

3R homeobox

sim	MAQP	PPDQ	NFYHH	PLPH	SHT	HPHPH	SHP	HPH	SHP	HPHHQH	PQLQLPPQFR	50		
sec	MAQP	PPDQ	NFYHH	PLPH	SHT	HPHPH	SHP	HP	-	-HHQH	PQLQLPPQFR	44		
mel	MAQP	PPDQ	NFYHH	PLPH	THT	HPHPH	SHP	HPH	SHP	HPHHQH	PQLQLPPQFR	50		
pse	-	-	-	-	-	-	-	-	-	-	-	0		
persimilis	-	-	-	-	-	-	-	-	-	-	-	0		
vir	-	-	-	-	MAQ	QPP	DQNF	YH	PL	PHPH	PSHP	HSQH	PQLQLPPQFR	42
Lucilia_se	-	-	-	-	MA	QPP	PDQ	NFYH	PHPH	PHA	HPHP	-	QLQLPPQFR	32
Calliphora	-	-	-	-	MA	QPP	PDQ	NFYH	PHPH	PHA	HPHP	-	QLQLPPQFR	32
Musca_dome	-	-	-	-	MA	QPP	PDQ	NFYH	PHPH	PHA	HPHPH	-	PQLQLPPQFR	34

Species	Sequence	Score
sim	NPFDLLFDERTGAI NNYI RPYL PNQMPKP	84
sec	NPFDLLFDERTGAI NNYI RPYL PNQMPKP	78
mel	NPFDLLFDERTGAI NNYI RPYL PNQMPKP	84
pse	NPFDLLFDERTGAI NNYI RPYL PNQMPKP	16
persimilis	NPFDLLFDERTGAI NNYI RPYL PNQMPKP	29
vir	NPFDLLFDERTGAI NNYI RPYL PNQMPKP	92
Lucilia_se	NPFDLLFDERTGAI NNYI RPYL PNQLPKP	66
Calliphora	NPFDLLFDERTGAI NNYI RPYL PNQLPKP	66
Musca_dome	NPFDLLFDERTGAI NNYI RPYL PNQLPKP	68

* * *

sim	DSL VMRRPRRT RTT FTSSQI AELEQHFL QGRYLTAPRLADLSAKLALGTA	134
sec	DSL VMRRPRRT RTT FTSSQI AELEQHFL QGRYLTAPRLADLSAKLALGTA	128
mel	DSL VMRRPRRT RTT FTSSQI AELEQHFL QGRYLTAPRLADLSAKLALGTA	134
pse	DSL VMRRPRRT RTT FTSSQI AELEQHFL QGRYLTAPRLADLSAKLALGTA	66
persimilis	DSL VMRRPRRT RTT FTSSQI AELEQHFL QGRYLTAPRLADLSAKLALGTA	79
vir	DSL VMRRPRRT RTT FTSSQI AELEQHFL QGRYLTAPRLADLSAKLALGTA	142
Lucilia_se	DSL VMRRPRRT RTT FTS AQI AELEQHFL QGRYLTSSRLAELSAKLALGTA	116
Calliphora	DSL VMRRPRRT RTT FTS AQI AELEQHFL QGRYLTSSRLAELSAKLALGTA	116
Musca_dome	DSL VMRRPRRT RTT FTS AQI AELEQHFL QGRYLTSSRLAELSAKLTLGTA	118

homeodomain

3R homeobox

* * * * *

homeodomain

sim	T	L	S	L	G	G	-	-	-	-	-	G	A	T	P	N	A	L	T	P	S	P	T	P	S	T	P	T	A	H	M	T	E	H	Y	S	E	S	F	N	A	Y	Y	N	Y	N	G	G	H	N	H	A	Q	A	228
sec	T	L	S	L	G	G	-	-	-	-	-	G	A	T	P	N	A	L	T	P	S	P	T	P	S	T	P	T	A	H	M	T	E	H	Y	S	E	S	F	N	A	Y	Y	N	Y	N	G	G	H	N	H	A	Q	A	222
mel	T	L	S	L	G	G	-	-	-	-	-	G	A	T	P	N	A	L	T	P	S	P	T	P	S	T	P	T	A	H	M	T	E	H	Y	S	E	S	F	N	A	Y	Y	N	Y	N	G	G	H	N	H	A	Q	A	228
pse	N	L	T	L	G	G	-	-	-	-	-	G	A	T	P	N	A	L	T	P	S	P	T	P	S	A	T	T	A	H	L	V	E	H	Y	G	E	T	F	N	A	Y	Y	N	Y	N	H	G	H	G	Q	A	Q	G	160
persimilis	N	L	T	L	G	G	-	-	-	-	-	G	A	T	P	N	A	L	T	P	S	P	T	P	S	A	T	T	A	H	L	V	E	H	Y	G	E	T	F	N	A	Y	Y	N	Y	N	H	G	H	G	Q	A	Q	G	173
vir	A	L	S	L	S	G	G	A	-	-	-	-	A	T	P	N	A	L	T	P	S	P	T	P	S	T	P	T	A	H	L	V	E	H	Y	S	E	S	F	S	A	Y	Y	N	Y	N	N	-	H	H	Q	Q	G	Q	241
Lucilia_se	C	S	S	S	-	-	-	-	-	-	-	G	S	S	A	S	S	A	G	P	P	S	L	Q	S	L	S	L	N	G	S	G	S	T	P	N	A	L	T	P	S	P	T	P	T	T	P	T	A	N	208				
Calliphora	C	G	S	S	S	S	-	-	-	-	S	G	S	S	T	S	S	S	G	P	P	S	L	Q	S	L	S	L	N	G	S	G	S	T	P	N	A	L	T	P	S	P	T	P	T	T	P	T	A	N	211				
Musca_dome	C	G	S	N	N	S	N	G	S	T	S	S	S	S	S	S	S	G	G	P	P	S	L	Q	S	L	S	L	N	G	N	G	S	T	P	N	A	L	T	P	S	P	T	P	T	T	P	T	N	216					

