

## File S2

### Functional annotations for probe sets in Figure 6, showing both *Inb* and *Dep* effects

For each pattern we give the list of probe sets and their functional information as provided by the *Functional annotation table* tool in the DAVID web page.

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Probe sets:

|              |            |            |              |              |              |
|--------------|------------|------------|--------------|--------------|--------------|
| 1624717_s_at | 1625840_at | 1631527_at | 1635581_at   | 1637193_at   | 1641126_at   |
| 1625430_at   | 1631385_at | 1632623_at | 1636896_a_at | 1637940_s_at | 1641381_s_at |

Functional annotation table:

| ID           | Gene Name             | Species                 | GOTERM_BP_FAT  | GOTERM_CC_FAT      | GOTERM_MF_FAT   | INTERPRO | KEGG_PATHWAY   | PIR_SUPERFAMILY | SMART                        | SP_PIR_KEYWORDS |
|--------------|-----------------------|-------------------------|--|--------------------|---|----------|--|-----------------|------------------------------|-----------------|
|              |                       | UP_SEQ_FEATURE          |  |                    |   |          |  |                 |                              |                 |
| 1632623_at   | Cytochrome b5-related | Drosophila melanogaster | GO:0006631~fatty acid metabolic process, GO:0006633~fatty acid biosynthetic process, GO:0008610~lipid biosynthetic process, GO:0016053~organic acid biosynthetic process, GO:0046394~carboxylic acid biosynthetic process, GO:0055114~oxidation reduction, GO:0005739~mitochondrion, GO:0005811~lipid particle, GO:0005506~iron ion binding, GO:0009055~electron carrier activity, GO:0016717~oxidoreductase activity, acting on paired donors, with oxidation of a pair of donors resulting in the reduction of molecular oxygen to two molecules of water, GO:0020037~heme binding, GO:0043167~ion binding, GO:0043169~cation binding, GO:0046872~metal ion binding, GO:0046906~tetrapyrrole binding, GO:0046914~transition metal ion binding, IPR001199:Cytochrome b5, IPR005804:Fatty acid desaturase, type 1, IPR012171:Fatty acid/sphingolipid desaturase, IPR018506:Cytochrome b5, heme-binding site, PIRSF015921:fatty acid desaturase/sphingolipid desaturase, PIRSF015921:FA_sphinglp_des, | complete proteome, | heme,iron,metal-binding,metalloprotein, chain:Cytochrome b5-related protein,domain:Cytochrome b5 heme-binding,metal ion-binding site:Iron (heme axial ligand),sequence conflict,sequence variant, |          |  |                 |                              |                 |
| 1636896_a_at | Dmel(CG12576)         | Drosophila melanogaster |  |                    |   |          | complete proteome,   |                 |                              |                 |
| 1641381_s_at | Dmel(CG13213)         | Drosophila melanogaster |  |                    |   |          | IPR001810:Cyclin-like F-box, IPR018483:Carbohydrate kinase, FGGY, conserved site, PIRSF036853:conserved protein with F-box/LRR-repeat, AtFBL11 type,       | SM00256:FBOX,   | complete proteome,           |                 |
| 1625430_at   | Dmel(CG14022)         | Drosophila melanogaster |  |                    |   |          | GO:0003998~acylphosphatase activity, IPR001792:Acylphosphatase, IPR001792:Acylphosphatase-like, dme00620:Pyruvate metabolism, PIRSF001266:acylphosphatase, |                 | complete proteome,hydrolase, |                 |
| 1631385_at   | Dmel(CG2889)          | Drosophila melanogaster |  |                    |   |          | GO:0008270~zinc ion binding, GO:0043167~ion  |                 |                              |                 |

binding,GO:0043169~cation binding,GO:0046872~metal ion binding,GO:0046914~transition metal ion binding, IPR007087:Zinc finger, C2H2-type,IPR012934:Zinc finger, AD-type,IPR015880:Zinc finger, C2H2-like, SM00355:ZnF\_C2H2, complete proteome,

1624717\_s\_at Dmel(CG32647) Drosophila melanogaster IPR001007:von Willebrand factor, type C,IPR002052:N-6 adenine-specific DNA methylase, conserved site, SM00214:VWC, complete proteome,methyltransferase,transferase,

1635581\_at Dmel(CG8300) Drosophila melanogaster complete proteome,

1637193\_at Eukaryotic translation initiation factor 3 subunit C Drosophila melanogaster GO:0006412~translation,GO:0006413~translational initiation, GO:0005829~cytosol,GO:0005852~eukaryotic translation initiation factor 3 complex, GO:0003743~translation initiation factor activity,GO:0008135~translation factor activity, nucleic acid binding,IPR000717:Proteasome component region PCI,IPR008905:Eukaryotic translation initiation factor 3 subunit 8, N-terminal,IPR011991:Winged helix repressor DNA-binding, PIRSF017001:eukaryotic translation initiation factor 3, subunit 8, SM00088:PINT, complete proteome, cytoplasm,Initiation factor,phosphoprotein,protein biosynthesis, chain:Eukaryotic translation initiation factor 3 subunit C, domain:PCI,modified residue,sequence conflict,

1631527\_at Eukaryotic translation initiation factor 3 subunit L Drosophila melanogaster GO:0006412~translation, GO:0003743~translation initiation factor activity,GO:0008135~translation factor activity, nucleic acid binding, IPR019382:RNA polymerase I-associated factor PAF67, complete proteome, cytoplasm,Initiation factor,protein biosynthesis, chain:Eukaryotic translation initiation factor 3 subunit L,

1641126\_at Protein LSM12 homolog A Drosophila melanogaster IPR019181:RNA-processing, Lsm domain, complete proteome, chain:Protein LSM12 homolog A,

1625840\_at Uncharacterized protein CG12001 Drosophila melanogaster complete proteome, rna editing, chain:Uncharacterized protein CG12001,sequence variant,

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Probe sets:

|            |              |              |              |            |            |
|------------|--------------|--------------|--------------|------------|------------|
| 1624185_at | 1628598_s_at | 1633463_s_at | 1636762_a_at | 1638335_at | 1640332_at |
| 1628296_at | 1628938_at   | 1636337_s_at | 1637778_a_at | 1640241_at |            |

Functional annotation table:

| ID         | Gene Name       | Species                 | COG_ONTOLOGY   | GOTERM_BP_FAT  | GOTERM_CC_FAT | GOTERM_MF_FAT | INTERPRO | KEGG_PATHWAY | PIR_SUPERFAMILY |
|------------|-----------------|-------------------------|----------------|--|---------------|---------------|----------|--------------|-----------------|
| SMART      | SP_PIR_KEYWORDS |                         | UP_SEQ_FEATURE |  |               |               |          |              |                 |
| 1624185_at | Dmel(CG1041)    | Drosophila melanogaster |                | GO:0005739~mitochondrion, GO:0005777~peroxisome, GO:0042579~microbody,<br>GO:0004092~carnitine O-acetyltransferase activity, GO:0008374~O-acyltransferase activity, GO:0016406~carnitine O-acyltransferase activity, GO:0016407~acyltransferase<br>activity, GO:0016413~O-acetyltransferase activity, IPR000542:Acyltransferase ChoActase/COT/CPT, PIRSF000430:carnitine O-acetyltransferase,<br>Acyltransferase, complete proteome, transferase,  |               |               |          |              |                 |
| 1628938_at | Dmel(CG10882)   | Drosophila melanogaster |                | GO:0006886~intracellular protein transport, GO:0006888~ER to Golgi vesicle-mediated<br>transport, GO:0008104~protein localization, GO:0015031~protein transport, GO:0016192~vesicle-mediated transport, GO:0034613~cellular protein<br>localization, GO:0045184~establishment of protein localization, GO:0046907~intracellular transport, GO:0048193~Golgi vesicle transport, GO:0070727~cellular macromolecule<br>localization, GO:0005794~Golgi apparatus, GO:0005811~lipid particle, GO:0012505~endomembrane system, GO:0012506~vesicle membrane, GO:0012507~ER to Golgi<br>transport vesicle membrane, GO:0016023~cytoplasmic membrane-bounded vesicle, GO:0030117~membrane coat, GO:0030120~vesicle coat, GO:0030127~COPII vesicle |               |               |          |              |                 |

