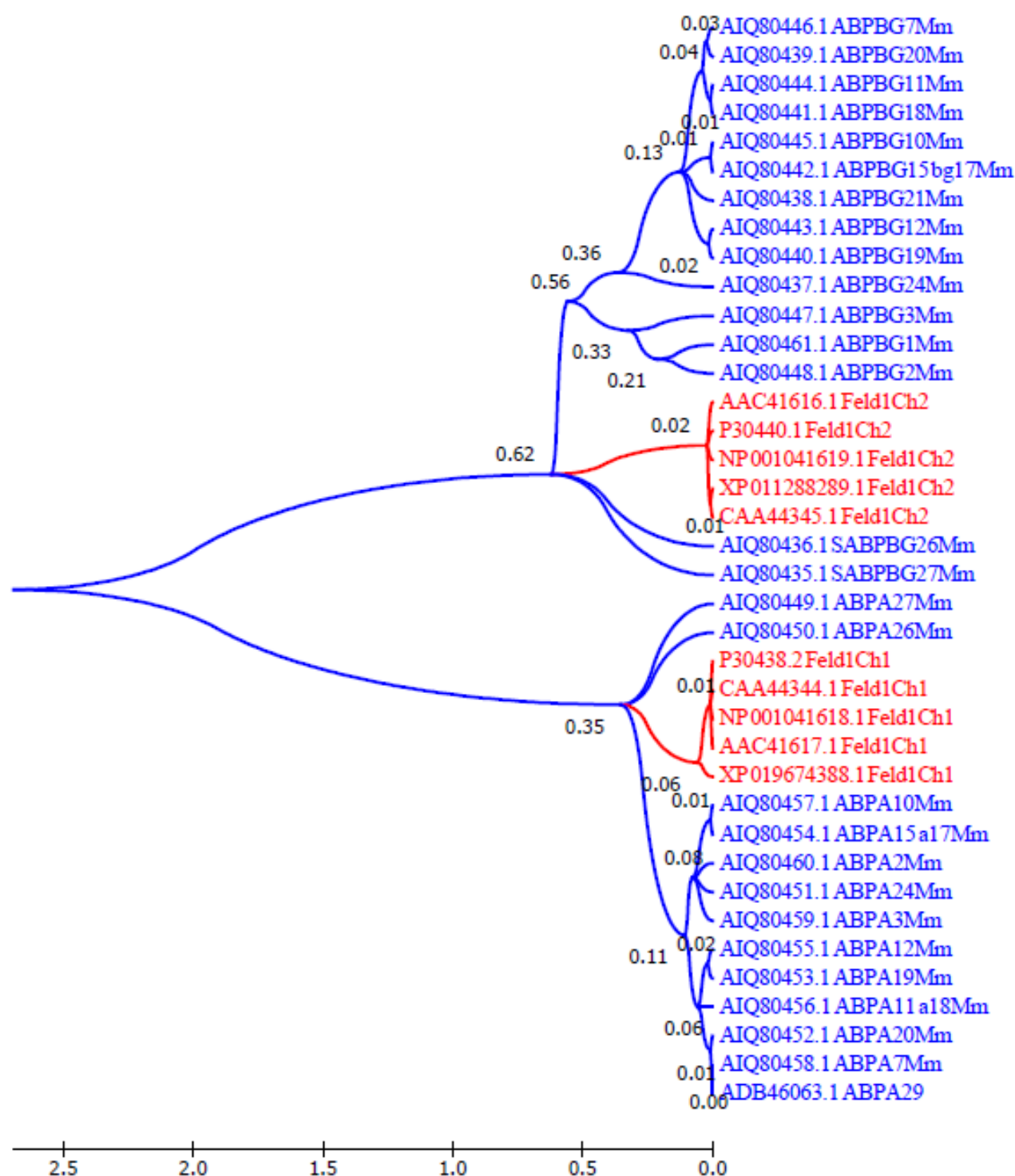
B



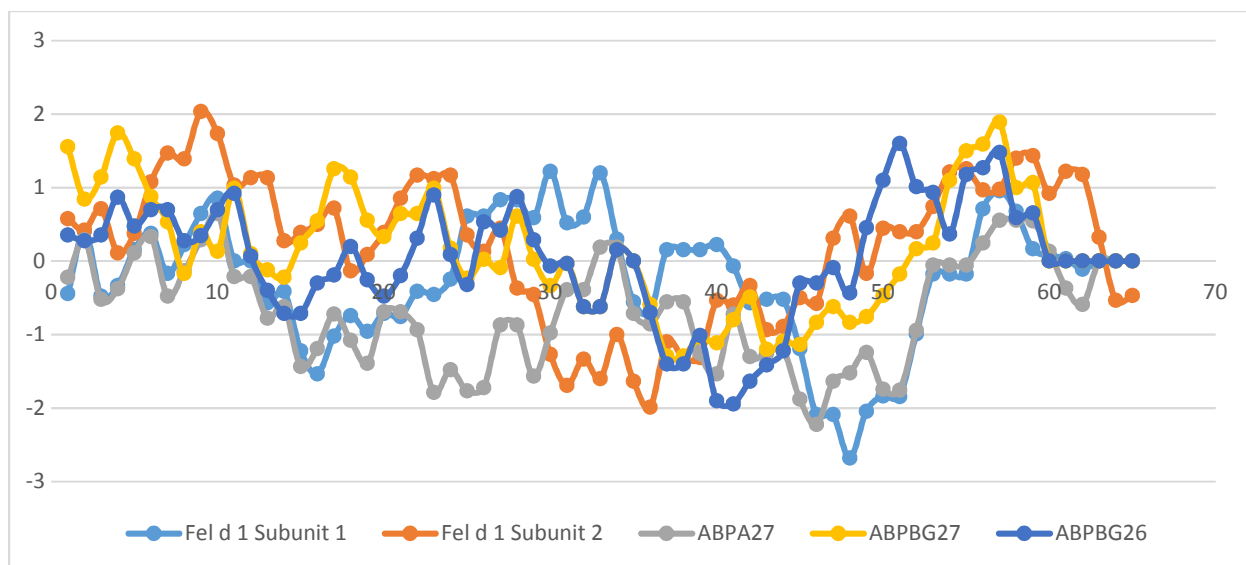
C



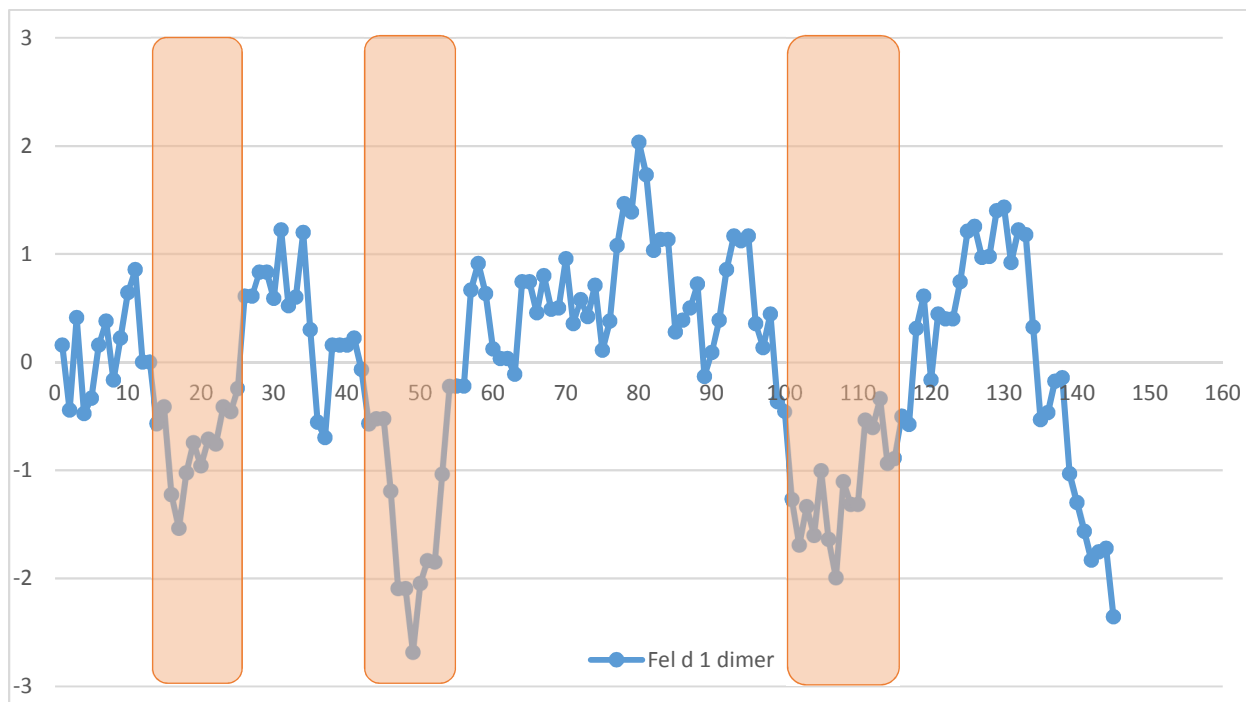




A



B



A

Feld1_Ch1	EICPAVKRDVDLFLTGTPDEYVEQVAQYKALPVVLENARILKNCVDAKMTEEDKENALSV
ABPA27	GLCPALQRKVDLFLNGTTEEYVEYLKQFNENTKVLENAANIKKCSDRTLTEEDKAQATSL
	:****:*.*****.***:*****:***:*****:***:***:*****:***:
Feld1_Ch1	LDKIYTSPLC
ABPA27	INKITASRTC
	::**:**

B

Feld1_Ch2	VKMAETCPIFYDVFFAVANGNELLLDLSLTKVNATEPERTAMKKIQDCYVENGLISRVL
ABPBG27	-----CAPFVGAYVKILGGNRLALNAYLSMFQATAAERVAFEKIQDCFNEEPLTTKLKS
