

2R homeobox

DmelPA	QHL HQL QQL QQL HQQQL AAGVF HHP AMA FD -	AAAAAAAAAAAAAAAAAHAA	85
DmelPB	QHL HQL QQL QQL HQQQL AAGVF HHP AMA FD -	AAAAAAAAAAAAAAAAAHAA	85
Dyak	QHL HQL QQL QQL HQQQL AAGVF HHP AMA FD -	AAAAAAAAAAAAAAAAAHAA	85
Dere	QHL HQL QQL QQL HQQQL AAGVF HHP AMA FD -	AAAAAAAAAAAAAAAAAHAA	86
Dsim	QHL HQL QQL QQL HQQQL AAGVF HHP AMA FD -	AAAAAAAAAAAAAAAAAHAA	88
Dsec	- - L HQL QQL QQL HQQQL AAGVF HHP AMA FD -	AAAAAAAAAAAAAAAAAHAA	83
Dana	QHL HQL QQL QQL HQQQL AAGVF HHP AVA FD T A	AAAAAAAAAAAAAAAAAHAA	90
Dper	AL Y HQQ QQQL QHL H QL QQL QQL HQQQL A ASAGVF PHP AVA FEAAAAA AHA		86
Dpse	AL Y HQQ QQQL QHL H QL QQL QQL HQQQL A ASAGVF PHP AVA FEAAAAA AHA		100

Species	Sequence	Length
DmelPA	AALQQRLSGSGSPASCSTPASSTPLTIKEEESDSVI GDM SFHNQTHHTNE	135
DmelPB	AALQQRLSGSGSPASCSTPASSTPLTIKEEESDSVI GDM SFHNQTHHTNE	135
Dyak	AALQQRLSGSGSPASCSTPASSTPLTIKEEESDSVI GDM SFHNQTHHTNE	135
Dere	AALQQRLSGSGSPASCSTPASSTPLTIKEEESDSVI GDM SFHNQTHHTNE	136
Dsim	AALQQRLSGSGSPASCSTPASSTPLTIKEEESDSVI GDM SFHNQTHHTNE	138
Dsec	AALQQRLSGSGSPASCSTPASSTPLTIKEEESDSVI GDM SFHNQTHHTNE	133
Dana	AALQQRLSGSGSPASCSTPASSTPLTIKEEENDSVMGDGSFHNQTHHTND	140
Dper	VALQQRLSASGSPASCSTPASSTPLTIKEEESGDSI MGDGSFHNQTHHTNG	136
Dpse	VALQQRLSASGSPASCSTPASSTPLTIKEEESGDSI MGDGSFHNQTHHTNG	150

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DmelPA	EEEA	EE	DDDI	DVDVDDT	SAG	G	GRL	PPPAHQQQSTAKPSLAFSI	SNI	L	SDRF	185
DmelPB	EEEA	EE	DDDI	DVDVDDT	SAG	G	GRL	PPPAHQQQSTAKPSLAFSI	SNI	L	SDRF	185
Dyak	EEEA	EE	DDDI	DVDVDDT	SAG	G	GRL	PPPAHQQQSTAKPSLAFSI	SNI	L	SDRF	185
Dere	EEEA	EE	DDDI	DVDVDDT	SAG	G	GRL	PPPAHQQQSTAKPSLAFSI	SNI	L	SDRF	186
Dsim	EEEA	EE	DDDI	DVDVDDT	SAG	G	GRL	PPPAHQQQSTAKPSLAFSI	SNI	L	SDRF	188
Dsec	EEEA	EE	DDDI	DVDVDDT	SAG	G	GRL	PPPAHQQQSTAKPSLAFSI	SNI	L	SDRF	183
Dana	EEDV	EE	EDDI	DVDVDDT	S	G	AGRL	PPPAHQQQSTAKPSLAFSI	SNI	L	SDRF	190
Dper	TATE	DE	EDD	DI	DVDV	DD	T	AAGRL	PPPAHQQ	S-	TAKPSLAFSI	185
Dpse	TATE	DE	EDD	DI	DVDV	DD	T	AAGRL	PPPAHQQ	S-	TAKPSLAFSI	199