coat,GO:0030133~transport vesicle,GO:0030134~ER to Golgi transport vesicle,GO:0030135~coated vesicle,GO:0030658~transport vesicle membrane,GO:0030659~cytoplasmic vesicle membrane,GO:0030662~coated vesicle membrane,GO:0031090~organelle membrane,GO:0031410~cytoplasmic vesicle,GO:0031982~vesicle,GO:0031988~membrane-bounded vesicle,GO:0044431~Golgi apparatus part,GO:0044433~cytoplasmic vesicle part,GO:0048475~coated membrane,GO:0004175~endopeptidase activity,GO:0004252~serine-type endopeptidase activity,GO:0008233~peptidase activity,GO:0008236~serine-type peptidase activity,GO:0008270~zinc ion binding,GO:0017171~serine hydrolase activity,GO:0043167~ion binding,GO:0043169~cation binding,GO:0046872~metal ion binding,GO:0046914~transition metal ion binding,GO:0070011~peptidase activity, acting on L-amino acid peptides, IPR000183:Orn/DAP/Arg decarboxylase 2,IPR000276:7TM GPCR, rhodopsin-like,IPR006031:XYPPX repeat,IPR006895:Zinc finger, Sec23/Sec24-type,IPR006896:Sec23/Sec24 trunk region,IPR006900:Sec23/Sec24 helical region,IPR007123:Gelsolin region,IPR012990:Sec23/Sec24 beta-sandwich, complete proteome,hydrolase,protein transport,transport,

1628598\_s\_at Dmel\_CG1250 Drosophila melanogaster Intracellular trafficking and secretion, GO:0002164~larval development,GO:0002165~instar larval or pupal development,GO:0002168~instar larval development,GO:0003002~regionalization,GO:0006886~intracellular protein transport,GO:0006888~ER to Golgi vesicle-mediated transport,GO:0007030~Golgi organization,GO:0007389~pattern specification process,GO:0007591~molting cycle, chitin-based cuticle,GO:0007592~protein-based cuticle development,GO:0008104~protein localization,GO:0008363~larval chitin-based cuticle development,GO:0009791~post-embryonic development,GO:0010721~negative regulation of cell development,GO:0010769~regulation of cell morphogenesis involved in differentiation,GO:0010975~regulation of neuron projection development,GO:0015031~protein transport,GO:0016192~vesicle-mediated transport,GO:0018988~molting cycle, protein-based cuticle,GO:0022404~molting cycle process,GO:0022604~regulation of cell morphogenesis,GO:0031344~regulation of cell projection organization,GO:0031345~negative regulation of cell projection organization,GO:0034613~cellular protein localization,GO:0035017~cuticle pattern formation,GO:0035293~chitin-based larval cuticle pattern formation,GO:0040003~chitin-based cuticle development,GO:0042303~molting cycle,GO:0042335~cuticle development,GO:0042336~protein-based cuticle development during molting,GO:0042337~chitin-based cuticle development during molting,GO:0045184~establishment of protein localization,GO:0045596~negative regulation of cell differentiation,GO:0045664~regulation of neuron differentiation,GO:0046907~intracellular transport,GO:0048193~Golgi vesicle transport,GO:0048814~regulation of dendrite morphogenesis,GO:0050767~regulation of neurogenesis,GO:0050768~negative regulation of neurogenesis,GO:0050773~regulation of dendrite development,GO:0050774~negative regulation of dendrite morphogenesis,GO:0051129~negative regulation of cellular component organization,GO:0051960~regulation of nervous system development,GO:0060284~regulation of cell

|            |               |                         |   |  |  |
|------------|---------------|-------------------------|---|--|--|
|            |               |                         | development,GO:0070727~cellular macromolecule localization, GO:0005783~endoplasmic reticulum,GO:0005794~Golgi apparatus,GO:0005795~Golgi stack,GO:0012505~endomembrane system,GO:0012506~vesicle membrane,GO:0012507~ER to Golgi transport vesicle membrane,GO:0016023~cytoplasmic membrane-bounded vesicle,GO:0030117~membrane coat,GO:0030120~vesicle coat,GO:0030127~COPII vesicle coat,GO:0030133~transport vesicle,GO:0030134~ER to Golgi transport vesicle,GO:0030135~coated vesicle,GO:0030658~transport vesicle membrane,GO:0030659~cytoplasmic vesicle membrane,GO:0030662~coated vesicle membrane,GO:0031090~organelle membrane,GO:0031410~cytoplasmic vesicle,GO:0031982~vesicle,GO:0031988~membrane-bounded vesicle,GO:0044431~Golgi apparatus part,GO:0044433~cytoplasmic vesicle part,GO:0048475~coated membrane, GO:0005096~GTPase activator activity,GO:0008047~enzyme activator activity,GO:0008270~zinc ion binding,GO:0030695~GTPase regulator activity,GO:0043167~ion binding,GO:0043169~cation binding,GO:0046872~metal ion binding ,GO:0046914~transition metal ion binding,GO:0060589~nucleoside-triphosphatase regulator activity, IPR006895:Zinc finger, Sec23/Sec24-type,IPR006896:Sec23/Sec24 trunk region,IPR006900:Sec23/Sec24 helical region,IPR007123:Gelsolin region,IPR012990:Sec23/Sec24 beta-sandwich, | PIRSF003206:SEC23 protein,   | protein transport,transport,   |
| 1638335_at | Dmel(CG18493) | Drosophila melanogaster | GO:0006508~proteolysis,   | GO:0008233~peptidase activity,GO:0008236~serine-type peptidase activity,GO:0017171~serine hydrolase activity,GO:0070011~peptidase activity, acting on L-amino acid peptides, | IPR008758:Peptidase S28, PIRSF016539:Lysosomal Pro-X carboxypeptidase / Dipeptidyl-peptidase 2, complete proteome, |
| 1640332_at | Dmel(CG6972)  | Drosophila melanogaster |   |  | complete proteome,   |
| 1640241_at | Dmel(CG7008)  | Drosophila melanogaster | GO:0010605~negative regulation of macromolecule metabolic process,GO:0010608~posttranscriptional regulation of gene expression,GO:0010629~negative regulation of gene expression,GO:0016246~RNA interference,GO:0016441~posttranscriptional gene silencing,GO:0016458~gene silencing,GO:0031047~gene silencing by RNA,GO:0035194~posttranscriptional gene silencing by RNA,GO:0040029~regulation of gene expression, epigenetic, GO:0005811~lipid particle,GO:0016442~RNA-induced silencing complex,GO:0030529~ribonucleoprotein complex,GO:0031332~RNAi effector complex, GO:0003712~transcription cofactor activity,GO:0003713~transcription coactivator activity,GO:0008134~transcription factor binding,GO:0016563~transcription activator activity,GO:0030528~transcription regulator activity, IPR002999:Tudor domain,IPR006021:Staphylococcal nuclease (SNase-like),IPR008191:Maternal tudor protein,IPR016685:RNA-induced silencing complex, nuclelease component Tudor-SN,IPR018351:Tudor subgroup, SM00318:SNc,SM00333:TUDOR, complete proteome,hydrolase,  | PIRS F017179:RISC-Tudor-SN,  |  |