	* * : .**.**: *: .:** **.*::*****: *: * : : .
Feld1_Ch2	GLVMTTISSSKDC
ABPBG27	PQIMMSILFSSEC
	:*:**.*:*

C

Feld1_Ch2	VKMAETCPIFYDVFFAVANGNELLLDLSLTKVNATEPERTAMKKIQDCYVENGLISRVL
ABPBG26_Mm	-----CLSFARTYGAILTLRRTFLHGDLSQFYATVAERVAFEKIQDCFREEGQKTIILN
	* * . : * : . . . :* . .::: ** **.*::*****: *: * : : :
Feld1_Ch2	GLVMTTISSSKDC
ABPBG26_Mm	PQIMLSLYLSPEC
	:*::*:*

D

2EJN_A	MEICPAVKRDVDLFLTGTPDEYVEQVAQYKALPVVLENARILKNCVDAKMTEEDKENALS
AGdimer	-GLCPALQRKVDLFLNGTTEEYVEYLKQFNENTKVLENAANIKKCSDRTLTEEDKAQATS
ABdimer	-GLCPALQRKVDLFLNGTTEEYVEYLKQFNENTKVLENAANIKKCSDRTLTEEDKAQATS
	:****:*.*****.***:*****:***:*****:***:***:*****:***:
2EJN_A	LLDKIYTSPLCVKMAETCPIFYDVFFAVANGNELLLDLSLTKVNATEPERTAMKKIQDCY
AGdimer	LINKITASRTC-----CLSFARTYGAILTLRRTFLHGDLSQFYATVAERVAFEKIQDCF
ABdimer	LINKITASRTC----EACAPFVGAYVKILGGNRLALNAYLSMFQATAAERVAFEKIQDCF
	*::**:* * * * * * : * * . : . . * . * : . ** **.*::*****:
2EJN_A	VENGLISRVL
AGdimer	REEGQKTIILNPQIMLSLYLSPEC-----
ABdimer	NEEPLTTKLKSPQIMMSILFSSEC-----
	: : : . :::*:*

