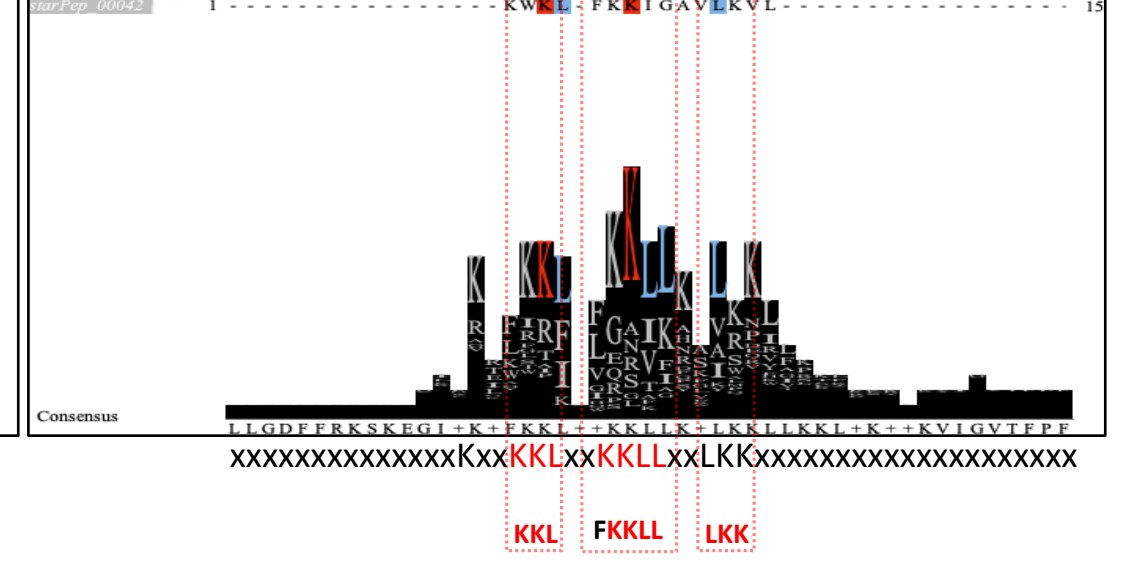
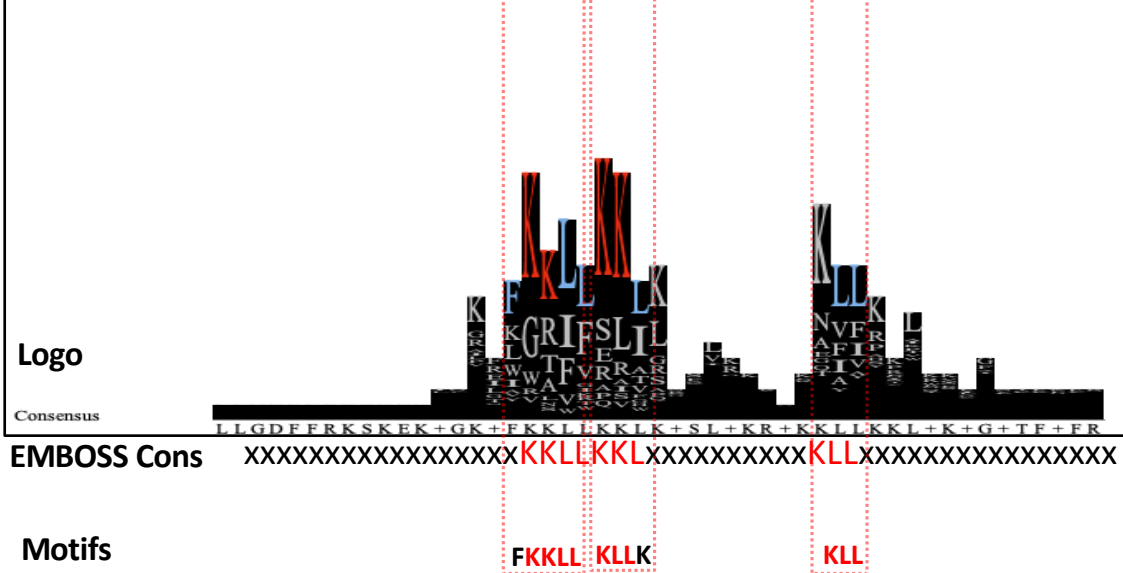