|              |  |                         |   |   |
|--------------|--|-------------------------|---|---|
| 1637778_a_at | Probable glucosamine 6-phosphate N-acetyltransferase     | Drosophila melanogaster | GO:0004343~glucosamine 6-phosphate N-acetyltransferase activity, GO:0008080~N-acetyltransferase activity, GO:0016407~acetyltransferase activity, GO:0016410~N-acyltransferase activity, GO:0042802~identical protein binding, IPR000182:GCN5-related N-acetyltransferase, IPR016181:Acyl-CoA N-acyltransferase, dme00520:Amino sugar and nucleotide sugar metabolism, Acyltransferase, complete proteome, transferase, binding site:Substrate, chain:Probable glucosamine 6-phosphate N- acetyltransferase, domain:N-acetyltransferase, region of interest:Acetyl-CoA binding, region of interest:Substrate binding,  | GO:0004343~glucosamine 6-phosphate N-acetyltransferase activity, GO:0008080~N-acetyltransferase activity, GO:0016407~acetyltransferase activity, GO:0016410~N-acyltransferase activity, GO:0042802~identical protein binding, IPR000182:GCN5-related N-acetyltransferase, IPR016181:Acyl-CoA N-acyltransferase, dme00520:Amino sugar and nucleotide sugar metabolism, Acyltransferase, complete proteome, transferase, binding site:Substrate, chain:Probable glucosamine 6-phosphate N- acetyltransferase, domain:N-acetyltransferase, region of interest:Acetyl-CoA binding, region of interest:Substrate binding,  |
| 1633463_s_at | Putative polypeptide N-acetylgalactosaminyltransferase 9 | Drosophila melanogaster | GO:0005794~Golgi apparatus, GO:0016021~integral to membrane, GO:0031224~intrinsic to membrane, GO:0004653~polypeptide N-acetylgalactosaminyltransferase activity, GO:0005509~calcium ion binding, GO:0005529~sugar binding, GO:0008376~acetylgalactosaminyltransferase activity, GO:0030145~manganese ion binding, GO:0030246~carbohydrate binding, GO:0043167~ion binding, GO:0043169~cation binding, GO:0046872~metal ion binding, GO:0046914~transition metal ion binding, IPR000772:Ricin B lectin, IPR001173:Glycosyl transferase, family 2, dme00512:O-Glycan biosynthesis, SM00458:RICIN, alternative splicing, calcium, complete proteome, disulfide bond, glycoprotein, glycosyltransferase, golgi apparatus, Lectin, manganese, membrane, Signal-anchor, transferase, transmembrane, chain:Putative polypeptide N- acetylgalactosaminyltransferase 9, compositionally biased region:Gly-rich, disulfide bond, domain:Ricin B-type lectin, glycosylation site:N-linked (GlcNAc...), region of interest:Catalytic subdomain A, region of interest:Catalytic subdomain B, sequence conflict, splice variant, topological domain:Cytoplasmic, topological domain:Lumenal, transmembrane region,   | GO:0005794~Golgi apparatus, GO:0016021~integral to membrane, GO:0031224~intrinsic to membrane, GO:0004653~polypeptide N-acetylgalactosaminyltransferase activity, GO:0005509~calcium ion binding, GO:0005529~sugar binding, GO:0008376~acetylgalactosaminyltransferase activity, GO:0030145~manganese ion binding, GO:0030246~carbohydrate binding, GO:0043167~ion binding, GO:0043169~cation binding, GO:0046872~metal ion binding, GO:0046914~transition metal ion binding, IPR000772:Ricin B lectin, IPR001173:Glycosyl transferase, family 2, dme00512:O-Glycan biosynthesis, SM00458:RICIN, alternative splicing, calcium, complete proteome, disulfide bond, glycoprotein, glycosyltransferase, golgi apparatus, Lectin, manganese, membrane, Signal-anchor, transferase, transmembrane, chain:Putative polypeptide N- acetylgalactosaminyltransferase 9, compositionally biased region:Gly-rich, disulfide bond, domain:Ricin B-type lectin, glycosylation site:N-linked (GlcNAc...), region of interest:Catalytic subdomain A, region of interest:Catalytic subdomain B, sequence conflict, splice variant, topological domain:Cytoplasmic, topological domain:Lumenal, transmembrane region,   |
| 1628296_at   | polypeptide GalNAc transferase 4                         | Drosophila melanogaster | GO:0009311~oligosaccharide metabolic process, GO:0009312~oligosaccharide biosynthetic process, GO:0016051~carbohydrate biosynthetic process, GO:0005794~Golgi apparatus, GO:0005795~Golgi stack, GO:0016021~integral to membrane, GO:0031224~intrinsic to membrane, GO:0044431~Golgi apparatus part, GO:0004653~polypeptide N-acetylgalactosaminyltransferase activity, GO:0005509~calcium ion binding, GO:0005529~sugar binding, GO:0008376~acetylgalactosaminyltransferase activity, GO:0030145~manganese ion binding, GO:0030246~carbohydrate binding, GO:0043167~ion binding, GO:0043169~cation binding, GO:0046872~metal ion binding, GO:0046914~transition metal ion binding, IPR000772:Ricin B lectin, IPR001173:Glycosyl transferase, family 2, dme00512:O-Glycan biosynthesis, SM00458:RICIN, calcium, complete proteome, disulfide bond, glycoprotein, glycosyltransferase, golgi apparatus, Lectin, manganese, membrane, Signal-anchor, transferase, transmembrane, chain:N-acetylgalactosaminyltransferase 4, disulfide bond, domain:Ricin B-type lectin, glycosylation site:N-linked (GlcNAc...), region of interest:Catalytic subdomain A, region of interest:Catalytic subdomain B, sequence conflict, splice variant, topological domain:Cytoplasmic, topological domain:Lumenal, transmembrane region, | GO:0009311~oligosaccharide metabolic process, GO:0009312~oligosaccharide biosynthetic process, GO:0016051~carbohydrate biosynthetic process, GO:0005794~Golgi apparatus, GO:0005795~Golgi stack, GO:0016021~integral to membrane, GO:0031224~intrinsic to membrane, GO:0044431~Golgi apparatus part, GO:0004653~polypeptide N-acetylgalactosaminyltransferase activity, GO:0005509~calcium ion binding, GO:0005529~sugar binding, GO:0008376~acetylgalactosaminyltransferase activity, GO:0030145~manganese ion binding, GO:0030246~carbohydrate binding, GO:0043167~ion binding, GO:0043169~cation binding, GO:0046872~metal ion binding, GO:0046914~transition metal ion binding, IPR000772:Ricin B lectin, IPR001173:Glycosyl transferase, family 2, dme00512:O-Glycan biosynthesis, SM00458:RICIN, calcium, complete proteome, disulfide bond, glycoprotein, glycosyltransferase, golgi apparatus, Lectin, manganese, membrane, Signal-anchor, transferase, transmembrane, chain:N-acetylgalactosaminyltransferase 4, disulfide bond, domain:Ricin B-type lectin, glycosylation site:N-linked (GlcNAc...), region of interest:Catalytic subdomain A, region of interest:Catalytic subdomain B, sequence conflict, splice variant, topological domain:Cytoplasmic, topological domain:Lumenal, transmembrane region, |

lectin, glycosylation site:N-linked (GlcNAc...), region of interest:Catalytic subdomain A, region of interest:Catalytic subdomain B, topological domain:Lumenal, transmembrane region,