A

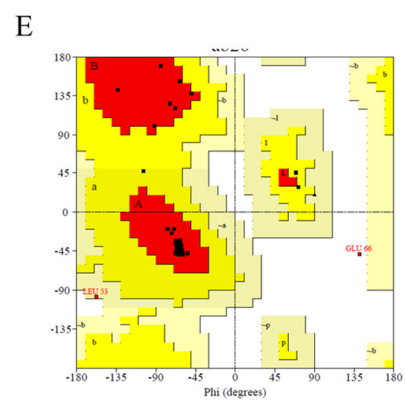
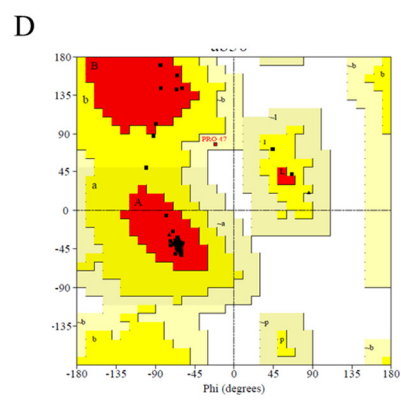
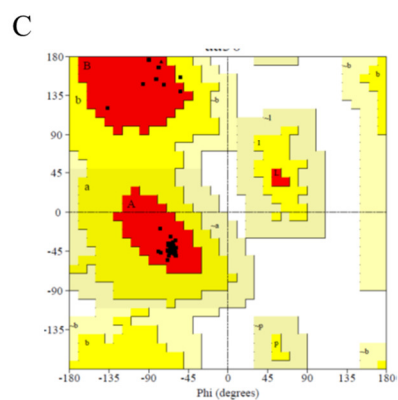
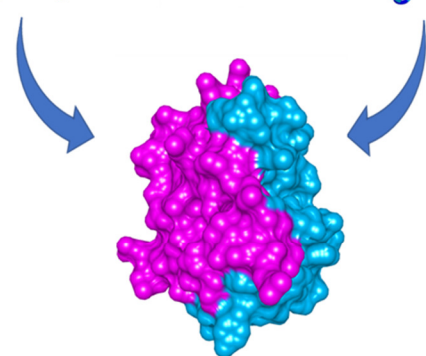
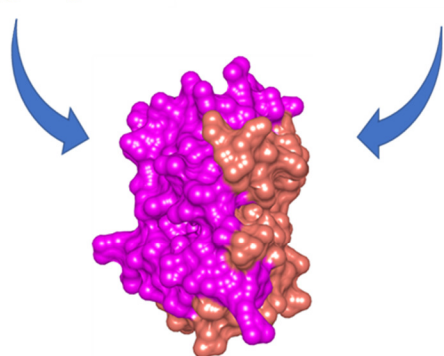
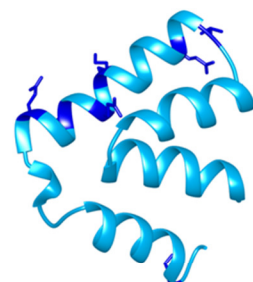
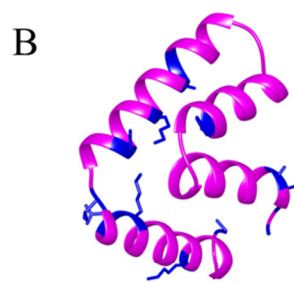
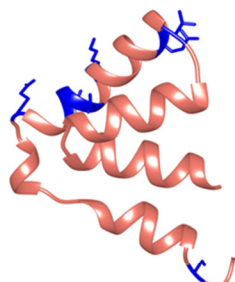
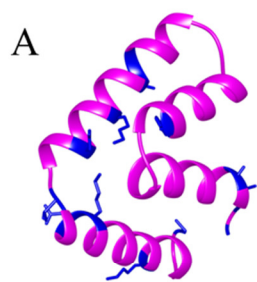
Feld1_Ch1	MKGACVLVLLWAALLLISGNCEICPAVKRDVDLFLTGTPDEYVEQVAQYKALPVVLENA
NP_001116633.1_PheroC	MKLAMVLMVLVALPVYCSAGSGCSYLERVISDTSD-SSVTTDVYLASLQEYISSDDTTQAI
	** * ***: : : *..* * *.. : * * *: .: * : . :
Feld1_Ch1	RILKNCVDAKMTEEDKENALSVLDKIYTSPLC---
NP_001116633.1_PheroC	KELRECFLK-QSEETLENFSVFMQVTYNSKLCAAF
	: ***. : ** ** .: *..* * *