CLUSTER - 11

starPep_00004	1	LLGDFFRKSKEKIGKEF	KRTIVQRTKDFLR	---	NLVPRTES	---	37
starPep_06521	1	-----LAREYK	KIVEKLRWLR	---	QVLRTRLR	---	24
starPep_03278	1	-----IGKEF	KRIVERIKRFLR	---	ELVRPLR	---	24
starPep_08394	1	-----ALWKT	LLKKVL	---	KAYSPWTFN	---	20
starPep_06708	1	-----LWKT	LLKKVL	---	KAAA	---	14
starPep_09850	1	-----GIWKK	WIKKWL	---	KLLKKLWKKG	---	22
starPep_00803	1	-----KRFF	KFFKLLKNSVKKRAK	KFFKKPKVIGVTFFP			34
starPep_10917	1	-----KRFF	KFFKLLKNSVKKRFK	KFFKKLKVIGVTFFP			34
starPep_04312	1	-----KRAK	FFKLLKNSVKKRAK	KFFKKPKVIGVTFFP			11
starPep_04342	1	-----KTKK	FLKKT	---			10
starPep_10977	1	-----KTKK	FLKKT	---			10
starPep_00136	1	-----GRF	KRFKFK	---	KLFKKLSPVIPLHLG		27
starPep_00084	1	-----RGLRR	LRGRIAHGVKKYGP	TVLRIIRIAG			29
starPep_00514	1	-----KRL	FKLLFSLR	---	KY	---	14
starPep_03429	1	-----LNL	ALLAVAK	---	KIL	---	14
starPep_10286	1	-----IGI	LKLSKLL	---	AL	---	13
starPep_05968	1	-----IKK	ILSKIK	---	KLLK	---	13
starPep_02848	1	-----RIL	SILR	---	HQNLLKELQDLAL		20
starPep_07864	1	-----VLLVT	TRLHQ	---	RGVYRKRWHFSGRKYR		28
starPep_03012	1	-----FFG	TLKLS	---	KLIPGVMKLFSSKKKER		26
starPep_02515	1	-----FFG	VLKLR	---	KIF	---	13
starPep_00942	1	-----FFG	SVLKLIP	---	KIL	---	13
starPep_03927	1	-----FLG	ALFKALS	---			13
starPep_00517	1	-----KWK	LFKKIG	---	IG	---	20
starPep_00042	1	-----KWK	LFKKIG	---	AVLKV	---	15
starPep_03322	1	-----KIF	GAIWPLALGALK	---	NLIK	---	19
starPep_00527	1	-----LLPI	VGNLLKSL	---			13