DmelPA	GDVQ	-	-	-	-	-	-	-	-	KPGKSMENQASI	FRPFEAS	RSQT	ATPSAFTTRVDLL	224	
DmelPB	GDVQ	-	-	-	-	-	-	-	-	KPGKSMENQASI	FRPFEAS	RSQT	ATPSAFTTRVDLL	224	
Dyak	GDVQ	-	-	-	-	-	-	-	-	KPGKSMENQASI	FRPFEAN	RSQT	ATPSAFTTRVDLL	224	
Dere	GDVQ	-	-	-	-	-	-	-	-	KPGKSL	ENQASI	FRPFEAN	RSQT	ATPSAFTTRVDLL	225
Dsim	GDVQ	-	-	-	-	-	-	-	-	KPGKSMENQASI	FRPFEAN	RSQT	ATPSAFTTRVDLL	227	
Dsec	GDVQ	-	-	-	-	-	-	-	-	KPGKSMENQASI	FRPFEAN	RSQT	ATPSAFTTRVDLL	222	
Dana	GDAQ	-	-	-	-	-	-	-	-	KQ	GKQP	DNQASI	FRPFEAN	RSQAATPSAFTTRVDLL	230
Dper	GDA	A	PK	QQT	L	KK	PGS	P	NA	SL	ESQASI	FRPFEAS	RAA	AATPSAFTTRVDLL	234
Dpse	GDA	A	PK	QQT	L	KK	PGS	P	NA	SL	ESQASI	FRPFEAS	RAA	AATPSAFTTRVDLL	248

DmelPA	EF	SRQQQ	AAAAA	ATA	AAMM	L	ERANFL	NCF	NPAAY	PRI	HEEI	VQSRL	RRSAA	274
DmelPB	EF	SRQQQ	AAAAA	ATA	AAMM	L	ERANFL	NCF	NPAAY	PRI	HEEI	VQSRL	RRSAA	274
Dyak	EF	SRQQQ	AAAAA	ATA	AAMM	L	ERANFL	NCF	NPAAY	PRI	HEEI	VQSRL	RRSAA	274
Dere	EF	SRQQQ	AAAAA	ATA	AAMM	L	ERANFL	NCF	NPAAY	PRI	HEEI	VQSRL	RRSAA	275
Dsim	EF	SRQQQ	AAAAA	ATA	AAMM	L	ERANFL	NCF	NPAAY	PRI	HEEI	VQSRL	RRSAA	277
Dsec	EF	SRQQQ	AAAAA	ATA	AAMM	L	ERANFL	NCF	NPAAY	PRI	HEEI	VQSRL	RRSAA	272
Dana	EF	SRQQQ	AAAAA	ATA	AAMM	I	ERANFL	NCF	NPAAY	PRI	HEEI	VQSRL	RRSAA	280
Dper	EF	SRQQQ	AAAAA	ATA	AAMM	I	ERANFL	NCF	NPAAY	PRI	HEEI	VQSRL	RRSAA	284
Dpse	EF	SRQQQ	AAAAA	ATA	AAMM	I	ERANFL	NCF	NPAAY	PRI	HEEI	VQSRL	RRSAA	298

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DmelPA	NAVI	PPP	MS	S	KMS	DAN	PEKS	SAL	GSL	CKAV	SQI	GQPA	A	PT	MT	QP	PL	SSS	AS	324		
DmelPB	NAVI	PPP	MS	S	KMS	DAN	PEKS	SAL	GSL	CKAV	SQI	GQPA	A	PT	MT	QP	PL	SSS	AS	324		
Dyak	NAVI	PPP	MS	S	KMS	DAN	PEKS	SAL	GSL	CKAV	SQI	GQP	S	A	PT	MT	QP	PL	SSS	AS	324	
Dere	NAVI	PPP	MS	S	KMS	DAN	PEKS	SAL	GSL	CKAV	SQI	GQP	S	A	PT	MT	QP	PL	SSS	AS	325	
Dsim	NAVI	PPP	MS	S	KMS	DAN	PEKS	SAL	GSL	CKAV	SQI	GQPA	A	PT	MT	QP	PL	SSS	AS	327		
Dsec	NAVI	PPP	MS	S	KMS	DAN	PEKS	SAL	GSL	CKAV	SQI	GQPA	A	PT	MT	QP	PL	SSS	AS	322		
Dana	NAVI	PPPT	-	-	KMSE	P	NPEKS	SAL	GSL	CKAV	SQI	GQPA	V	PT	MT	QP	PL	SS	ASS	328		
Dper	NT	VI	PP	AS	-	-	KMSES	CA	EKS	AL	GSL	CK	T	VSQI	GQP	TTTT	TL	P	P	QL	SSSSS	332
Dpse	NT	VI	PP	AS	-	-	KMSES	CA	EKS	AL	GSL	CK	T	VSQI	GQP	TTTT	TL	P	P	QL	SSSSS	346

