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DmelF	MSLPMNSLYSLTWGDYGTSLVSAI QLLRCHGDLVDCTLAAGGRSFPAHKI	50
DmelA	MSLPMNSLYSLTWGDYGTSLVSAI QLLRCHGDLVDCTLAAGGRSFPAHKI	50
DmelG	MSLPMNSLYSLTWGDYGTSLVSAI QLLRCHGDLVDCTLAAGGRSFPAHKI	50
DmeID	MSLPMNSLYSLTWGDYGTSLVSAI QLLRCHGDLVDCTLAAGGRSFPAHKI	50
Dsec	MSLPMNSLYSLTWGDYGTSLVSAI QLLRCHGDLVDCTLAAGGRSFPAHKI	50
DmelC	MSLPMNSLYSLTWGDYGTSLVSAI QLLRCHGDLVDCTLAAGGRSFPAHKI	50
Dyak	MSLPMNSLYSLTWGDYGTSLVSAI QLLRCHGDLVDCTLAAGGRSFPAHKI	50
Dere	MSLPMNSLYSLTWGDYGTSLVSAI QLLRCHGDLVDCTLAAGGRSFPAHKI	50
Dmell	MSLPMNSLYSLTWGDYGTSLVSAI QLLRCHGDLVDCTLAAGGRSFPAHKI	50
Dsim	MSLPMNSLYSLTWGDYGTSLVSAI QLLRCHGDLVDCTLAAGGRSFPAHKI	50
DmelB	MSLPMNSLYSLTWGDYGTSLVSAI QLLRCHGDLVDCTLAAGGRSFPAHKI	50
DmelE	MSLPMNSLYSLTWGDYGTSLVSAI QLLRCHGDLVDCTLAAGGRSFPAHKI	50
DmelH	MSLPMNSLYSLTWGDYGTSLVSAI QLLRCHGDLVDCTLAAGGRSFPAHKI	50
Dana	MSLPMNSLYSLTWGDYGTSLVSAI QLLRCHGDLVDCTLAAGGRSFPAHKI	50
Dpse	MSLPMNSLYSLTWGDYGTSLVSAI QLLRCHGDLVDCTLAAGGRSFPAHKI	50
Dwil	MSLPMNSLYSLTWGDYGTSLVSAI QLLRCHGDLVDCTLAAGGRSFPAHKI	50
Dvir	MSLPMNSLYSLTWGDYGTSLVSAI QLLRCHGDLVDCTLAAGGRSFPAHKI	50
Dgri	MSLPMNSLYSLTWGDYGTSLVSAI QLLRCHGDLVDCTLAAGGRSFPAHKI	50
Dmoj	MSLPMNSLYSLTWGDYGTSLVSAIQLLRC LC DL <u>VDCTLAAGGRSFPAHKI</u>	50

Trl 3L GAGA

VL CAASPELL DL L KNTPCKHPVVML AGVNANDL EAL L EFVYRGEVSVDHA

100

VEGAAGI I EEDEEKNII OKIII VVIIIEAGVIVAIDEEAEEEI VIIIGEVOVDIIA	100
VL CAASPFLL DL L KNTPCKHPVVML A GV NANDL E AL L E F V Y R GE V S V D H A	100
VLCAASPFLLDLLK	64
VL CAASPFLL DL L KNTPCKHPVVML AGVNANDL EAL L EF VYRGEVSVDHA	100
VLCAASPFLLDLLKNTPCKHPVVMLAGVNANDLEALLEFVYRGEVSVDHA	100
VL CAASPFLL DL L KNTPCKHPVVML A GV NANDL E AL L E F V Y R GE V S V D H A	100
VL CAASPFLL DL L KNTPCKHPVVML A GV NANDL E AL L E F V Y R GE V S V D H A	100
VL CAASPFLL DL L KNTPCKHPVVML A GV NANDL E AL L E F V Y R GE V S V D H A	100
VL CAASPFLL DL L KNTPCKHPVVML A GV NANDL E AL L E F V Y R GE V S V D H A	100
VL CAASPFLL DL L KNTPCKHPVVML A GV NANDL E AL L E F V Y R GE V S V D H A	100
VL CAASPFLL DL L KNTPCKHPVVML A GV NANDL E AL L E F V Y R GE V S V D H A	100
VL CAASPFLL DL L KNTPCKHPVVML A GV NANDL E AL L E F V Y R GE V S V D H A	100
VL CAASPFLL DL L KNTPCKHPVVML A GV NANDL E AL L E F V Y R GE V S V D H A	100
VL CAASPFLL DL L KNTPCKHPVVML A GV NANDL E AL L E F V Y R GE V S V D H A	100
VL CAASPFLL DL L KNTPCKHPVVML A GV NANDL E AL L E F V Y R GE V S V D H A	100
VL CAASPFLL DL L KNTPCKHPVVML A GV NANDL E AL L E F V Y R GE V S V D H A	100
VL CAASPFLL DL L KNTPCKHPVVML A GV NANDL E AL L E F V Y R GE V S V D H A	100
VLCAASPFLLDLLKNTPCKHPVVMLAGVNANDLEALLEFVYRGEVSVDHA	100
VLCAASPFLLDLLKNTPCKHPVVMLAGVNANDLEALLEFVYRGEVSVDHG	100
	VLCAASPFLLDLLK