MUSCLE

starPep_03322	1	-----KIF	GAIWPLALGALK	---	NLIK	---	19
starPep_06521	1	-----LAREYK	KIVEKLRWLR	---	QVLRTRLR	---	24
starPep_00004	1	LLGDFFRKSKEKIGKEF	KRTIVQRTKDFLR	---	NLVPRTES	---	37
starPep_03278	1	-----IGKEF	KRIVERIKRFLR	---	ELVRPLR	---	24
starPep_03429	1	-----LNL	ALLAVAK	---	KIL	---	14
starPep_07864	1	-----VLLVT	TRLHQ	---	RGVYRKRWHFSGRKYR		28
starPep_00942	1	-----FFG	SVLKLIP	---	KIL	---	13
starPep_02848	1	-----RIL	SILR	---	HQNLLKELQDLAL		20
starPep_03927	1	-----FLG	ALFKALS	---			13
starPep_00084	1	-----RGLRR	LRGRIAHGVKKYGP	TVLRIIRIAG			29
starPep_00527	1	-----LLPI	VGNLLKSL	---			13
starPep_02515	1	-----FFG	VLKLR	---	KIF	---	13
starPep_03012	1	-----FFG	TLKLS	---	KLIPGVMKLFSSKKKER		26
starPep_09850	1	-----GIWKK	WIKKWL	---	KLLKKLWKKG	---	22
starPep_10917	1	-----KRFF	KFFKLLKNSVKKRFK	KFFKKLKVIGVTFFP			34
starPep_00803	1	-----KRFF	KFFKLLKNSVKKRAK	KFFKKPKVIGVTFFP			34
starPep_04312	1	-----KRAK	FFKLLKNSVKKRAK	KFFKKPKVIGVTFFP			11
starPep_10977	1	-----KTKK	FLKKT	---			10
starPep_04342	1	-----KTKK	FLKKT	---			10
starPep_00136	1	-----GRF	KRFKFK	---	KLFKKLSPVIPLHLG		27
starPep_00514	1	-----KRL	FKLLFSLR	---	KY	---	14
starPep_03429	1	-----LNL	ALLAVAK	---	KIL	---	14
starPep_10286	1	-----IGI	LKLSKLL	---	AL	---	13
starPep_05968	1	-----IKK	ILSKIK	---	KLLK	---	13
starPep_02848	1	-----RIL	SILR	---	HQNLLKELQDLAL		20
starPep_07864	1	-----VLLVT	TRLHQ	---	RGVYRKRWHFSGRKYR		28
starPep_03012	1	-----FFG	TLKLS	---	KLIPGVMKLFSSKKKER		26
starPep_02515	1	-----FFG	VLKLR	---	KIF	---	13
starPep_00942	1	-----FFG	SVLKLIP	---	KIL	---	13
starPep_03927	1	-----FLG	ALFKALS	---			13
starPep_00517	1	-----KWK	LFKKIG	---	IG	---	20
starPep_00042	1	-----KWK	LFKKIG	---	AVLKV	---	15
starPep_05968	1	-----KIF	GAIWPLALGALK	---	NLIK	---	19
starPep_00517	1	-----LLPI	VGNLLKSL	---			13
starPep_00042	1	-----KWK	LFKKIG	---	AVLKV	---	15



MAFFT

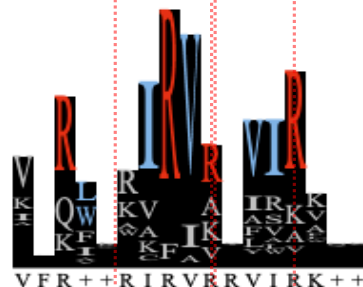
CLUSTER - 14

MUSCLE

<i>starPep_02909</i>	1	V	R	L	R	I	R	V	A	V	I	R	K	-	-
<i>starPep_02906</i>	1	V	Q	L	R	I	R	V	A	V	I	R	A	-	-
<i>starPep_02910</i>	1	V	R	L	R	I	R	V	A	V	R	R	A	-	-
<i>starPep_04316</i>	1	K	R	F	R	I	R	V	A	V	R	R	A	-	-
<i>starPep_02700</i>	1	K	R	F	R	I	R	V	R	V	I	R	K	-	-
<i>starPep_10965</i>	1	K	R	W	R	I	R	V	R	V	I	R	K	C	-
<i>starPep_07894</i>	1	V	Q	W	R	I	R	V	R	V	I	K	K	-	-
<i>starPep_13500</i>	1	V	Q	F	R	I	R	V	R	I	V	I	R	K	-
<i>starPep_06111</i>	1	I	R	V	K	I	R	V	K	-	I	R	V	K	-
<i>starPep_06108</i>	1	I	R	I	K	I	R	I	K	-	-	-	-	-	-
<i>starPep_07893</i>	1	V	Q	W	R	A	I	R	V	R	V	I	R	-	-
<i>starPep_13504</i>	1	V	Q	L	R	A	I	R	V	R	V	I	R	-	-
<i>starPep_04853</i>	1	-	-	-	W	K	K	I	R	V	R	L	S	A	-
<i>starPep_11008</i>	1	-	-	-	K	W	K	I	R	V	R	L	S	A	-
<i>starPep_07412</i>	1	-	-	-	R	F	W	K	V	R	V	K	-	I	R
<i>starPep_01564</i>	1	-	-	-	R	L	-	A	R	I	V	-	V	I	R
<i>starPep_00379</i>	1	-	-	-	R	L	-	C	R	I	V	-	V	I	R
<i>starPep_12527</i>	1	-	-	-	R	I	-	V	R	V	R	-	A	I	R
<i>starPep_12528</i>	1	-	-	-	R	I	-	V	R	V	R	-	I	A	R
<i>starPep_13515</i>	1	V	R	L	-	-	I	R	A	V	R	A	R	V	-
<i>starPep_13528</i>	1	V	R	W	-	-	A	R	V	A	R	I	L	R	V
<i>starPep_08271</i>	1	A	F	K	A	F	W	K	F	V	K	F	V	K	-
<i>starPep_11001</i>	1	-	-	-	K	W	F	W	K	F	V	K	F	V	K