1636337\_s\_at polypeptide GalNAc transferase 6 Drosophila melanogaster GO:0009311~oligosaccharide metabolic process, GO:0009312~oligosaccharide biosynthetic process, GO:0016051~carbohydrate biosynthetic process, GO:0005794~Golgi apparatus, GO:0005795~Golgi stack, GO:0016021~integral to membrane, GO:0031224~intrinsic to membrane, GO:0044431~Golgi apparatus part, GO:0004653~polypeptide N-acetylgalactosaminyltransferase activity, GO:0005509~calcium ion binding, GO:0005529~sugar binding, GO:0008376~acetylgalactosaminyltransferase activity, GO:0030145~manganese ion binding, GO:0030246~carbohydrate binding, GO:0043167~ion binding, GO:0043169~cation binding, GO:0046872~metal ion binding, GO:0046914~transition metal ion binding, IPR000772:Ricin B lectin, IPR001173:Glycosyl transferase, family 2, dme00512:O-Glycan biosynthesis, SM00458:RICIN, calcium, complete proteome, disulfide bond, glycoprotein, glycosyltransferase, golgi apparatus, Lectin, manganese, membrane, Signal-anchor, transferase, transmembrane, chain:N-acetylgalactosaminyltransferase 6, disulfide bond, domain:Ricin B-type lectin, glycosylation site:N-linked (GlcNAc...), region of interest:Catalytic subdomain A, region of interest:Catalytic subdomain B, sequence conflict, topological domain:Cytoplasmic, topological domain:Lumenal, transmembrane region,

1636762\_a\_at supercoiling factor Drosophila melanogaster Signal transduction mechanisms / Cytoskeleton / Cell division and chromosome partitioning / General function prediction only, GO:0006325~chromatin organization, GO:0007549~dosage compensation, GO:0009047~dosage compensation, by hyperactivation of X chromosome, GO:0040029~regulation of gene expression, epigenetic, GO:0051276~chromosome organization, GO:0005694~chromosome, GO:0005700~polytene chromosome, GO:0043228~non-membrane-bounded organelle, GO:0043232~intracellular non-membrane-bounded organelle, GO:0003677~DNA binding, GO:0003916~DNA topoisomerase activity, GO:0005509~calcium ion binding, GO:0043167~ion binding, GO:0043169~cation binding, GO:0046872~metal ion binding, IPR002048:Calcium-binding EF-hand, IPR011992:EF-Hand type, IPR018247:EF-HAND 1, IPR018248:EF hand, IPR018249:EF-HAND 2, SM00054:EFh, calcium,

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Probe sets:

|              |              |              |              |            |              |
|--------------|--------------|--------------|--------------|------------|--------------|
| 1622935_at   | 1625375_at   | 1629391_at   | 1632318_at   | 1636131_at | 1639071_a_at |
| 1623032_at   | 1625814_at   | 1629476_at   | 1632374_at   | 1636711_at | 1639152_at   |
| 1623766_at   | 1626075_at   | 1629718_at   | 1632583_at   | 1636829_at | 1639341_at   |
| 1623783_at   | 1626222_at   | 1629955_at   | 1633810_at   | 1636921_at | 1639993_at   |
| 1623928_at   | 1626503_at   | 1630131_at   | 1634575_at   | 1637124_at | 1640824_at   |
| 1624158_at   | 1626811_at   | 1631200_at   | 1634697_at   | 1637547_at | 1640826_at   |
| 1624699_s_at | 1627078_at   | 1631627_at   | 1635305_s_at | 1638217_at | 1641201_at   |
| 1624840_at   | 1627459_at   | 1631648_at   | 1635821_at   | 1638224_at | 1641568_a_at |
| 1624888_at   | 1627888_at   | 1631877_a_at | 1635983_a_at | 1638272_at |              |
| 1624984_at   | 1628376_x_at | 1631909_at   | 1635987_at   | 1638350_at |              |
| 1625027_a_at | 1628634_at   | 1631998_at   | 1636014_at   | 1638970_at |              |

Functional annotation table:

| ID              | Gene Name      | Species | COG_ONTOLOGY | GOTERM_BP_FAT | GOTERM_CC_FAT | GOTERM_MF_FAT | INTERPRO | KEGG_PATHWAY | PIR_SUPERFAMILY | SMART |
|-----------------|----------------|---------|--------------|---------------|---------------|---------------|----------|--------------|-----------------|-------|
| SP_PIR_KEYWORDS | UP_SEQ_FEATURE |         |              |               |               |               |          |              |                 |       |

|            |  |   |
|------------|--|---|
| 1624840_at | Accessory gland-specific peptide 29AB Drosophila melanogaster                | GO:0007320~insemination, GO:0007321~sperm displacement, GO:0007610~behavior, GO:0007618~mating, GO:0007620~copulation, GO:0019098~reproductive behavior, GO:0032504~multicellular organism reproduction, GO:0045297~post-mating behavior, GO:0046692~sperm competition, GO:0046693~sperm storage, GO:0048609~reproductive process in a multicellular organism, GO:0005576~extracellular region, GO:0005179~hormone activity, GO:0005529~sugar binding, GO:0005534~galactose binding, GO:0030246~carbohydrate binding, GO:0048029~monosaccharide binding, IPR001304:C-type lectin, IPR016186:C-type lectin-like, IPR018378:C-type lectin, conserved site, SM00034:CLECT, behavior, complete proteome, disulfide bond, glycoprotein, Lectin, polymorphism, Secreted, signal, chain: Accessory gland protein Acp29AB, disulfide bond, domain: C-type lectin, glycosylation site: N-linked (GlcNAc...), sequence variant, signal peptide,   |
| 1631200_at | Accessory gland-specific peptide 32CD Drosophila melanogaster                | GO:0007610~behavior, GO:0007617~mating behavior, GO:0007618~mating, GO:0007621~negative regulation of female receptivity, GO:0019098~reproductive behavior, GO:0032504~multicellular organism reproduction, GO:0033057~reproductive behavior in a multicellular organism, GO:0045297~post-mating behavior, GO:0045434~negative regulation of female receptivity, post-mating, GO:0045924~regulation of female receptivity, GO:0046008~regulation of female receptivity, post-mating, GO:0048609~reproductive process in a multicellular organism, GO:0051705~behavioral interaction between organisms, GO:0060180~female mating behavior, GO:0005576~extracellular region, GO:0005179~hormone activity, alternative initiation, behavior, complete proteome, polymorphism, Secreted, signal, chain: Accessory gland protein Acp32CD, compositionally biased region: Arg-rich, compositionally biased region: Gly-rich, sequence variant, signal peptide, splice variant,  |
| 1628634_at | Adenosine 3'-phospho 5'-phosphosulfate transporter 2 Drosophila melanogaster | GO:0015858~nucleoside transport, GO:0015860~purine nucleoside transport, GO:0015931~nucleobase, nucleoside, nucleotide and nucleic acid transport, GO:0046963~3'-phosphoadenosine 5'-phosphosulfate transport, GO:0005794~Golgi apparatus, GO:0016021~integral to membrane, GO:0031224~intrinsic to membrane, GO:0005337~nucleoside transmembrane transporter activity, GO:0015211~purine nucleoside transmembrane transporter activity, GO:0015932~nucleobase, nucleoside, nucleotide and nucleic acid transmembrane transporter activity, GO:0046964~3'-phosphoadenosine 5'-phosphosulfate transmembrane transporter activity, IPR013657:UAA transporter, PIRSF017416:solute carrier family 35, member B type, PIRSF500839:solute carrier family 35, member B3, complete proteome, developmental protein, glycoprotein, golgi apparatus, membrane, phosphoprotein, transmembrane, transport, chain: Adenosine 3'-phospho 5'-phosphosulfate transporter 2, glycosylation site: N-linked (GlcNAc...), modified residue, transmembrane region, |