DmelPA	SL	A	-	-	-	S	PPP	ASN	ASTI	SST	SS	V	AT	SSSSSSSS	SGCSSA	A	SSL	NSS	SPSS	R	L	G	371					
DmelPB	SL	A	-	-	-	S	PPP	ASN	ASTI	SST	SS	V	AT	SSSSSSSS	SGCSSA	A	SSL	NSS	SPSS	R	L	G	371					
Dyak	SL	A	-	-	-	S	PPP	ASN	ASTI	SST	SS	V	AT	SSSSSSSS	SGCSSA	A	SSL	NSS	SPSS	R	L	G	371					
Dere	SL	A	-	-	-	S	PPP	ASN	ASTI	SST	SS	V	AT	SSSS	A	SSGCSSA	A	SSL	NSS	SPSS	R	L	G	372				
Dsim	SL	A	-	-	-	S	PPP	ASN	ASTI	SST	SS	V	AT	SSSSSSSS	SGCSSA	A	SSL	NSS	SPSS	R	L	G	374					
Dsec	SL	A	-	-	-	S	PPP	ASN	ASTI	SST	SS	V	AT	SSSSSSSS	SGCSSA	T	SSL	NSS	SPSS	R	L	G	369					
Dana	L	A	S	-	-	P	PP	A	S	N	A	S	T	I	S	SSSS	T	AT	SSSSSSSS	SGCSSA	A	SSL	NSS	SPSS	R	L	G	375
Dper	L	A	N	N	L	A	S	PPP	ASN	ASTI	SST	ST	A	T	S	SSSSSSSS	SGCSSA	P	SSL	NSS	SPSS	R	L	G	382			
Dpse	L	A	N	N	L	A	S	PPP	ASN	ASTI	SST	ST	A	T	S	SSSSSSSS	SGCSSA	P	SSL	NSS	SPSS	R	L	G	396			

DmelPA	A	S	G	-	-	-	-	S	GV	N	A	S	S	P	Q	Q	P	I	P	P	S	A	V	S	R	D	S	G	M	E	S	S	D	D	T	R	S	E	T	G	S	T	T	T	E	415			
DmelPB	A	S	G	-	-	-	-	S	GV	N	A	S	S	P	Q	Q	P	I	P	P	S	A	V	S	R	D	S	G	M	E	S	S	D	D	T	R	S	E	T	G	S	T	T	T	E	415			
Dyak	A	S	G	-	-	-	-	S	GV	N	A	S	S	P	Q	Q	P	I	P	P	S	A	V	S	R	D	S	G	M	E	S	S	D	D	T	R	S	E	T	G	S	T	T	T	E	415			
Dere	A	S	G	-	-	-	-	S	GV	S	A	S	S	P	Q	Q	P	I	P	P	S	A	V	S	R	D	S	G	M	E	S	S	D	D	T	R	S	E	T	G	S	T	T	T	E	416			
Dsim	A	S	G	-	-	-	-	S	GV	N	A	S	S	P	Q	Q	P	I	P	P	S	A	V	S	R	D	S	G	M	E	S	S	D	D	T	R	S	E	T	G	S	T	T	T	E	418			
Dsec	A	S	G	-	-	-	-	S	GV	N	A	S	S	P	Q	Q	P	I	P	P	S	A	V	S	R	D	S	G	M	E	S	S	D	D	T	R	S	E	T	G	S	T	T	T	E	413			
Dana	V	G	V	G	M	G	A	T	S	A	V	A	N	A	S	S	P	Q	Q	P	I	P	P	S	A	V	S	R	D	S	G	M	E	S	S	D	D	T	R	S	E	T	G	S	T	T	T	E	425
Dper	G	S	A	-	-	-	-	-	A	A	N	A	S	S	P	Q	Q	P	I	P	P	S	A	V	S	R	D	S	G	M	E	S	S	D	D	T	R	S	E	T	G	S	T	T	T	E	425		
Dpse	G	S	A	-	-	-	-	-	A	A	N	A	S	S	P	Q	Q	P	I	P	P	S	A	V	S	R	D	S	G	M	E	S	S	D	D	T	R	S	E	T	G	S	T	T	T	E	439		