<i>starPep_06111</i>	1	-	-	-	I	R	V	K	I	R	V	K	I	R	V	K	-	-	12
<i>starPep_06108</i>	1	-	-	-	I	R	I	K	I	R	-	I	K	-	-	-	-	-	8
<i>starPep_13528</i>	1	-	-	-	V	R	W	A	R	V	-	A	R	I	L	R	V	-	12
<i>starPep_08271</i>	1	A	F	K	A	F	W	K	F	V	K	F	V	K	-	-	-	-	13
<i>starPep_11001</i>	1	-	-	-	K	W	F	W	K	F	V	K	F	V	K	-	-	-	11
<i>starPep_04853</i>	1	-	-	-	-	W	K	K	I	R	V	R	L	S	A	-	-	-	10
<i>starPep_11008</i>	1	-	-	-	-	K	W	K	I	R	V	R	L	S	A	-	-	-	10
<i>starPep_07412</i>	1	-	-	-	R	F	W	K	V	R	V	K	-	I	R	F	-	-	12
<i>starPep_13515</i>	1	-	-	-	-	V	R	L	I	R	A	V	R	A	R	V	-	-	12
<i>starPep_13500</i>	1	-	-	-	V	Q	F	R	I	R	V	R	I	V	I	R	K	-	13
<i>starPep_01564</i>	1	-	-	-	R	L	A	R	I	V	V	-	I	R	V	A	R	-	12
<i>starPep_00379</i>	1	-	-	-	R	L	C	R	E	V	V	-	I	R	V	C	R	-	12
<i>starPep_02700</i>	1	-	-	-	K	R	F	R	I	R	V	R	V	I	R	K	-	-	12
<i>starPep_10965</i>	1	-	-	-	K	R	W	R	I	R	V	R	V	I	R	K	C	-	13
<i>starPep_04316</i>	1	-	-	-	K	R	F	R	I	R	V	A	V	R	R	A	-	-	12
<i>starPep_02910</i>	1	-	-	-	V	R	L	I	R	V	A	V	R	R	A	-	-	-	12
<i>starPep_02909</i>	1	-	-	-	V	R	L	R	I	R	V	A	V	I	R	K	-	-	12
<i>starPep_02906</i>	1	-	-	-	V	Q	L	R	I	R	V	A	V	I	R	A	-	-	12
<i>starPep_07894</i>	1	-	-	-	V	Q	W	R	I	R	V	R	V	I	K	K	-	-	12
<i>starPep_07893</i>	1	-	-	-	V	Q	W	R	A	I	R	V	R	V	I	R	-	-	12
<i>starPep_13504</i>	1	-	-	-	V	Q	L	R	A	I	R	V	R	V	I	R	-	-	12
<i>starPep_12527</i>	1	-	-	-	-	R	I	V	R	V	R	A	I	R	W	Q	V	-	12
<i>starPep_12528</i>	1	-	-	-	-	R	I	V	R	V	R	I	A	R	L	Q	V	-	12