DmelF

Trl 3L GAGA

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DmelF	QLPSLLQAAQCLNI QGLAPQTVTKDDYTTHSI QLQHMI PQHHDQDQLI AT	150
DmelA	QLPSLLQAAQCLNI QGLAPQTVTKDDYTTHSI QLQHMI PQHHDQDQLI AT	150
DmelG	AAQCLNI QGLAPQTVTKDDYTTHSI QLQHMI PQHHDQDQLI AT	107
DmelD	QLPSLLQAAQCLNI QGLAPQTVTKDDYTTHSI QLQHMI PQHHDQDQLI AT	150
Dsec	QLPSLLQAAQCLNI QGLAPQTVTKDDYTTHSI QLQHMI PQHHDQDQLI AT	150
DmelC	QLPSLLQAAQCLNI QGLAPQTVTKDDYTTHSI QLQHMI PQHHDQDQLI AT	150
Dyak	QLPSLLQAAQCLNI QGLAPQTVTKDDYTTHSI QLQHMI PQHHDQDQLI AT	150
Dere	QLPSLLQAAQCLNI QGLAPQTVTKDDYTTHSI QLQHMI PQHHDQDQLI AT	150
Dmell	QLPSLLQAAQCLNI QGLAPQTVTKDDYTTHSI QLQHMI PQHHDQDQLI AT	150
Dsim	QLPSLLQAAQCLNI QGLAPQTVTKDDYTTHSI QLQHMI PQHHDQDQLI AT	150
DmelB	QLPSLLQAAQCLNI QGLAPQTVTKDDYTTHSI QLQHMI PQHHDQDQLI AT	150
DmelE	QLPSLLQAAQCLNI QGLAPQTVTKDDYTTHSI QLQHMI PQHHDQDQLI AT	150
DmelH	QLPSLLQAAQCLNI QGLAPQTVTKDDYTTHSI QLQHMI PQHHDQDQLI AT	150
Dana	QLPSLLQAAQCLNI QGLAPQTVTKDDYTTHSI QLQHMI PQHHDQDQLI AT	150
Dpse	QLPSLLQAAQCLNI QGLAPQTVTKDDYTTHSI QLQHMI PQHHDQDQLI AT	150
Dwil	QLPSLLQAAQCLNI QGLAPQTVTKDDYTTHSI QLQHMI PQHHDQDQLLAT	150
Dvir	QLPSLLQAAQCLNI QGLAPQTVTKDDYTTHSI QLQHMI PQHHDQDQLI AT	150
Dgri	QLPSLLQAAQCLNI QGLAPQTVTKDDYTTHSI QLQHMI PQHHEQDQLI AT	150
Dmoj	QLPSLLQAAQCLNI QGLAPQTVTKDDYTTHSI QLQHMI PQHHDQDQLI AT	150

