

	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190
H.sapiens	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
P.troglodytes	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
M.mulatta	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
C.familiaris	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
B.taurus	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
M.musculus	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
R.novgicus	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
S.scrofa	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
G.gallus	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
X.laavis	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
X.tropicalis	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
D.ferio(MC1)	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
T.rubripes(MC1)	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
T.nigroviridis(MC1)	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
T.rubripes(MC2)	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
T.nigroviridis(MC2)	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
D.ferio(MC2)	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
B.florida	MM	OKP	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
C.intestinalis	MM	OKP	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
C.savignyi	MM	OKP	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
S.purpuratus	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
Capitella.sp.	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
W.vectensis	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
L.gigantea	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
A.melifera	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
N.vitripennis	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
T.castaneum	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
A.aegypti	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
A.gambiae	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
D.melanogaster	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
D.pseudoobscura	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
B.malay	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
C.briggsae	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
C.elegans	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR
T.adaerens	MKR	RIAD	CS	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR	RR

H.sapiens	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380
P.troglodytes	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
M.mulatta	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
C.familiaris	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
B.taurus	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
M.musculus	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
R.novgicus	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
S.scrofa	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
G.gallus	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
X.laavis	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
X.tropicalis	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
D.ferio(MC1)	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
T.rubripes(MC1)	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
T.nigroviridis(MC1)	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
T.rubripes(MC2)	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
T.nigroviridis(MC2)	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
D.ferio(MC2)	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
B.florida	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
C.intestinalis	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
C.savignyi	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
S.purpuratus	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
Capitella.sp.	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
W.vectensis	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
L.gigantea	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
A.melifera	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
N.vitripennis	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
T.castaneum	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
A.aegypti	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
A.gambiae	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
D.melanogaster	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
D.pseudoobscura	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
B.malay	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
C.briggsae	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
C.elegans	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV
T.adaerens	CLPTV	WLF	VPV	YIA	ATP	LDLN	KL	CLP	CRP	FAH	CI	GPV	VT	LG	FG	KS	VN	VR	EV