Logo



EMBOSS Cons

xxRxxRIRVRxVIRxxx

Motifs

RIPVR RIVR

Consensus



xxxxRWRxIRxVRVIRxxx

R[WL]R

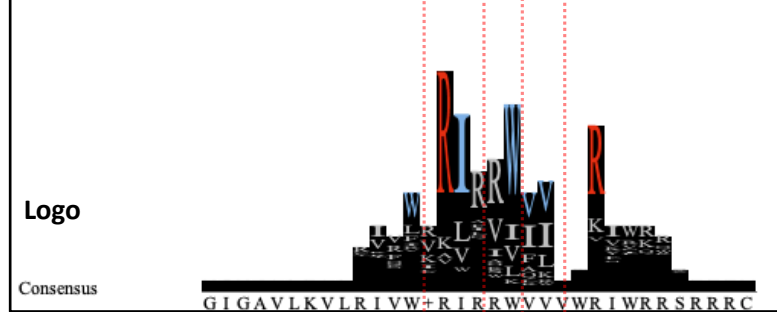
VRVIR

MAFFT

CLUSTER - 15

MUSCLE

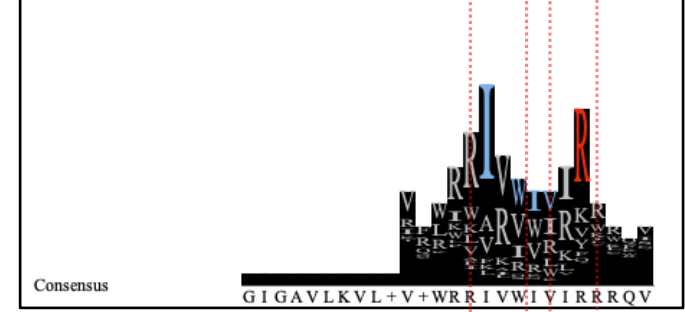
starPep_07411	1	-----RFRRLFRTRV	RVLKKI	-----16
starPep_12469	1	-----RFKRVARVW	-----10	
starPep_08958	1	-----CVNWKKILGKII	KVVK	-----16
starPep_10445	1	-----IRWRIRVWVR	RIC	-----13
starPep_13505	1	-----VQLRRIRVWVI	R	-----12
starPep_07895	1	-----VQWRRIRVWVI	R	-----12
starPep_13405	1	-----VFWRRI RVWVI	R	-----12
starPep_13404	1	-----VFLRRIRVVI	R	-----12
starPep_05949	1	-----IFWRRIVIK	KF	-----12
starPep_12770	1	-----RRWIRVAVIL	RV	-----12
starPep_12529	1	-----RIVWVIRRLQV	-----12	
starPep_12531	1	-----RIVWVIRRWQV	-----12	
starPep_12530	1	-----RIVWVIRRFV	-----12	
starPep_12525	1	-----RIVIVIRRLFV	-----12	
starPep_09517	1	-----FKKVI VIRRWF I	-----12	
starPep_02908	1	-----VRLIVAV	RIWRR	-----12
starPep_13517	1	-----VRLIVAV	RIWRR	-----12
starPep_06382	1	-----KRWRWIV	RNI RR	-----12
starPep_12523	1	-----RI-RWIL	RYWRWS	-----12
starPep_10594	1	-----KI-KWIL	KYWKWS	-----12
starPep_10922	1	-----KRIRWVI	LWRQV	-----12
starPep_13644	1	-----WIV	VIWRRKRRRC	13
starPep_02907	1	-----VQRWLVWR	IRK	-----12
starPep_07634	1	-----RIRWVWR	IRVQRR	-----12
starPep_07901	1	-----VRLRIRWVWL	RK	-----12
starPep_00000	1	GIGAVLKVLTTGLPALISWIK	RKRQQ	-----26



EMBOSS Cons xxxxxxxxxxxxxxRlxrWVvxRxxxxxxxxxx

Motifs
RIRRW
WVV

starPep_08958	1	-----CVNWKKILGKIIKVVK	-----16
starPep_07411	1	-----RFRRLFRIRVRVLKKI	16
starPep_12469	1	-----RFKRVARVW	-----10
starPep_00000	1	GIGAVLKVLTTGLPALISWIKRKRQQ	26
starPep_02908	1	-----VRLIVAVRIRWR	-----12
starPep_13517	1	-----VRLIVAVRIRWR	-----12
starPep_12770	1	-----RRWIRVAVIRLV	-----12
starPep_06382	1	-----KRWRWIVRNIR	-----12
starPep_05949	1	-----IFWRRIVIVKKF	-----12
starPep_07634	1	-----RRWVWRIVQRR	-----12
starPep_13644	1	-----WIVVIRRRKRRRC	13
starPep_10922	1	-----KRIRWVILWRQV	12
starPep_12525	1	-----RIVIVRIRRLFV	12
starPep_12529	1	-----RIVWVIRRLQV	12
starPep_12531	1	-----RIVWVIRRWQV	12
starPep_12530	1	-----RIVWVIRRFV	12
starPep_07901	1	-----VRLRIRWVWLK	-----12
starPep_09517	1	-----FKKVI VIRRWF I	12
starPep_02907	1	-----VQRWLIVWRIRK	-----12
starPep_10445	1	-----IRWRIRVWVRIC	-----13
starPep_13505	1	-----VQLRRIRVWVIR	-----12
starPep_07895	1	-----VQWRRIRVWVIR	-----12
starPep_13405	1	-----VFWRRI RVWVI R	-----12
starPep_10594	1	-----KIKWILKYWKWS	12
starPep_13404	1	-----VFLRRIRVIVIR	-----12
starPep_12523	1	-----RIRWILRYWRWS	12