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3L GAGA

DmelF	I ATAPQQTVHAQVVEDI HHQGQI LQATTQTNAAGQQQTI VTTDAAKHDQA	200
DmelA	I ATAPQQTVHAQVVEDI HHQGQI LQATTQTNAAGQQQTI VTTDAAKHDQA	200
DmelG	I ATAPQQTVHAQVVEDI HHQGQI LQATTQTNAAGQQQTI VTTDAAKHDQA	157
DmelD	I ATAPQQTVHAQVVEDI HHQGQI LQATTQTNAAGQQQTI VTTDAAKHDQA	200
Dsec	I ATAPQQTVHAQVVEDI HHQGQI LQATTQTNAAGQQQTI VTTDAAKHDQA	200
DmelC	I ATAPQQTVHAQVVEDI HHQGQI LQATTQTNAAGQQQTI VTTDAAKHDQA	200
Dyak	I ATAPQQTVHAQVVEDI HHQGQI LQATTQTNAAGQQQTI VTTDAAKHDQA	200
Dere	I ATAPQQTVHAQVVEDI HHQGQI LQATTQTNAAGQQQTI VTTDAAKHDQA	200
Dmell	I ATAPQQTVHAQVVEDI HHQGQI LQATTQTNAAGQQQTI VTTDAAKHDQA	200
Dsim	I ATAPQQTVHAQVVEDI HHQGQI LQATTQTNAAGQQQTI VTTDAAKHDQA	200
DmelB	I ATAPQQTVHAQVVEDI HHQGQI LQATTQTNAAGQQQTI VTTDAAKHDQA	200
DmelE	I ATAPQQTVHAQVVEDI HHQGQI LQATTQTNAAGQQQTI VTTDAAKHDQA	200
DmelH	I ATAPQQTVHAQVVEDI HHQGQI LQATTQTNAAGQQQTI VTTDAAKHDQA	200
Dana	I ATAPQQTVHAQVVEDI HHQGQI LQATTQTNAAGQQQTI VTTDAAKHDQA	200
Dpse	I ATAPQQTVHAQVVEDI HHQGQI LQATTQTNAAGQQQTI VTTDAAKHDQA	200
Dwil	I ATAPQQTVHAQVVEDI HHTGQLLQATTQTNAVGQQQTI VTTDAAKHDQA	200
Dvir	I ATAPQQTVHAQVVEDI HHQGQI LQATTQTNAAGHQQTI VTAD <u>A</u> SKHDQA	200
Dgri	I ATAPQQTVHAQVVEDI HHQGQI LQATTQTNAAGHQQTI VTADTSKHDQA	200
Dmoj	I ATAPQQTVHAQVVEDI HHQGQI LQATTQTNAAGHQQTI VTADTSKHDQA	200

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3L GAGA

DmelF	VIQAFLPARKRKPRVKKMSPTAPKISKVEGMDTIMGTPTSSHGSGSVQ	248
DmelA	VIQAFLPARKRKPRVKKMSPTAPKISKVEGMDTIMGTPTSSHGSGSVQ	248
DmelG	VIQAFLPARKRKPRVKKMSPTAPKISKVEGMDTIMGTPTSSHGSGSVQ	205
DmelD	VIQAFLPARKRKPRVKKMSPTAPKISKVEGMDTIMGTPTSSHGSGSVQ	248
Dsec	VIQAFLPARKRKPRVKKMSPTAPKISKVEGMDTIMGTPTSSHGSGSVQ	248
DmelC	VIQAFLPARKRKPRVKKMSPTAPKISKVEGMDTIMGTPTSSHGSGSVQ	248
Dyak	VIQAFLPARKRKPR <u>V</u> KKMSPTAPKISKVEGMETIMGTPTSSH <mark>GSGSV</mark> Q	248
Dere	VIQSFLPARKRKPRAKKMSPTAPKISKVEGMETIMGTPTSSHGSGSVQ	248
Dmell	VIQAFLPARKRKPRVKKMSPTAPKISKVEGMDTIMGTPTSSHGSGSVQ	248
Dsim	VIQAFLPARKRKPRVKKMSPTAPKISKVEGMDTIMGTPTSSHGSGSVQ	248
DmelB	VIQAFLPARKRKPRVKKMSPTAPKISKVEGMDTIMGTPTSSHGSGSVQ	248
DmelE	VIQAFLPARKRKPRVKKMSPTAPKISKVEGMDTIMGTPTSSHGSGSVQ	248
DmelH	VIQAFLPARKRKPRV <u>K</u> K <u>M</u> SPTA <u>P</u> KISKVEGMDTIMGTPTSSH <mark>GS</mark> GSVQ	248
Dana	VIQAFLPARKRKPRVNKKSPTASKISKVDGMDTIMGTPTSSHGSG	245
Dpse	VIQAFLPARKRKPR <u>V</u> KKMSPTAPKISKVEGMDTIIGTPTSSHG <u>GG</u> GV <u>V</u> QQ	250
Dwil	VIQAFLPARKRKPRGKKMSPTAPKISKVDGMDTIMGTPTSSHSAAGGQQV	250
Dvir	VIQSFLPARKRKPRVKKMSPSAPKVPKIEGMDTIMGTPTSSQLAAQQQQQ	250
Dgri	VIQSFLPARKRKPRVKKMSPTAPKISKIEGM <u>D</u> TIM <u>G</u> TPTSSHA <u>AA</u> AQQQQ	250
Dmoj	VIQSFLPARKRKPRVKKMSPTAPKITKIEGMGTIMDTPTTSHLTGQQQ	248