Gap

	770	780	790	800	810	820	830	840	850	860	870	880	890	900	910	920	930	940	950	
<i>H.sapiens</i>		PNINQLSKPD	ALVRL	ED	KADLQASROVE	ELRSQISS	SST	GRIRSEN	CO	RNE	LSH	AVQ	OKO	ISOLE	KAE	RSFV	Y	SEAT	ARAVAFVA	ASG
<i>P.troglodytes</i>		PNINQLSKPD	ALVRL	ED	KADLQASROVE	ELRSQISS	SST	GRIRSEN	CO	RNE	LSH	AVQ	OKO	ISOLE	KAE	RSFV	Y	SEAT	ARAVAFVA	ASG
<i>M.mulatta</i>		PNINQLSKPD	ALVRL	ED	KADLQASROVE	ELRSQISS	SST	GRIRSEN	CO	RNE	LSH	AVQ	OKO	ISOLE	KAE	RSFV	Y	SEAT	ARAVAFVA	ASG
<i>C.familiaris</i>		PNINQLSKPD	ALVRL	ED	KADLQASROVE	ELRSQISS	SST	GRIRSEN	CO	RNE	LSH	AVQ	OKO	ISOLE	KAE	RSFV	Y	SEAT	ARAVAFVA	ASG
<i>B.taurus</i>		PNINQLSKPD	ALVRL	ED	KADLQASROVE	ELRSQISS	SST	GRIRSEN	CO	RNE	LSH	AVQ	OKO	ISOLE	KAE	RSFV	Y	SEAT	ARAVAFVA	ASG
<i>M.musculus</i>		PNINQLSKPD	ALVRL	ED	KADLQASROVE	ELRSQISS	SST	GRIRSEN	CO	RNE	LSH	AVQ	OKO	ISOLE	KAE	RSFV	Y	SEAT	ARAVAFVA	ASG
<i>R.novgicus</i>		PNINQLSKPD	ALVRL	ED	KADLQASROVE	ELRSQISS	SST	GRIRSEN	CO	RNE	LSH	AVQ	OKO	ISOLE	KAE	RSFV	Y	SEAT	ARAVAFVA	ASG
<i>S.scrofa</i>		PNINQLSKPD	ALVRL	ED	KADLQASROVE	ELRSQISS	SST	GRIRSEN	CO	RNE	LSH	AVQ	OKO	ISOLE	KAE	RSFV	Y	SEAT	ARAVAFVA	ASG
<i>G.gallus</i>		PNINQLSKPD	ALVRL	ED	KADLQASROVE	ELRSQISS	SST	GRIRSEN	CO	RNE	LSH	AVQ	OKO	ISOLE	KAE	RSFV	Y	SEAT	ARAVAFVA	ASG
<i>X.laavis</i>		PNINQLSKPD	ALVRL	ED	KADLQASROVE	ELRSQISS	SST	GRIRSEN	CO	RNE	LSH	AVQ	OKO	ISOLE	KAE	RSFV	Y	SEAT	ARAVAFVA	ASG
<i>X.tropicalis</i>		PNINQLSKPD	ALVRL	ED	KADLQASROVE	ELRSQISS	SST	GRIRSEN	CO	RNE	LSH	AVQ	OKO	ISOLE	KAE	RSFV	Y	SEAT	ARAVAFVA	ASG
<i>D.ferio(MC1)</i>		PNINQLSKPD	ALVRL	ED	KADLQASROVE	ELRSQISS	SST	GRIRSEN	CO	RNE	LSH	AVQ	OKO	ISOLE	KAE	RSFV	Y	SEAT	ARAVAFVA	ASG
<i>T.rubripes(MC1)</i>		PNINQLSKPD	ALVRL	ED	KADLQASROVE	ELRSQISS	SST	GRIRSEN	CO	RNE	LSH	AVQ	OKO	ISOLE	KAE	RSFV	Y	SEAT	ARAVAFVA	ASG
<i>T.nigroviridis(MC1)</i>		PNINQLSKPD	ALVRL	ED	KADLQASROVE	ELRSQISS	SST	GRIRSEN	CO	RNE	LSH	AVQ	OKO	ISOLE	KAE	RSFV	Y	SEAT	ARAVAFVA	ASG
<i>T.rubripes(MC2)</i>		PNINQLSKPD	ALVRL	ED	KADLQASROVE	ELRSQISS	SST	GRIRSEN	CO	RNE	LSH	AVQ	OKO	ISOLE	KAE	RSFV	Y	SEAT	ARAVAFVA	ASG
<i>T.nigroviridis(MC2)</i>		PNINQLSKPD	ALVRL	ED	KADLQASROVE	ELRSQISS	SST	GRIRSEN	CO	RNE	LSH	AVQ	OKO	ISOLE	KAE	RSFV	Y	SEAT	ARAVAFVA	ASG
<i>B.florida</i>		PNINQLSKPD	ALVRL	ED	KADLQASROVE	ELRSQISS	SST	GRIRSEN	CO	RNE	LSH	AVQ	OKO	ISOLE	KAE	RSFV	Y	SEAT	ARAVAFVA	ASG
<i>C.intestinalis</i>	N	KIELSTI																		
<i>C.savignyi</i>	T	KIELSTI																		
<i>S.suavis</i>	Q	QVNTN																		
<i>Capitella.sp.</i>		SNITNNKD																		
<i>N.vectensis</i>		VGHQIKD																		
<i>L.gigantea</i>		ASINMKKE																		
<i>A.melifera</i>		TEQKQEEYQCR																		
<i>N.vitripennis</i>		NEQKQEEYQCR																		
<i>T.castaneum</i>		QVNTN																		
<i>A.egypti</i>		QVNTN																		
<i>A.gamella</i>		QVNTN																		
<i>D.melanogaster</i>		QVNTN																		
<i>D.pseudoobscura</i>		QVNTN																		
<i>C.briggsae</i>		QVNTN																		
<i>C.elegans</i>		QVNTN																		
<i>T.adhaerens</i>		QVNTN																		