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DmelPA	GGKNE MWP A WYCT RYSDRPSSGPRYRRPKQPKDKTND EKRPR TAFSSEQ	465
DmelPB	GGKNE MWP A WYCT RYSDRPSSGPRYRRPKQPKDKTND EKRPR TAFSSEQ	465
Dyak	GGKNE MWP A WYCT RYSDRPSSGPRYRRPKQPKDKTND EKRPR TAFSSEQ	465
Dere	GGKNE MWP A WYCT RYSDRPSSGPRYRRPKQPKDKTND EKRPR TAFSSEQ	466
Dsim	GGKNE MWP A WYCT RYSDRPSSGPRYRRPKQPKDKTND EKRPR TAFSSEQ	468
Dsec	GGKNE MWP A WYCT RYSDRPSSGPRYRRPKQPKDKTND EKRPR TAFSSEQ	463
Dana	GGKNE MWP A WYCT RYSDRPSSGPRYRRPKQPKDKTND EKRPR TAFSSEQ	475
Dper	GGKNE MWP A WYCT RYSDRPSSGPRYRRPKQPKDKTND EKRPR TAFSSEQ	475
Dpse	GGKNE MWP A WYCT RYSDRPSSGPRYRRPKQPKDKTND EKRPR TAFSSEQ	489

DmelPA	L ARL KREFNENRYL T E RRRRQQL SSEL GL NEAQI KI WFQN KRAKI KKSTGS	515
DmelPB	L ARL KREFNENRYL T E RRRRQQL SSEL GL NEAQI KI WFQN KRAKI KKSTGS	515
Dyak	L ARL KREFNENRYL T E RRRRQQL SSEL GL NEAQI KI WFQN KRAKI KKSTGS	515
Dere	L ARL KREFNENRYL T E RRRRQQL SSEL GL NEAQI KI WFQN KRAKI KKSTGS	516
Dsim	L ARL KREFNENRYL T E RRRRQQL SSEL GL NEAQI KI WFQN KRAKI KKSTGS	518
Dsec	L ARL KREFNENRYL T E RRRRQQL SSEL GL NEAQI KI WFQN KRAKI KKSTGS	513
Dana	L ARL KREFNENRYL T E RRRRQQL SSEL GL NEAQI KI WFQN KRAKI KKSTGS	525
Dper	L ARL KREFNENRYL T E RRRRQQL S <u>G</u> EL GL NEAQI KI WFQN KRAKI KKS <u>N</u> GS	525
Dpse	L ARL KREFNENRYL T E RRRRQQL S <u>G</u> EL GL NEAQI KI WFQN KRAKI KKS <u>N</u> GS	539

DmelPA	KNPLALQL MAQGLYNHTTVPLTKEEEEEL EMRMNGQI P	552
DmelPB	KNPLALQL MAQGLYNHTTVPLTKEEEEEL EMRMNGQI P	552
Dyak	KNPLALQL MAQGLYNHTTVPLTKEEEEEL EMRMNGQI P	552
Dere	KNPLALQL MAQGLYNHTTVPLTKEEEEEL EMRMNGQI P	553
Dsim	KNPLALQL MAQGLYNHTTVPLTKEEEEEL EMRMNGQI P	555
Dsec	KNPLALQL MAQGLYNHTTVPLTKEEEEEL EMRMNGQI P	550
Dana	KNPLALQL MAQGLYNHTTVPLTKEEEEEL EMRMNGQI P	562
Dper	KNPLALQL MAQGLYNHTTVPLTKEEEEEL EMRMNGQI P	562
Dpse	KNPLALQL MAQGLYNHTTVPLTKEEEEEL EMRMNGQI P	576