Trl

3L GAGA

DmelF	QVLGENGAEGQLLSSTPLLKSEGQKVETLVTMDPNNMLPVTSANA	293
DmelA	QVLGENGAEGQLLSSTPIIKSEGQKVETIVTMDPNNMIPVTSANA	293
DmelG	QVLGENGAEGQLLSSTPIIKSEGQKVETIVTMDPNNMIPVTSANA	250
DmeID	QVLGENGAEGQLLSSTPIIKSEGQKVETIVTMDPNNMIPVTSANA	293
Dsec	QVLGENGAEGQLLSSTPIIKSEGQKVETIVTMDPNNMIPVTSANA	293
DmelC	QVLGENGAEGQLLSSTPIIKSEGQKVETIVTMDPNNMIPVTSANA	293
Dyak	QVLGENGAEGQLLSSTPIIKSEGQKVETIVTMDPNNMIPVTSANA	293
Dere	QVLGENGAEGQLLTSTPIIKSEGQKVETIVTMDPNNMIPVTSANA	293
Dmell	QVLGENGAEGQLLSSTPIIKSEGQKVETIVTMDPNNMIPVTSANA	293
Dsim	QVLGENGAEGQLLSSTPIIKSEGQKVETIVTMDPNNMIPVTSANA	293
DmelB	QVLGENGAEGQLLSSTPIIKSEGQKVETIVTMDPNNMIPVTSANA	293
DmelE	QVLGENGAEGQLLSSTPIIKSEGQKVETIVTMDPNNMIPVTSANA	293
DmelH	QVLGENGAEGQLLSSTPIIKSEGQKVETIVTMDPNNMIPVTSANA	293
Dana	<u>-</u> -QVLGENGAEGQLLTSTPIIKSEGQKVETIVTMDPNNMIPVTSANA	290
Dpse	- <u></u> Q- QVLGENGSEGQMLTSTPI I KSEGQK <u>V</u> ETI VTMDPNNMI PVTSANA	296
Dwil	QVQQ-QVLSENGAESQLITSTPIIKSEGQKAETIVTMDPNNMIPVTSANA	299
Dvir	VVQQQQVLDENGAETQLLTSTPIIKSEGQKVETIVTMDPNNMIPVTSANA	300
Dgri	VVQQQQVLDENGAETQLLSTTPIIKSEGQKVETIVTMDPNNMIPVTSANA	300
Dmoj	VVQQQQVLDENGAETQLLTSTPIIKSEGQKVETIVTMDPNNMIPVTSANA	298