B

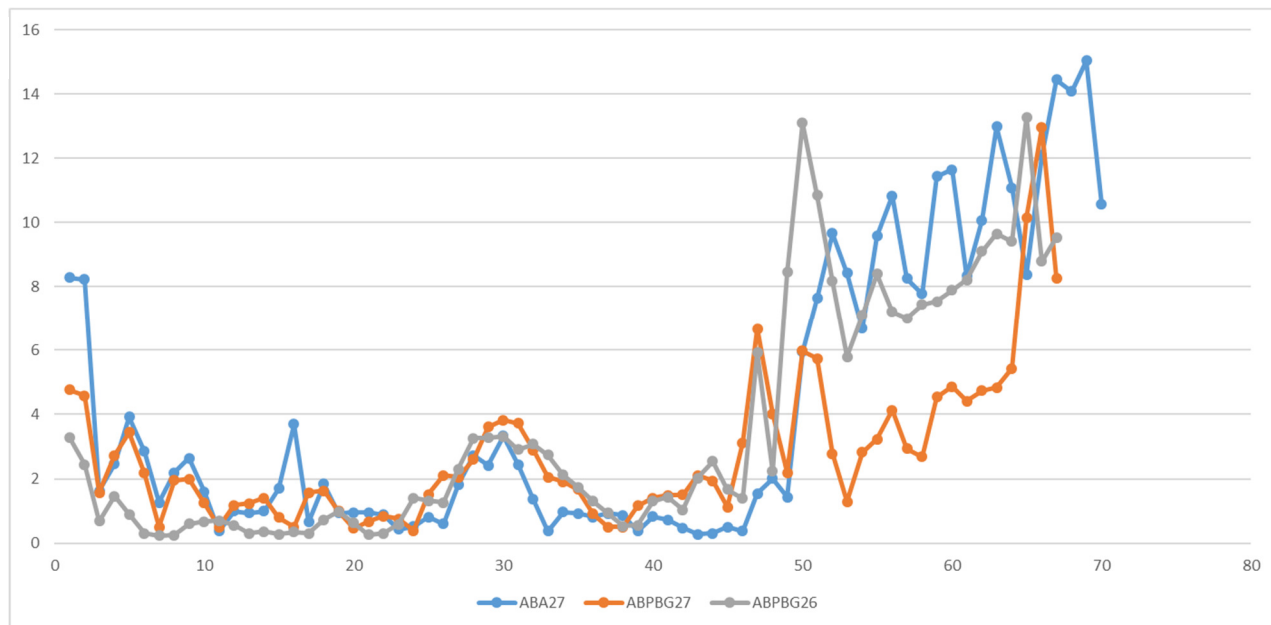
Feld1_Ch2	MRGALLV----LALLVTQALGVKMAETCPIFYDVFFAVANGNELLLDLSLTKVNATEPER
CAD60973.1_pheroA	MRLSLTVLLVTLALCCYEAHGI----VCRALVKEFSAFLWKPDEIYKPELELFGAPPEAV
	** : * * *** : * * : . * : . * * . : : . * ..*
Feld1_Ch2	TAMKKIQDCYVENGLISRVL DGLVMTTISSSKDCMGEAVQNTVEDLKLNTLGR---
CAD60973.1_pheroA	DAKMKVKQCANGISFKKKILLTKTLVEI-LVKKCGFEDVKTLFPDISLGLSASVFK
	* * : * * .: .: * .. * * * * * : . * : . *

C

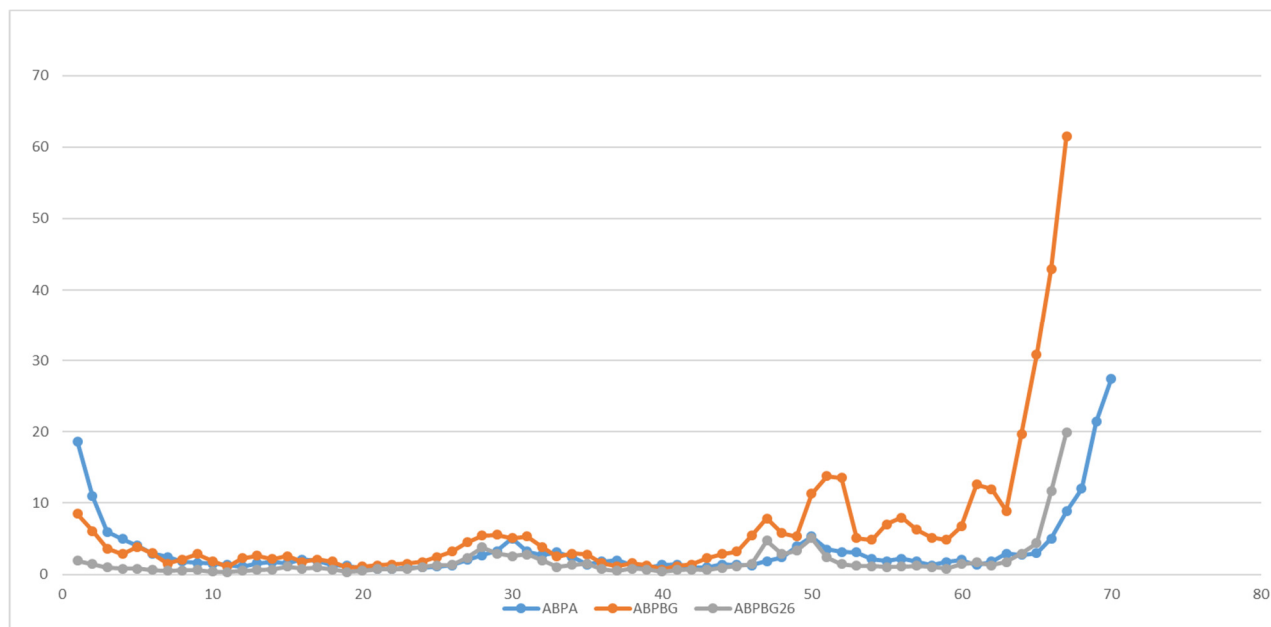
2EJN_A_FelD1Fc	-----MEICPAVKR-----DVD-----LFLTGTPDEYVEQVAQYKALPVV
Feld4Fc	MKLLLLCLGLILVCAHEEENVVRSNIDISKISGEWYSILLASDVKE---KIEENGSMRVF
	: : * .. : * : * : . * : : : * *
2EJN_A_FelD1Fc	LENARILK-----NCVDAKMTEE-----DKENALSLLDKIYTSPL
Feld4Fc	VEHIKALDNSSLSFVFHTKENGKCTEIFLVADKTKDGVYTVVYDGYNVFSIVETVYDEYI
	: * : : * . : * : : : * * : * : * : * : *
2EJN_A_FelD1Fc	CV--KMAETCPIFYDVFFAVANGNELLLDLSLTKVNATEPERTAMKKIQDCY---VEN
Feld4Fc	LLHLLNFDKTRPFQ-----LVEFYAREPDVS--QKLKEKFVKYCQEH
	: : : * * : *.. * * *: : * : : : *
2EJN_A_FelD1Fc	GLISRVL DGLVMTTISSSKDCMGEHHHHH---H
Feld4Fc	GIVN-ILD---LTEVDRCLQARGSEVAQDSSVE
	* : . : * : * . . . : * .. : . *