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| 1624699_s_at | Beadex         | Drosophila melanogaster | GO:0002165~instar larval or pupal development, GO:0003002~regionalization, GO:0006897~endocytosis, GO:0006909~phagocytosis, GO:0006911~phagocytosis, engulfment, GO:0007389~pattern specification process, GO:0007444~imaginal disc development, GO:0007472~wing disc morphogenesis, GO:0007476~imaginal disc-derived wing morphogenesis, GO:0007552~metamorphosis, GO:0007560~imaginal disc morphogenesis, GO:0007610~behavior, GO:0007622~rhythmic behavior, GO:0007623~circadian rhythm, GO:0007626~locomotory behavior, GO:0009791~post-embryonic development, GO:0009886~post-embryonic morphogenesis, GO:0010033~response to organic substance, GO:0010324~membrane invagination, GO:0014070~response to organic cyclic substance, GO:0014073~response to tropane, GO:0016044~membrane organization, GO:0016192~vesicle-mediated transport, GO:0035107~appendage morphogenesis, GO:0035108~limb morphogenesis, GO:0035110~leg morphogenesis, GO:0035114~imaginal disc-derived appendage morphogenesis, GO:0035120~post-embryonic appendage morphogenesis, GO:0035218~leg disc development, GO:0035220~wing disc development, GO:0035282~segmentation, GO:0035285~appendage segmentation, GO:0035286~leg segmentation, GO:0042220~response to cocaine, GO:0043279~response to alkaloid, GO:0045475~locomotor rhythm, GO:0048511~rhythmic process, GO:0048512~circadian behavior, GO:0048563~post-embryonic organ morphogenesis, GO:0048569~post-embryonic organ development, GO:0048707~instar larval or pupal morphogenesis, GO:0048736~appendage development, GO:0048737~imaginal disc-derived appendage development, GO:0060173~limb development, GO:0008270~zinc ion binding, GO:0043167~ion binding, GO:0043169~cation binding, GO:0046872~metal ion binding, GO:0046914~transition metal ion binding, IPR001781:Zinc finger, LIM-type, SM00132:LIM, complete proteome, LIM domain, metal-binding, zinc, |
| 1636131_at   | DNA ligase III | Drosophila melanogaster | GO:0006259~DNA metabolic process, GO:0006260~DNA replication, GO:0006281~DNA repair, GO:0006310~DNA recombination, GO:0006974~response to DNA damage stimulus, GO:0033554~cellular response to stress, GO:0000166~nucleotide binding, GO:0001882~nucleoside binding, GO:0001883~purine nucleoside binding, GO:0003677~DNA binding, GO:0003909~DNA ligase activity, GO:0003910~DNA ligase (ATP) activity, GO:0005524~ATP binding, GO:0016886~ligase activity, forming phosphoric ester bonds, GO:0017076~purine nucleotide binding, GO:0030554~adenyl nucleotide binding, GO:0032553~ribonucleotide binding, GO:0032555~purine ribonucleotide binding, GO:0032559~adenyl ribonucleotide binding, IPR000977:ATP-dependent DNA ligase, IPR001357:BRCT, IPR012308:DNA ligase, N-terminal, IPR012309:ATP dependent DNA ligase, C-terminal, IPR012310:ATP dependent DNA ligase, central, IPR012340:Nucleic acid-binding, OB-fold, IPR016059:ATP-dependent DNA  |

ligase, conserved site, dme03410:Base excision repair, SM00292:BRCT, atp-b inding,complete proteome,DNA damage,dna recombination,dna repair,dna replication,ligase,nucleotide-binding,

1639071\_a\_at Death related ced-3/Nedd2-like protein Drosophila melanogaster GO:0002697~regulation of immune effector process,GO:0002700~regulation of production of molecular mediator of immune response,GO:0002759~regulation of antimicrobial humoral response,GO:0002784~regulation of antimicrobial peptide production,GO:0002786~regulation of antibacterial peptide production,GO:0002805~regulation of antimicrobial peptide biosynthetic process,GO:0002807~positive regulation of antimicrobial peptide biosynthetic process,GO:0002808~regulation of antibacterial peptide biosynthetic process,GO:0002831~regulation of response to biotic stimulus,GO:0002920~regulation of humoral immune response,GO:0003006~reproductive developmental process,GO:0006508~proteolysis,GO:0006915~apoptosis,GO:0006952~defense response,GO:0006955~immune response,GO:0006963~positive regulation of antibacterial peptide biosynthetic process,GO:0007276~gamete generation,GO:0007281~germ cell development,GO:0007283~spermatogenesis,GO:0007286~spermatid development,GO:0007291~sperm individualization,GO:0007349~cellularization,GO:0008219~cell death,GO:0009617~response to bacterium,GO:0009891~positive regulation of biosynthetic process,GO:0012501~programmed cell death,GO:0016265~death,GO:0016485~protein processing,GO:0019953~sexual reproduction,GO:0031328~positive regulation of cellular biosynthetic process,GO:0032504~multicellular organism reproduction,GO:0042742~defense response to bacterium,GO:0043900~regulation of multi-organism process,GO:0045087~innate immune response,GO:0048232~male gamete generation,GO:0048515~spermatid differentiation,GO:0048609~reproductive process in a multicellular organism,GO:0048610~reproductive cellular process,GO:0050829~defense response to Gram-negative bacterium,GO:0051604~protein maturation,GO:0051605~protein maturation by peptide bond cleavage, GO:0004175~endopeptidase activity,GO:0004197~cysteine-type endopeptidase activity,GO:0008047~enzyme activator activity,GO:0008233~peptidase activity,GO:0008234~cysteine-type peptidase activity,GO:0016504~peptidase activator activity,GO:0070011~peptidase activity, acting on L-amino acid peptides, IPR001309:Peptidase C14, ICE, catalytic subunit p20,IPR002138:Peptidase C14, caspase non-catalytic subunit p10,IPR002398:Peptidase C14, caspase precursor p45,IPR011600:Peptidase C14, caspase catalytic,IPR015917:Peptidase C14, caspase precursor p45, core,IPR016129:Peptidase C14, ICE, catalytic subunit p20, active site, SM00115:CASc, alternative splicing,Apoptosis,complete proteome,cytoplasm,hydrolase,immune response,Protease,thiol protease,zymogen, chain:Caspase-8 subunit p10,chain:Caspase-8 subunit p15,sequence conflict,splice variant,

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| 1634575_at   | Dmel(CG11037) | Drosophila melanogaster | GO:0006508~proteolysis,<br>endopeptidase activity, GO:0008233~peptidase activity, GO:0008236~serine-type peptidase activity, GO:0017171~serine hydrolase activity, GO:0070011~peptidase activity, acting on L-amino acid peptides, IPR001254:Peptidase S1 and S6, chymotrypsin/Hap, IPR001314:Peptidase S1A, chymotrypsin, IPR018114:Peptidase S1/S6, chymotrypsin/Hap, active site, SM00020:Ttryp_SPC, complete proteome, hydrolase, | GO:0004175~endopeptidase activity, GO:0004252~serine-type   |
| 1640824_at   | Dmel(CG11306) | Drosophila melanogaster | GO:0000026~alpha-1,2-mannosyltransferase activity, GO:0000030~mannosyltransferase activity, IPR001296:Glycosyl transferase, group 1, dme00510:N-Glycan biosynthesis,  | complete proteome, glycosyltransferase, transferase,  |
| 1626075_at   | Dmel(CG11664) | Drosophila melanogaster | GO:0006508~proteolysis,<br>endopeptidase activity, GO:0008233~peptidase activity, GO:0008236~serine-type peptidase activity, GO:0017171~serine hydrolase activity, GO:0070011~peptidase activity, acting on L-amino acid peptides, IPR001254:Peptidase S1 and S6, chymotrypsin/Hap, IPR001314:Peptidase S1A, chymotrypsin, PIRSF001135:trypsin, SM00020:Ttryp_SPC, complete proteome, hydrolase,                                      | GO:0004175~endopeptidase activity, GO:0004252~serine-type   |
| 1641568_a_at | Dmel(CG11790) | Drosophila melanogaster | GO:0019725~cellular homeostasis, GO:0042592~homeostatic process, GO:0045454~cell redox homeostasis, IPR012335:Thioredoxin fold, IPR013766:Thioredoxin domain,   | complete proteome,  |
| 1635987_at   | Dmel(CG12116) | Drosophila melanogaster | Secondary metabolites biosynthesis, transport, and catabolism / General function prediction only, GO:0055114~oxidation reduction, dme00790:Folate biosynthesis,   | GO:0004757~sepiapterin reductase activity, IPR002198:Short-chain dehydrogenase/reductase SDR, IPR016040:NAD(P)-binding domain, complete proteome, oxidoreductase,   |
| 1632318_at   | Dmel(CG12773) | Drosophila melanogaster | GO:0006865~amino acid transport, GO:0015837~amine transport, GO:0015849~organic acid transport, GO:0046942~carboxylic acid transport,   | GO:0005275~amine transmembrane transporter activity, GO:0008509~anion transmembrane transporter activity, GO:0008511~sodium:potassium:chloride symporter activity, GO:0015171~amino acid transmembrane transporter activity, GO:0015293~symporter activity, GO:0015294~solute:cation symporter activity, GO:0015296~anion:cation symporter activity, GO:0015377~cation:chloride symporter activity, IPR004841:Amino acid permease-associated region, complete proteome, |
| 1622935_at   | Dmel(CG12828) | Drosophila melanogaster |   | complete proteome,  |