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3L GAGA

DmelF	ATGELTPAQGATGSSGGNTSGVLS-TPKAKRAKHPPGTEKPRSRSQSEQP	342
DmelA	ATGELTPAQGATGSSGGNTSGVLS-TPKAKRAKHPPGTEKPRSRSQSEQP	342
DmelG	ATGELTPAQGATGSSGGNTSGVLS-TPKAKRAKHPPGTEKPRSRSQSEQP	299
DmelD	ATGELTPAQGATGSSGGNTSGVLS-TPKAKRAKHPPGTEKPRSRSQSEQP	342
Dsec	ATGELTPAQGATGSSGGNTSGVLS-TPKAKRAKHPPGTEKPRSRSQSEQP	342
DmelC	ATGELTPAQGATGSSGGNTSGVLS-TPKAKRAKHPPGTEKPRSRSQSEQP	342
Dyak	ATGELTTAQGATGSSGGNTTSGLS-TPKAKRAKHPPGSEKPRSRSQSEQP	342
Dere	ATGELTTAQGATGSSGGNTTGGLS-TPKAKRAKHPPGSDKPRSRSQSEQP	342
Dmell	ATGELTPAQGATGSSGGNTSGVLS-TPKAKRAKHPPGTEKPRSRSQSEQP	342
Dsim	ATGELTPAQGATGSSGNTSGVLS-TPKAKRAKHPPGTEKPRSRSQSEQP	342
DmelB	ATGELTPAQGATGSSGGNTSGVLS-TPKAKRAKHPPGTEKPRSRSQSEQP	342
DmelE	ATGELTPAQGATGSSGGNTSGVLS-TPKAKRAKHPPGTEKPRSRSQSEQP	342
DmelH	ATGELTPAQGATGSSGGNTSGVLS-TPKAKRAKHPPGTEKPRSRSQSEQP	342
Dana	ATGELTTAQGSTSS- GGNTSGVSS- TPKAKRTKHPPGTDKPRSRSQSEQP	338
Dpse	ATGELTTATGTTSGGNSSGTTS-TPKTKRTKHPPGTEKPRSRSQSEQP	345
Dwil	TTGELTTAAGTTVTPSAGGSGTTTSTPKAKRTKHPPGTEKPRSRSQSEQP	349
Dvir	ATGELTTASGTTVTPGASGSTATPKAKRTKHPPGTEKPRSRSQSEQP	347
Dgri	ATGELTTASGTTVTPSASGTTATP KAKRTKHPPGTEKPRSRSQSEQP	347
Dmoj	ATGELTTASGATVTTGTGGTTATP KAKRTKHPPGTEKPRSRSQSEQP	345

Trl

ATCPI CYAVI RQSRNLRRHLELRHFAKPGVKKEKKTTSGKKSSSGSSGSG

DmelF

3L GAGA

392

DmelA	ATCPI CYAVI RQSRNLRRHLELRHFAKPGV <u>KKEKK</u> ITT <u>SGKK</u> SSSG <u>S</u> SGS	392
DmelG	ATCPI CYAVI RQSRNLRRHLELRHFAKPGV	329
DmelD	ATCPI CYAVI RQSRNLRRHLELRHFAKPGV	372
Dsec	ATCPI CYAVI RQSRNLRRHLELRHFAKPGVKKEKKTTSGKKSSSGSSGSG	392
DmelC	ATCPI CYAVI RQSRNLRRHLELRHFAKPGV	372
Dyak	ATCPI CYAVI RQSRNLRRHLELRHFAKPGVKKEKKTI SGKKSSSGSSGSG	392
Dere	ATCPI CYAVI RQSRNLRRHLELRHFAKPGVKKEKKI I SGKKSSSGSSGS	392
Dmell	ATCPI CYAVI RQSRNLRRHLELRHFAKPGV <u>KKEKK</u> TT <u>SGKKSSSGS</u> SGS	392
Dsim	ATCPI CYAVI RQSRNLRRHLELRHFAKPGV	372
DmelB	ATCPI CYAVI RQSRNLRRHLELRHFAKPGV	372
DmelE	ATCPI CYAVI RQSRNLRRHLELRHFAKPGV	372
DmelH	ATCPI CYAVI RQSRNLRRHLELRHFAKPGV	372
Dana	ATCPI CYAVI RQSRNLRRHLELRHFAKPGV	368
Dpse	ATCPI CYAVI RQSRNLRRHLELRHFAKPGVKKEKKTSSGKKSGSGTSGSG	395
Dwil	ATCPI CYAVI RQSRNLRRHLELRHFAKPGV	379
Dvir	ATCPI CYAVI RQSRNLRRHLELRHFAKPGI KKEKKTPSGKKPGGSTPGSV	397
Dgri	ATCPI CYAVI RQSRNLRRHLELRHFAKPGV	377
Dmoj	ATCPI CYALI RQSRNLRRHLELRHFAKPGI	375