A



B



S. No	Zoological name	Short term	Common name	Found
1	<i>Microtus oeconomus</i>	Moe	Tundra vole	North America
2	<i>Oligoryzomys microtis</i>	Om	Small-eared pygmy rat	South America; Western Brazil
3	<i>Reithrodontomys fulvescens</i>	Rf	Fulvous harvest mouse	El Salvador, Guatemala, Honduras, Mexico, Nicaragua, And United States
4	<i>Peromyscus maniculatus</i>	Pm	Deer mouse	North America
5	<i>Peromyscus leucopus</i>	Pl	White-footed mouse	North America From Ontario, Quebec, Labrador
6	<i>Cricetulus griseus</i>	Cg	Chinese hamster	Northern China and Mongolia
7	<i>Akodon aerosus</i>	Aae	Highland grass mouse	Eastern Ecuador Through Peru Into Central Bolivia
8	<i>Sigmodon hispidus</i>	Sh	Hispid cotton rat	South America, Central America, And Southern North America
9	<i>Mus musculus</i>	Mm	House mouse	All Over the World
10	<i>Rattus norvegicus</i>	Rn	Brown rat	Norway Rat
11	<i>Myotis davidii</i>	Mda	Vesper bat	Hebei, Hubei, Inner Mongolia, Shaanxi, Shanxi And Hong Kong
12	<i>Bos mutus</i>	Bmu	Yak	Himalaya Region of Southern Central Asia
13	<i>Felis domesticus</i>	Fel d 1	House cats	United States
14	<i>Fukomys damarensis</i>	Fd	Damaraland mole-rat	Southern Africa
15	<i>Heterocephalus glabber</i>	Hg	Naked mole-rat	East Africa
16	<i>Apodemus agricus</i>	Aa	Striped field mouse	Eastern Europe To Eastern Asia
17	<i>Apodemus sylvaticus</i>	As	Wood mouse	From Europe And Northwestern Africa
18	<i>Apodemus falvicollis</i>	Af	Yellow-necked mouse	South China Field Mouse
19	<i>Mus cervicol</i>	Mc	Fawn-colored mouse	Cambodia, India, Possibly Indonesia, Laos, Myanmar, Nepal, Thailand, And Vietnam
20	<i>Mus famulus</i>	Mf	Servant mouse	Only in India
21	<i>Mus cookii</i>	Mco	Cook's mouse	China, India, Laos, Myanmar, Nepal, Thailand, And Vietnam
22	<i>Bos taurus</i>	Bt	Cattle	Europe, North Africa, And Much of Asia
23	<i>Microcebus murinus</i>	Mmu	Gray mouse lemur	Island of Madagascar