EMBOSS Cons xxxxxxxxxxxxxxRlxxIlxRxxxx

Motifs
RIRIR
RI[VR]W

MAFFT

CLUSTER - 17

MUSCLE

starPep_00025	1	-----FKC-RR W QWR-MKK L GAP SITCVRRAF---	25
starPep_02379	1	-----RF-GR F LRRK-IRRFRPKVTITIQGSARFG	27
starPep_04734	1	-----RW-GR W LRRK-IRRWRPK-----	15
starPep_04737	1	-----RW-KR W WRR-KK-----	10
starPep_04678	1	-----RK-KR W WRR-KK-----	10
starPep_05137	1	-----CWF W KWRR-RRR-----	12
starPep_02702	1	-----KR W -KW W RR-C-----	10
starPep_04101	1	-----GR W -KR W RKK-WKK L WKKLS-----	18
starPep_08392	1	-----AL W KEV-LKNAGKAALNEINNLV---	22
starPep_03602	1	-----RKS Y KALHKRAR-----	12
starPep_11067	1	-----LA A KLTKA-ATK L TAALTKLAAALT---	24
starPep_03792	1	-----ASH L GHHALDHLLK-----	14
starPep_00103	1	-----DSHAKRHHGY-KR K FHEKHHSHRGY---	24
starPep_00522	1	-----LAHQ K PFIRK-S Y KLHKRCR-----	20
starPep_07526	1	-----RPA F RKA A FRVMRACV---	16
starPep_00145	1	-----KW C FRVCYR G IC Y RKCR-----	17
starPep_02430	1	-----W K LLS K AQ E K F G K N K SR-----	17
starPep_09905	1	GLK L R F E F S K I K G E F L K T P E V R F R D I K L K D N R I S V Q R---	37
starPep_03008	1	E-----VAS F DK S KLK-----	11
starPep_11826	1	-----MLC V -L Q G L REGG-----	12
starPep_11825	1	-----MLC V -L Q G L REC-----	11
starPep_01143	1	-----LMC T HP L DCSN-----	11
starPep_09259	1	-----EL R L V CM G Q L -----	10

starPep_00025	1	-----FKC R R W QWRM K L G A P S I T C V R R A F---	25
starPep_00103	1	-----D S HAKRHHGYKR K FHEKHHSHRGY---	24
starPep_00522	1	-----LAHQ K PFIRK S Y K L H K R C R -----	20
starPep_03602	1	-----R K S Y KAL H K R A R -----	12
starPep_02379	1	-----R F GR F L R K I R R FRPKVTITIQGSARFG	27
starPep_04734	1	-----R W GR W L R K I R R WRPK-----	15
starPep_04101	1	-----G R W K R W R K K W K L W K K L S-----	18
starPep_04737	1	-----R W KR W WRR K -----	10
starPep_04678	1	-----R K KR W WRR K -----	10
starPep_02702	1	-----K R W W K W WRR C -----	10
starPep_05137	1	-----C W F W K W WRRR R -----	12
starPep_11826	1	-----M L C V L Q G L REGG-----	12
starPep_11825	1	-----M L C V L Q G L REC-----	11
starPep_09259	1	-----E L R L V C M G Q L -----	10
starPep_01143	1	-----L M C T HP L DCSN-----	11
starPep_03008	1	-----E V A S F D K S KLK-----	11
starPep_03792	1	-----A S H L G H H A L D H L L K -----	14
starPep_11067	1	-----L A A K L T K A A T K L T A A L T K L A A A L T ---	24
starPep_09905	1	GLK L R F E F S K I K G E F L K T P E V R F R D I K L K D N R I S V Q R---	37
starPep_08392	1	-----A L W K E V L K N A G K A L N E I N N L V---	22
starPep_07526	1	-----R P A F R K A A FRVMRACV---	16
starPep_02430	1	-----W K LLS K AQ E K F G K N K SR-----	17
starPep_00145	1	-----K W -C F R V C Y R G I C YR K C R -----	17