[illegible]

3R homeobox

sim	QA	SACRV	LFK-	DE	PEA	DYNFN	SSYYMRS	AMS	SGAT	TA	SASA	V	ARGA	ASP	-	-	-	344		
sec	QA	SACRV	LVK-	DE	PEA	DYNFN	SSYYMRS	AMS	SGAT	TA	SASA	V	ARGA	ASP	-	-	-	339		
mel	QA	SACRV	LVK-	DE	PEA	DYNFN	SSYYMRS	GMS	SGAT	TA	SASA	V	ARGA	ASP	-	-	-	344		
pse	T	SACRV	VK-	-	DE	PEA	DYNFN	SSYYMRS	ALS	GV	GV	AAAA	AA	AAAT	AA	PGTA		304		
persimilis	T	SACRV	VK-	-	DE	PEA	DYNFN	SSYYMRS	ALS	GV	GV	AAAA	AA	AAAT	AA	PGTA		321		
vir	SG	NACRV	P	TI	KC	ENG	D	EYNFN	G	SYMRT	T	AL	AL	SGV	A	ASSMSGVE	AVTSA	391		
Lucilia_se	FQ	MQH	K	AQ	ST	SI	KDD	P	DYNFN	NP	YYMR	MP	-	T	SL	AGN	AAATAVQPSSAMS	-	333	
Calliphora	FQ	MQH	K	PQ	ASS	SI	KED	P	EYSY	DNP	YYMR	MP	-	T	SL	PETT	ATTTVQPSTAMS	-	333	
Musca_dome	FQ	MEH	K	PH	A	AVI	KED	P	DYNFN	NP	YYMR	MP	P	T	AGS	NP	SGVT	TVEPSSAMS	-	342

Species	Sequence	Length
sim	-----GSEVYEPLTPKNDESPSLCG G GG- - -	369
sec	-----GSEVYEPLTPKNDESPSLCG G GG- - -	364
mel	-----GSEVYEPLTPKNDESPSLCG G GG- - -	369
pse	SSAVAAAVSAAGEVVTSA LSPGSEVYEPLTPKNDESPSLCG G - - - - -	347
persimilis	SSAVAAAVSAAGEVVTSA LSPGSEVYEPLTPKNDESPSLCG GG- - - - -	365
vir	LS- - - - -PGSEVYEPLTPKNDESPSLCGGG PAGGGVG	423
Lucilia_se	-----P NSEVYEPLTPKNDE NS SLC NGV GG- SDAP	362
Calliphora	-----P NSD VYEPLTPKNDE C NGV GGG NG- - - DAP	360
Musca_dome	-----P NSEVYEPLTPKNDD NS SLC NGA GGN VDVG	372

3R homeobox

sim	M	S	T	G	I	R	-	-	-	-	-	-	-	-	-	-	A	L	A	G	T	G	N	R	G	A	A	F	A	K	F	G	K	P	S	P	P	Q	G	P	Q	P	P	L	G	M	G	-	451	
sec	M	S	T	G	I	R	-	-	-	-	-	-	-	-	-	-	-	A	L	A	G	T	G	N	R	G	A	A	F	A	K	F	G	K	P	S	P	P	Q	G	P	Q	P	P	L	G	M	G	-	446
mel	M	S	T	G	I	R	-	-	-	-	-	-	-	-	-	-	-	A	L	A	G	T	G	N	R	G	A	A	F	A	K	F	G	K	P	S	P	P	Q	G	P	Q	P	P	L	G	M	G	-	451
pse	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	347			
persimilis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	393			
vir	N	G	S	D	V	L	G	T	G	L	L	T	V	A	R	G	N	L	I	G	C	G	S	N	S	S	S	A	F	G	K	F	G	K	L	S	V	P	S	T	Q	T	P	P	P	G	S	-	523	
Lucilia_se	F	A	K	F	Q	K	M	S	T	D	T	S	-	D	P	N	Y	Q	C	T	M	D	T	L	M	H	A	Y	N	N	H	R	N	T	S	A	N	T	Q	Q	F	A	T	Y	C	F	N	-	-	457
Calliphora	F	A	K	F	Q	K	M	S	P	D	T	T	-	D	P	N	Y	Q	C	T	M	D	T	L	M	H	A	Y	N	N	H	R	N	T	S	A	N	T	Q	Q	F	A	T	Y	C	F	N	-	-	456
Musca_dome	F	A	K	Y	Q	K	M	T	T	A	D	P	N	D	P	N	Y	Q	C	T	M	D	T	I	M	H	A	Y	N	N	H	R	N	T	S	A	N	N	Q	Q	F	A	Y	C	F	N	-	-	-	468

sim	GVSMGESNQYQCTMDTI	MQAYNPHRNAAGNSQFAYCFN	489
sec	GVSMGESNQYQCTMDTI	MQAYNPHRNAAGNSQFAYCFN	484
mel	GVALGESNQYQCTMDTI	MQAYNPHRNAAGNSQFAYCFN	489
pse	- - - - -	- - - - -	347
persimilis	- - - - -	- - - - -	393
vir	LEAMHETNQYQCTMDTI	MQAYNPHRNAAGNTQFAYCFN	561
Lucilia_se	- - - - -	- - - - -	457
Calliphora	- - - - -	- - - - -	456
Musca dome	- - - - -	- - - - -	468