S. No	Gene Name	Gene Bank Account Number	Chromosome number	Protein Name	Protein ID	Strain	Conserved protein domain ID
1	B6_bg1	KM014083	7	ABPBG1	AIQ80461.1	C57BL/6	CDD:286352
2	B6_a2	KM014043	7	ABPA2	AIQ80460	C57BL/6	CDD:279445; CDD:238346
3	B6_bg2	KM014055	7	ABPBG2	AIQ80448.1	C57BL/6	CDD:286352
4	B6_bg3ψ	KM014056	7	ABPBG3	AIQ80447.1	C57BL/6	CDD:286352
5	B6_a3	KM014044	7	ABPA3	AIQ80459.1	C57BL/6	CDD:279445; CDD:238346
6	B6_bg7	KM014057	7	ABPBG7	AIQ80446.1	C57BL/6	CDD:286352
7	B6_a7	KM014045	7	ABPA7	AIQ80458.1	C57BL/6	CDD:279445; CDD:238346
8	B6_bg10ψ	KM014058	7	ABPBG10	AIQ80445.1	C57BL/6	CDD:305140; CDD:286352
9	B6_a10	KM014046	7	ABPA10	AIQ80457	C57BL/6	CDD:238346
10	B6_bg11	KM014059	7	ABPBG11	AIQ80444.1	C57BL/6	CDD:286352
11	B6_a11	KM014047	7	ABPA11_a18	AIQ80456.1	C57BL/6	CDD:279445; CDD:238346
12	B6_bg12	KM014060	7	ABPBG12	AIQ80443.1	C57BL/6	CDD:286352
13	B6_a12	KM014048	7	ABPA12	AIQ80455.1	C57BL/6	CDD:279445; CDD:238346
14	B6_bg15ψ	KM014061	7	ABPBG15_bg17	AIQ80442.1	C57BL/6	CDD:305140; CDD:286352
15	B6_a15	KM014049	7	ABPA15_a17	AIQ80454.1	C57BL/6	CDD:279445; CDD:238346
16	B6_bg18	KM014062	7	ABPBG18	AIQ80441.1	C57BL/6	CDD:286352
17	B6_bg19	KM014063	7	ABPBG19	AIQ80440.1	C57BL/6	CDD:286352
18	B6_a19	KM014050	7	ABPA19	AIQ80453.1	C57BL/6	CDD:279445; CDD:238346
19	B6_bg20	KM014064	7	ABPBG20	AIQ80439.1	C57BL/6	CDD:286352
20	B6_a20	KM014051	7	ABPA20	AIQ80452.1	C57BL/6	CDD:279445; CDD:238346
21	B6_bg21	KM014065	7	ABPBG21	AIQ80438.1	C57BL/6	CDD:286352
22	B6_bg24	KM014066	7	ABPBG24	AIQ80437.1	C57BL/6	CDD:286352
23	B6_a24	KM014052	7	ABPA24	AIQ80451.1	C57BL/6	CDD:279445; CDD:238346
24	B6_bg26	KM014067	7	ABPBG26	AIQ80436.1	C57BL/6	CDD:286352
25	B6_a26ψ	KM014053	7	ABPA26	AIQ80450.1	C57BL/6	CDD:279445; CDD:238346
26	B6_bg27	KM014068	7	ABPBG27	AIQ80435.1	C57BL/6	CDD:286352
27	B6_a27	KM014054	7	ABPA27	AIQ80449.1	C57BL/6	CDD:279445; CDD:238346
28	B6_a29	KM014045	7	ABPA29	ADB46063.1	C57BL/6	CDD:279445; CDD:238346