Logo

Consensus

+LKLRFEF+RWAKRWLRK**C**L**K**L**R**K**K**+LRHIRA+V++G

XXXXXXXXXXXXXXXXXX**R**XXX**K**XXXXXXXXXXXXXXXXXXXX

WLRK **KKL**

Consensus

GLKL+++++++R**K**R**W**K**W**L**K**R**R**K**L**G**K**K**R**+++G++R**F**G

XXXXXXXXXXXXXXXXXX**W**XXX**K**R**X**R**K**XXXXXXXXXXXXXXXXXXXX

RWK **KR[AKL]RK**

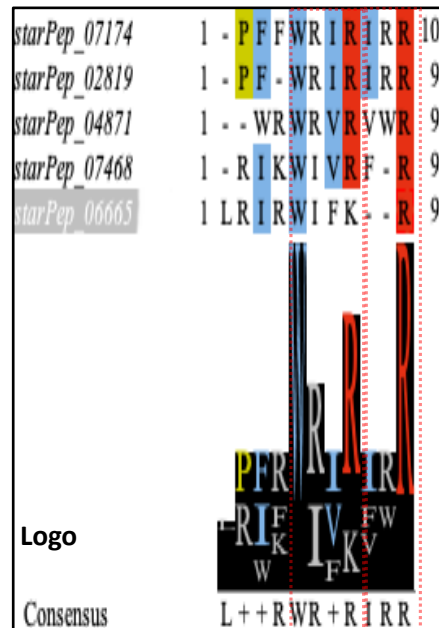
EMBOSS Cons

Motifs

MAFFT

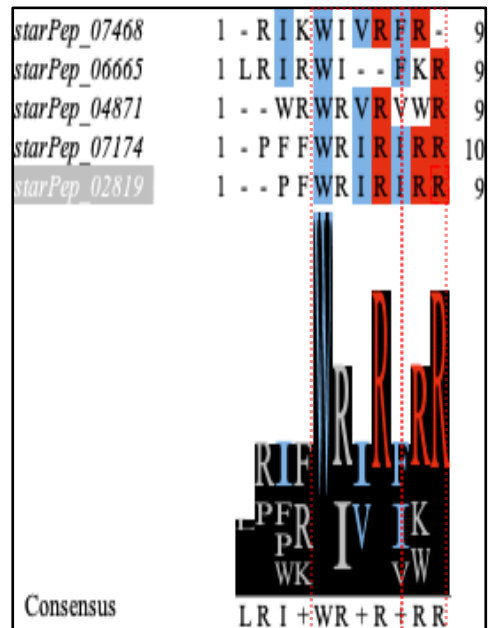
CLUSTER - 22

MUSCLE



EMBOSS Cons xx**FRWRIRIxR**

Motifs **WRIR IRR**
FRWRI



xxx**RWRVRIRR**

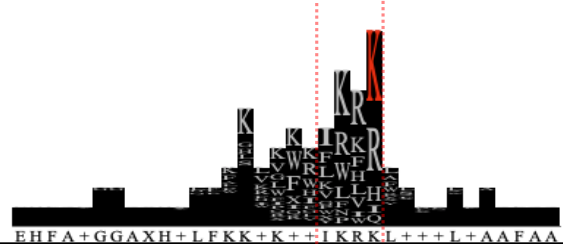
WRVR IRR
RWRVR

MAFFT

<i>starPep_02400</i>	1	-----RWRWRWRW-----	8
<i>starPep_08001</i>	1	-----WWWLRKIW-----	8
<i>starPep_10637</i>	1	-----K K K K K K K K K K A A F A A W A A F A A	21
<i>starPep_14812</i>	1	-----AKRXXGYKRKFXX-----	13
<i>starPep_02281</i>	1	-----KKVVFVKVFK-----	10
<i>starPep_06255</i>	1	-----KKVVFVWVKFK-----	10
<i>starPep_16445</i>	1	-----CGG---LLLFLKKRKRKY-----	17
<i>starPep_18706</i>	1	EHFAYGGAXHYQFP SVKXFXKRQX	24
<i>starPep_00002</i>	1	-----ILPWKWPWWPWR-----	13
<i>starPep_02383</i>	1	-----RIWVIWRR-----	8
<i>starPep_05447</i>	1	-----FWRRFWR-----	8
<i>starPep_04044</i>	1	-----GKI IKL KASLKL-----	13
<i>starPep_09989</i>	1	-----GQI INLK-----	7
<i>starPep_05964</i>	1	-----IKIKIKIK-----	8
<i>starPep_03693</i>	1	-----VKLFPVKLFP-----	10
<i>starPep_06358</i>	1	-----KQFRIRVRV-----	9
<i>starPep_02730</i>	1	-----LKLKLLKLLKLL-----	15
<i>starPep_05305</i>	1	-----FHFFHFFHFFHFF-----	14