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| 1629955_at   | Dmel(CG13309) | Drosophila melanogaster | GO:0005976~polysaccharide metabolic process, GO:0006022~aminoglycan metabolic process, GO:0006030~chitin metabolic process, GO:0005576~extracellular region, GO:0001871~pattern binding, GO:0008061~chitin binding, GO:0030246~carbohydrate binding, GO:0030247~polysaccharide binding, IPR002557:Chitin binding protein, peritrophin-A, | SM00494:ChtBD2, complete proteome,  |
| 1632583_at   | Dmel(CG13539) | Drosophila melanogaster |  | IPR009961:Protein of unknown function DUF1487, complete proteome,   |
| 1628376_x_at | Dmel(CG13947) | Drosophila melanogaster |  | complete proteome,  |
| 1623766_at   | Dmel(CG14054) | Drosophila melanogaster |  | complete proteome,  |
| 1624158_at   | Dmel(CG14481) | Drosophila melanogaster |  | complete proteome,  |
| 1638970_at   | Dmel(CG14543) | Drosophila melanogaster |  | IPR019398:Pre-rRNA-processing protein TSR2, conserved region, complete proteome,  |
| 1639341_at   | Dmel(CG14971) | Drosophila melanogaster | GO:0016021~integral to membrane, GO:0031224~intrinsic to membrane, IPR004853:Protein of unknown function DUF250,   | complete proteome, membrane, transmembrane,   |
| 1629391_at   | Dmel(CG1656)  | Drosophila melanogaster | GO:0005529~sugar binding, GO:0005534~galactose binding, GO:0030246~carbohydrate binding, GO:0048029~monosaccharide binding, IPR001304:C-type lectin, IPR016186:C-type lectin-like,   | SM00034:CLECT, complete proteome,   |
| 1629718_at   | Dmel(CG16727) | Drosophila melanogaster | GO:0015101~organic cation transmembrane transporter activity, IPR011701:Major facilitator superfamily MFS-1,   | IPR011701:Major facilitator superfamily MFS-1, complete proteome, transmembrane,  |
| 1625027_a_at | Dmel(CG17035) | Drosophila melanogaster | GO:0006644~phospholipid metabolic process, GO:0016042~lipid catabolic process, GO:0019637~organophosphate metabolic process,   | GO:0005576~extracellular region, GO:0004091~carboxylesterase activity, GO:0004620~phospholipase activity, GO:0004623~phospholipase A2 activity, GO:0005509~calcium ion binding, GO:0016298~lipase activity, GO:0043167~ion binding, GO:0043169~cation binding, GO:0046872~metal ion binding, IPR010711:Phospholipase A2, group XII secretory, IPR013090:Phospholipase A2, active site, dme00564:Glycerophospholipid |

metabolism,dme00565:Ether lipid metabolism,dme00590:Arachidonic acid metabolism,dme00591:Linoleic acid metabolism,dme00592:alpha-Linolenic acid metabolism,  
complete proteome,hydrolase,

1639152\_at Dmel(CG18243) Drosophila melanogaster GO:0000902~cell morphogenesis,GO:0000904~cell morphogenesis involved in differentiation,GO:0006470~protein amino acid dephosphorylation,GO:0006793~phosphorus metabolic process,GO:0006796~phosphate metabolic process,GO:0006928~cell motion,GO:0007409~axonogenesis,GO:0007411~axon guidance,GO:0016311~dephosphorylation,GO:0030030~cell projection organization,GO:0030182~neuron differentiation,GO:0031175~neuron projection development,GO:0032989~cellular component morphogenesis,GO:0032990~cell part morphogenesis,GO:0048666~neuron development,GO:0048667~cell morphogenesis involved in neuron differentiation,GO:0048812~neuron projection morphogenesis,GO:0048858~cell projection morphogenesis,GO:0004721~phosphoprotein phosphatase activity,GO:0004725~protein tyrosine phosphatase activity,GO:0016791~phosphatase activity,

IPR000242:Protein-tyrosine phosphatase, receptor/non-receptor type,IPR000387:Dual-specific/protein-tyrosine phosphatase, conserved region,IPR000387:Protein - tyrosine phosphatase,IPR000572:Oxidoreductase, molybdopterin binding,IPR003961:Fibronectin, type III,IPR008957:Fibronectin, type III-like fold,IPR016130:Protein-tyrosine phosphatase, active site, SM00060:FN3,SM00194:PTPc, hydrolase,

1626503\_at Dmel(CG2254) Drosophila melanogaster GO:0055114~oxidation reduction, GO:0005811~lipid particle, IPR002198:Short-chain dehydrogenase/reductase SDR,IPR002347:Glucose/ribitol dehydrogenase,IPR016040:NAD(P)-binding domain, PIRSF000126:11beta-hydroxysteroid dehydrogenase, complete proteome,oxidoreductase,

1623032\_at Dmel(CG2336) Drosophila melanogaster GO:0055114~oxidation reduction, IPR009961:Protein of unknown function DUF1487, complete proteome,oxidoreductase,

1636711\_at Dmel(CG31265) Drosophila melanogaster GO:0006508~proteolysis, GO:0004175~endopeptidase activity,GO:0004252~serine-type endopeptidase activity,GO:0008233~peptidase activity,GO:0008236~serine-type peptidase activity,GO:0017171~serine hydrolase activity,GO:0070011~peptidase activity, acting on L-amino acid peptides, IPR001254:Peptidase S1 and S6, chymotrypsin/Hap,IPR001314:Peptidase S1A, chymotrypsin,IPR018114:Peptidase S1/S6, chymotrypsin/Hap, active site, PIRSF001135:trypsin, SM00020:TryptSPc, complete proteome,hydrolase,Protease,Serine protease,