Protein Name	Dimer_Pocket Number	Area (Å ²)	Volume (Å ³)	Amino acid residues with position	Other binding pocket residues
Fel d 1_2EJN	Subunit A_41	343.6	318.9	Asp9, Val10 , Phe13 , Leu14 , Tyr21 , Val25, Leu41, Leu61, Ile64 , Phe80 , Val83, Phe84, Val87, Met112, Ile115 , Tyr119, Asp130, Val133, Met134	Cys3 , Lys29, Glu75 , Thr76, Phe85, Ala88, Asn89, Ile125, Val128, Thr135, Ser138, Ser139, Ser140, Cys143 , Met144
Fel d 1_2EJN	Subunit B_42	575.4	682.9	Asp9, Val10 , Phe13 , Leu14 , Tyr21 , Val25, Val34 , Asn37 , Ala38 , Leu41, Leu61, Ile64 , Phe80 , Val83, Phe84, Val87, Ala88, Met112, Ile115 , Tyr119, Val128, Leu129, Asp130, Gly131, Leu132, Val133, Met134	Cys3 , Glu75 , Asp82, Phe85, Asn89, Asn91, Glu92, Lys101, Leu124, Ile125, Arg127, Val128, Thr135, Ser138, Met144
AB dimer	23	763.7	684.9	Leu6, Lys9, Val10 , Phe13 , Leu14 , Tyr21 , Leu25, Val34 , Asn37 , Ala38 , Ile41, Ala57, Ile61, Ile64 , Phe80 , Ala83, Tyr84, Ile87, Phe112, Ile115 , Phe119, Leu128, Lys129, Ser130, Pro131, Gln132, Ile133, Met134 , Ile137	Cys3 , Phe28, Leu35, Ala39, Lys43, Asp46, Glu75 , Ala78, Leu88, Glu132, Leu138, Ser140, Cys143
AG dimer	23	726.9	724.5	Lys9, Val10 , Phe13 , Leu14 , Tyr21 , Lue25, Lys33, Val34 , Asn37 , Ala38 , Ile41, Ser45, Ala57, Ile61, Ile64 , Phe80 , Thr83, Tyr84, Ile87, Leu88, Arg91, Phe112, Ile115 , Phe119, Gln124, Ile127, Ile128, Leu129, Asn130, Pro131, Gln132, Ile133	Leu2, Cys3 , Leu6, Phe28, Asp46, Thr65, Thr69, Cys77, Leu78, Ser79, Arg82, Gly85, Gln101, Met134 , Leu135, Tyr138

S. No	ABP accession ID	Template	Members	Structural contacts (Fel d 1- ABP)	H-bonds	Weighted score
Subunit A of Fel d 1						
1	AGJ84407.1 (ABPAAae)	2ejn_A	140	Lys29-Tyr21 Glu75-Lys29 Glu75-Lys29 Lys141-Tyr28	4	-859.9
2	NP_001257472.1 (ABPMm)	2ejn_A	139	Arg8-Ile92 Arg8-Ile92 Arg8-Cys93 Lys29-Tyr44 Ser139-Lys52	5	-888.4
3	AAM08256.1 (ABPAMf)	2ejn_A	138	Glu75-Arg68 Asn89-Lys9 Ser126-Thr45	3	-935.2
4	AAB97170.1 (ABPAMm)	2ejn_A	136	Glu75-Arg68 Glu75-Arg68 Asn89-Lys9 Asn91-Ala5 Glu92-Asn29 Ser126-Ser45	6	-914.2
5	AAM08258.1 (ABPAMco)	2ejn_A	112	Glu36-Asn37 Ala74-Arg68 Ala74-Arg68 Thr76-Arg68 Tyr81-Thr69 Asn89-Leu6 Glu123-Asn29 Ser126-Lys9 Arg127-Asn29 Arg127-Asn29 Arg127-Asn31 Ser138-Thr69	12	-768.7
Subunit B of Fel d 1						
1	AGJ84407.1 (ABPAAae)	2ejn_B	172	Met73-Cys3 Glu75-Gly1 Asp82-Lys7 Asp82-Lys7 Asn89-Lys63 Lys101-Tyr21 Arg109-Asn37 Asp130-Lys63 Asp130-Lys63	9	-1061.7
2	NP_001257472	2ejn_B	147	Asn89-Lys86	8	-966.6

	.1 (ABPMm)			Lys101-Asp32 Lys101-Tyr44 Glu106-Asn60 Asn103-Lys52 Arg109-Asn60 Asp130-Lys86 Asp130-Lys86		
3	AAM08258.1 (ABPAMco)	2ejn_B	121	Glu75-Cys3 Glu75-Gly1 Asn89-Lys63 Asn91-Gln56 Lys101-Tyr21 Lys101-Lys9 Asn103-Asn29 Ala104-Asn37 Arg109-Asn37 Asn130-Lys63 Thr135-Thr69	11	-787.9
4	AAB97170.1 (ABPAMm)	2ejn_B	104	Glu75-Arg68 Leu97-Lys9 Thr100-Lys9 Asn103-Asn29	4	-794.1
5	AAM08256.1 (ABPAMf)	2ejn_B	101	Glu75-Gly1 Asn89-Lys63 Asn91-Gln56 Lys101-Lys9 Lys101-Tyr21 Ser139-Arg68	6	-776.8