<i>starPep_09934</i>	1	-----GLLWHLHLLHLLH-----	12
<i>starPep_00739</i>	1	-----GRRRRRSVQWCA-----	11

Logo

Consensus



EMBOSS Cons XXXXXXXXXXXXXXXXXXXXIKRXXXXXXXXXXXX

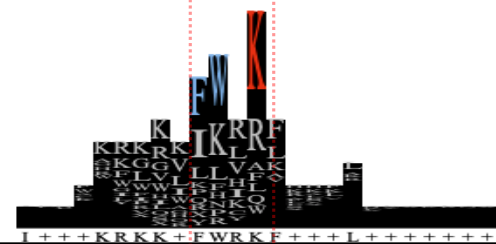
Motifs

IKRK

SINGLETONS

<i>starPep_00739</i>	1	--GRRRRRSVQWCA-----	11
<i>starPep_18706</i>	1	EHFAYGGAXHYQFP SVKXFXKRQX	24
<i>starPep_02383</i>	1	-----RIWVIWRR-----	8
<i>starPep_08001</i>	1	-----WWWLRKIW-----	8
<i>starPep_06358</i>	1	-----KQFRIRVRV-----	9
<i>starPep_00002</i>	1	ILPWKWPWWPWR-----	13
<i>starPep_02400</i>	1	-----RWRWRWRW-----	8
<i>starPep_05447</i>	1	-----FWRRFWR-----	8
<i>starPep_09989</i>	1	-----GQI INLK-----	7
<i>starPep_03693</i>	1	-----VKLFPVKLFP-----	10
<i>starPep_04044</i>	1	-----GKI IKL KASLKL-----	13
<i>starPep_14812</i>	1	-----AKRXXGYKRKFXX-----	13
<i>starPep_02281</i>	1	-----KKVVFVKVFK-----	10
<i>starPep_06255</i>	1	-----KKVVFVWVKFK-----	10
<i>starPep_05964</i>	1	-----IKIKIKIK-----	8
<i>starPep_10637</i>	1	-----K K K K K K K K K K A A F A A W A A F A A	21
<i>starPep_16445</i>	1	-----CGLLLLFLKLRKRKY-----	17
<i>starPep_05305</i>	1	-----FHFFHFFHFFHFF-----	14
<i>starPep_02730</i>	1	-----LKLKLLKLLKLL-----	15
<i>starPep_09934</i>	1	-----GLLWHLHLLHLLH-----	12

Consensus

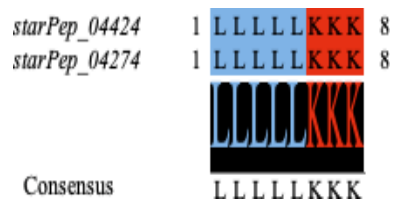


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[F][KW]RK

MUSCLE

Local Alignment

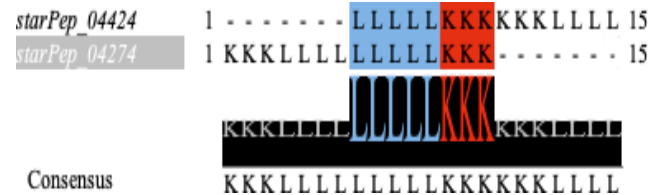


Cluster 6

Motifs

LLLLLKKK

Global Alignment



Cluster 28

Motifs



YAPWYN