1636014\_at Dmel(CG31419) Drosophila melanogaster complete proteome,

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| 1636829_at | Dmel(CG31902) | Drosophila melanogaster | GO:0004857~enzyme inhibitor activity, GO:0004866~endopeptidase inhibitor activity, GO:0004867~serine-type endopeptidase inhibitor activity, GO:0030414~peptidase inhibitor activity, SM00093:SERPIN, complete proteome,   | IPR000215:Protease inhibitor I4, serpin, |
| 1625375_at | Dmel(CG32201) | Drosophila melanogaster | GO:0006575~cellular amino acid derivative metabolic process, GO:0018208~peptidyl-proline modification, GO:0018401~peptidyl-proline hydroxylation to 4-hydroxy-L-proline, GO:0019471~4-hydroxyproline metabolic process, GO:0055114~oxidation reduction, GO:0005783~endoplasmic reticulum, GO:0016222~procollagen-proline 4-dioxygenase complex, GO:0044432~endoplasmic reticulum part, GO:0004656~procollagen-proline 4-dioxygenase activity, GO:0005506~iron ion binding, GO:0016706~oxidoreductase activity, acting on paired donors, with incorporation or reduction of molecular oxygen, 2-oxoglutarate as one donor, and incorporation of one atom each of oxygen into both donors, GO:0019798~procollagen-proline dioxygenase activity, GO:0019842~vitamin binding, GO:0031406~carboxylic acid binding, GO:0031418~L-ascorbic acid binding, GO:0031543~peptidyl-proline dioxygenase activity, GO:0031545~peptidyl-proline 4-dioxygenase activity, GO:0043167~ion binding, GO:0043169~cation binding, GO:0046872~metal ion binding, GO:0046914~transition metal ion binding, IPR005123:Oxoglutarate and iron-dependent oxygenase, IPR006620:Prolyl 4-hydroxylase, alpha subunit, dme00330:Arginine and proline metabolism, SM00702:P4Hc, oxidoreductase, |  |
| 1638224_at | Dmel(CG32250) | Drosophila melanogaster | GO:0005739~mitochondrion, GO:0005740~mitochondrial envelope, GO:0005743~mitochondrial inner membrane, GO:0005777~peroxisome, GO:0005778~peroxisomal membrane, GO:0005779~integral to peroxisomal membrane, GO:0016021~integral to membrane, GO:0019866~organelle inner membrane, GO:0031090~organelle membrane, GO:0031224~intrinsic to membrane, GO:0031231~intrinsic to peroxisomal membrane, GO:0031300~intrinsic to organelle membrane, GO:0031301~integral to organelle membrane, GO:0031903~microbody membrane, GO:0031966~mitochondrial membrane, GO:0031967~organelle envelope, GO:0031975~envelope, GO:0042579~microbody, GO:0044429~mitochondrial part, GO:0044438~microbody part, GO:0044439~peroxisomal part, IPR001993:Mitochondrial substrate carrier, IPR002113:Adenine nucleotide translocator 1, IPR018108:Mitochondrial substrate/solute carrier, complete proteome, membrane, repeat, transmembrane, transport,  |  |
| 1634697_at | Dmel(CG32667) | Drosophila melanogaster | IPR001007:von Willebrand factor, type C, complete proteome,   | SM00214:VWC,                             |

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| 1640826_at | Dmel(CG3947) | Drosophila melanogaster | GO:0007031~peroxisome organization,<br>Pex16,<br>complete proteome,  | IPR013919:Peroxisome membrane protein,   |
| 1626222_at | Dmel(CG4812) | Drosophila melanogaster | GO:0006508~proteolysis,<br>GO:0008233~peptidase activity,GO:0008236~serine-type peptidase activity,GO:0017171~serine hydrolase activity,GO:0070011~peptidase activity, acting on L-amino acid peptides, IPR001254:Peptidase S1 and S6, chymotrypsin/Hap,IPR001314:Peptidase S1A, chymotrypsin,IPR018114:Peptidase S1/S6, chymotrypsin/Hap, active site, PIRSF001135:trypsin, SM00020:Tryp_SPC, complete proteome,hydrolase,Protease,Serine protease, | GO:0004175~endopeptidase activity,GO:0004252~serine-type endopeptidase activity,IPR001254:Peptidase S1 and S6, chymotrypsin/Hap,IPR001314:Peptidase S1A, chymotrypsin,IPR018114:Peptidase S1/S6, chymotrypsin/Hap, active site, PIRSF001135:trypsin, SM00020:Tryp_SPC, complete proteome,hydrolase,Protease,Serine protease, |
| 1641201_at | Dmel(CG5267) | Drosophila melanogaster | cysteine-rich trypsin inhibitor-like subgroup,<br>complete proteome,   | IPR013032:EGF-like region, conserved site,IPR018453:Protease inhibitor I8,   |
| 1631627_at | Dmel(CG5335) | Drosophila melanogaster | carbohydrate recognition domain,IPR013320:Concanavalin A-like lectin/glucanase, subgroup,<br>complete proteome,  | GO:0005529~sugar binding,GO:0030246~carbohydrate binding, IPR001079:Galectin, SM00276:GLECT, complete proteome,Lectin,   |
| 1626811_at | Dmel(CG5510) | Drosophila melanogaster | subgroup,<br>PIRSF017635:L-type lectin, animal type,PIRSF500265:vesicular integral-membrane protein VIP36,<br>complete proteome,   | IPR005052:Legume-like lectin,IPR013320:Concanavalin A-like lectin/glucanase, complete proteome,  |
| 1623928_at | Dmel(CG5910) | Drosophila melanogaster | complete proteome,   |  |
| 1630131_at | Dmel(CG6567) | Drosophila melanogaster | activity,GO:0004622~lysophospholipase activity,GO:0016298~lipase activity, IPR003140:Phospholipase/carboxylesterase,<br>complete proteome,hydrolase,   | GO:0004091~carboxylesterase activity,GO:0004620~phospholipase<br>complete  |
| 1627888_at | Dmel(CG6672) | Drosophila melanogaster | transporter activity,GO:0015082~di-, tri-valent inorganic cation transmembrane transporter activity,GO:0022890~inorganic cation transmembrane transporter activity,GO:0046873~metal ion transmembrane transporter activity,GO:0046915~transition metal ion transmembrane transporter activity,<br>complete proteome,   | GO:0006811~ion transport,GO:0006812~cation transport, GO:0005385~zinc ion transmembrane<br>IPR002524:Cation efflux protein,  |