427

427

329

372 368

445

379

436 377

375

Trl

DmelD		372
Dsec	SGALSSSGSVPQVQTVQSLHTLQGVQVKKDPDAQQ	427
DmelC		372
Dyak	SGALSTTGSVPQVQTVQSLHTLQGVQVKKDPDAQQ	427
Dere	SGAL SSSG S VPQVQTVQSLH T LQG VQVKKDPDA QQ	427
Dmell	SGAL SSSG S VPQVQTVQSLH T LQG VQVKKDPDA QQ	427
Dsim		372
DmelB		372
DmelE		372

QSQSGGSGA----LSSSGVVPQVQTVQSLHPMQSVQVKKDPDA-

SGSGSGSAALSSSAGGVPQVQTVQSLHT

SGA------LISSSGISVPQVQTVQSLHTLQGVQVKKDPDA----

DmelF

DmelA DmelG

DmelH

Dana

Dpse

Dwil

Dvir

Dgri

QQQQQQQQQQQQQTMTVTTTAGGQVQQQQVQQVQVQVQQQPL

477

477

329

368

495

379

480 377

375

Trl

QQQQQQQQQQQQAMTVSGATGGQVQQQVQQVQQQVQQQQQQQQQQQQQQQQ

DmelD		372
Dsec	QQQQQQ <mark>QQQQQ</mark> QQAMTVSGATVGQVQQQVQ <mark>QVQQQ</mark> VQ <mark>QQ</mark> QQQQQQQQQQ	475
DmelC	<u></u>	372
Dyak	QQQQQQQQQQQAMTVSGATGGQVQQQVQ <mark>QVQQQ</mark> VQ <mark>QQ</mark> QQQ	469
Dere	QQQQQQQQQAMTVSGAAGGQVQQQVQQVQQVQQQQQQQQ	467
Dmell	QQQQQQ <mark>QQQQQ</mark> QQQQAMTVSGATGGQVQQQVQ <mark>QVQQQ</mark> VQ <mark>QQ</mark> QQQQQQQQQQ	477
Dsim		372
DmelB		372
DmelE		372
DmelH		372

QQQQQQQQQQQQQQQQPTMTVTTTSSGGQVQQQQQQQQ

DmelF

DmelA DmelG

Dana

Dpse

Dwil

Dvir

Dgri

Trl 3L GAGA

QLQHHQIIDSSGNITTATTSAQAAAAQQQAAGQQQLVAQSDGSESGAP

527

527 329

379

530 377

375

DmelD		372
Dsec	QLQHHQIIDSSGNITTATTSAQAAAAQQQAAGQQQQLVAQSDGSESGAP	525
DmelC		372
Dyak	- LQHHQIIDSSGNITTATTSAQAAAAQQQAAGQQQQLVAQSDGSESGAP	518
Dere	- LQHHQIIDSSGNITTATTSAQAAAAQQQAAGQQQQLVAQSDGSESGAP	516
Dmell	QLQHHQIIDS <mark>S</mark> GNITTATTSAQAAAAAQQQAAG <mark>QQQQLVAQSDGSESG</mark> AP	527
Dsim		372
DmelB		372
DmelE		372
DmelH		372
Dana		368
Dpse	QLQHHQIIDSSGNITTATTS-AQAAAVQQQAAGQQQLVAQAADGSESGAP	544

QHHQI I DSSGNMTTPTTSAQAAAQQQANNQQQQQQQLVAQSDGSESGTP

QLQHHQI I DSISIGNI TITIAITITSAQAAAAAQQQAAGQQQQ

DmelF

DmelA

DmelD DmelD

Dwil

Dvir

Dgri

Trl

DmelF	LSIAQVQTLQGHQIIGNLNQ <mark>V</mark> NITDF	553
DmelA	LSI AQVQTLQGHQI I GNL NQVN TDF	553
DmelG		329
DmelD		372
Dsec	LSI AQVQTLQGHQI I GNLNQGN	547
DmelC		372
Dyak	LSI AQVQTLQGHQI I GNLNQGN	540
Dere	LSIAQVQTLQGHQIIGNLNQGN	538
Dmell	LSIAQVQTLQGHQIIGNLNQGN	549
Dsim		372
DmelB		372
DmelE		372
DmelH		372
Dana		368
Dpse	MSI AQVQTL QGHQI I GNL NQGN	566
Dwil		379
Dvir	L SI A QV QT L QGHQI I GNL NQGN	552
Dgri		377
Dmoj		375