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| 1632374_at | Dmel(CG6769) | Drosophila melanogaster<br>binding, GO:0046872~metal ion binding, GO:0046914~transition metal ion binding,<br>C2H2-like,   | SM00355:ZnF_C2H2, SM00451:ZnF_U1,<br>complete proteome,   | GO:0008270~zinc ion binding, GO:0043167~ion binding, GO:0043169~cation<br>IPR003604:Zinc finger, U1-type, IPR007087:Zinc finger, C2H2-type, IPR015880:Zinc finger,   |
| 1637124_at | Dmel(CG6773) | Drosophila melanogaster<br>development, GO:0003002~regionalization, GO:0006900~membrane budding, GO:0007389~pattern specification process, GO:0007591~molting cycle, chitin-based<br>cuticle, GO:0007592~protein-based cuticle development, GO:0008363~larval chitin-based cuticle development, GO:0009791~post-embryonic development, GO:0016044~membrane<br>organization, GO:0016050~vesicle organization, GO:0016192~vesicle-mediated transport, GO:0018988~molting cycle, protein-based cuticle, GO:0022404~molting<br>cycle, GO:0035017~cuticle pattern formation, GO:0035293~chitin-based larval cuticle pattern formation, GO:0040003~chitin-based cuticle development, GO:0042303~molting<br>cycle, GO:0042335~cuticle development, GO:0042336~protein-based cuticle development during molting, GO:0042337~chitin-based cuticle development during molting,<br>IPR001680:WD40 repeat, IPR015943:WD40/YVTN repeat-like, IPR017986:WD40 repeat, region, IP R019781:WD40 repeat, subgroup, IPR019782:WD40 repeat 2,<br>SM00320:WD40, complete proteome, repeat, wd repeat, | GO:0002164~larval development, GO:0002165~instar larval or pupal development, GO:0002168~instar larval<br>development, GO:0003002~regionalization, GO:0006900~membrane budding, GO:0007389~pattern specification process, GO:0007591~molting cycle, chitin-based<br>cuticle, GO:0007592~protein-based cuticle development, GO:0008363~larval chitin-based cuticle development, GO:0009791~post-embryonic development, GO:0016044~membrane<br>organization, GO:0016050~vesicle organization, GO:0016192~vesicle-mediated transport, GO:0018988~molting cycle, protein-based cuticle, GO:0022404~molting<br>cycle, GO:0035017~cuticle pattern formation, GO:0035293~chitin-based larval cuticle pattern formation, GO:0040003~chitin-based cuticle development, GO:0042303~molting<br>cycle, GO:0042335~cuticle development, GO:0042336~protein-based cuticle development during molting, GO:0042337~chitin-based cuticle development during molting,<br>IPR001680:WD40 repeat, IPR015943:WD40/YVTN repeat-like, IPR017986:WD40 repeat, region, IP R019781:WD40 repeat, subgroup, IPR019782:WD40 repeat 2,<br>SM00320:WD40, complete proteome, repeat, wd repeat, |  |
| 1624888_at | Dmel(CG7081) | Drosophila melanogaster<br>membrane, GO:0031090~organelle membrane, GO:0031903~microbody membrane, GO:0042579~microbody, GO:0044438~microbody part, GO:0044439~peroxisomal<br>part, GO:0008270~zinc ion binding, GO:0043167~ion binding, GO:0043169~cation binding, GO:0046872~metal ion binding, GO:0046914~transition metal ion binding,<br>IPR001841:Zinc finger, RING-type, IPR006845:Pex, N-terminal, IPR017907:Zinc finger, RING-type, conserved site, IPR018957:Zinc finger, C3HC4 RING-type,<br>SM00184:RING, complete proteome, metal-binding, zinc, zinc-finger,   | GO:0007031~peroxisome organization,<br>GO:0005777~peroxisome, GO:0005778~peroxisomal<br>part, GO:0008270~zinc ion binding, GO:0043167~ion binding, GO:0043169~cation binding, GO:0046872~metal ion binding, GO:0046914~transition metal ion binding,<br>IPR001841:Zinc finger, RING-type, IPR006845:Pex, N-terminal, IPR017907:Zinc finger, RING-type, conserved site, IPR018957:Zinc finger, C3HC4 RING-type,<br>SM00184:RING, complete proteome, metal-binding, zinc, zinc-finger,  | GO:0005777~peroxisome, GO:0005778~peroxisomal<br>part, GO:0008270~zinc ion binding, GO:0043167~ion binding, GO:0043169~cation binding, GO:0046872~metal ion binding, GO:0046914~transition metal ion binding,<br>IPR001841:Zinc finger, RING-type, IPR006845:Pex, N-terminal, IPR017907:Zinc finger, RING-type, conserved site, IPR018957:Zinc finger, C3HC4 RING-type,  |
| 1629476_at | Dmel(CG7542) | Drosophila melanogaster<br>L-amino acid peptides,  | GO:0006508~proteolysis,<br>IPR001254:Peptidase S1 and S6, chymotrypsin/Hap, IPR001314:Peptidase S1A, chymotrypsin, IPR018114:Peptidase S1/S6, chymotrypsin/Hap, active site,<br>SM00020:Trypt_SPc,  | GO:0004175~endopeptidase activity, GO:0004252~serine-type<br>endopeptidase activity, GO:0008233~peptidase activity, GO:0008236~serine-type peptidase activity, GO:0017171~serine hydrolase activity, GO:0070011~peptidase activity, acting on<br>L-amino acid peptides, IPR001254:Peptidase S1 and S6, chymotrypsin/Hap, IPR001314:Peptidase S1A, chymotrypsin, IPR018114:Peptidase S1/S6, chymotrypsin/Hap, active site,<br>SM00020:Trypt_SPc, complete proteome, hydrolase, Protease, Serine protease, |

|              |                          |                         |   |  |  |
|--------------|--------------------------|-------------------------|---|--|--|
| 1624984_at   | Dmel(CG8021)             | Drosophila melanogaster |   | GO:0000166~nucleotide binding, GO:0003723~RNA binding, GO:0003729~mRNA binding,<br>IPR000504:RNA recognition motif, RNP-1, IPR012677:Nucleotide-binding, alpha-beta plait,   | SM00360:RRM, complete proteome,  |
| 1637547_at   | Dmel(CG8199)             | Drosophila melanogaster | Energy production and conversion,                 | GO:0006637~acyl-CoA metabolic process, GO:0006732~coenzyme metabolic process, GO:0009108~coenzyme biosynthetic process, GO:0046949~acyl-CoA biosynthetic process, GO:0051186~cofactor metabolic process, GO:0051188~cofactor biosynthetic process, GO:0055114~oxidation reduction, GO:0005739~mitochondrion, GO:0005759~mitochondrial matrix, GO:0017086~3-methyl-2-oxobutanoate dehydrogenase (lipoamide) complex, GO:0031974~membrane-enclosed lumen, GO:0031980~mitochondrial lumen, GO:0043233~organelle lumen, GO:0044429~mitochondrial part, GO:0070013~intracellular organelle lumen, GO:0003863~3-methyl-2-oxobutanoate dehydrogenase (2-methylpropanoyl-transferring) activity, GO:0016624~oxidoreductase activity, acting on the aldehyde or oxo group of donors, disulfide as acceptor, IPR001017:Dehydrogenase, E1 component, dme00280:Valine, leucine and isoleucine degradation, PIRSF000152:pyruvate dehydrogenase (lipoamide) alpha chain, | complete proteome, oxidoreductase,   |
| 1623783_at   | Dmel(CG8489)             | Drosophila melanogaster |   | GO:0003006~reproductive developmental process, GO:0007276~gamete generation, GO:0007281~germ cell development, GO:0007283~spermatogenesis, GO:0007286~spermatid development, GO:0007291~sperm individualization, GO:0007349~cellularization, GO:0019953~sexual reproduction, GO:0032504~multicellular organism reproduction, GO:0048232~male gamete generation, GO:0048515~spermatid differentiation, GO:0048609~reproductive process in a multicellular organism, GO:0048610~reproductive cellular process,   | complete proteome, developmental   |
| 1633810_at   | Dmel(CG8793)             | Drosophila melanogaster |   |  | complete proteome,   |
| 1625814_at   | Dymeclin                 | Drosophila melanogaster |   | IPR019142:Dymeclin,  | complete   |
|              |                          |                         | proteome, lipoprotein, myristate, phosphoprotein, | chain:Dymeclin, lipid moiety-binding region:N-myristoyl glycine, modified residue,   |  |
| 1631877_a_at | Histidyl-tRNA synthetase | Drosophila melanogaster | Translation, ribosomal structure and biogenesis,  | GO:0006399~tRNA metabolic process, GO:0006412~translation, GO:0006418~tRNA aminoacylation for protein translation, GO:0006427~histidyl-tRNA aminoacylation, GO:0034660~ncRNA metabolic process, GO:0043038~amino acid activation, GO:0043039~tRNA aminoacylation,  | GO:0000166~nucleotide binding, GO:0001882~nucleoside binding, GO:0001883~purine nucleoside binding, GO:0004812~aminoacyl-tRNA ligase activity, GO:0004821~histidine-tRNA ligase activity, GO:0005524~ATP |

binding,GO:0016875~ligase activity, forming carbon-oxygen bonds,GO:0016876~ligase activity, forming aminoacyl-tRNA and related compounds,GO:0017076~purine nucleotide binding,GO:0030554~adenyl nucleotide binding,GO:0032553~ribonucleotide binding,GO:0032555~purine ribonucleotide binding,GO:0032559~adenyl ribonucleotide binding,  
 IPR000738:WHEP-TRS,IPR002314:Aminoacyl-tRNA synthetase, class II (G, H, P and S), conserved region,IPR004154:Anticodon-binding,IPR004516 :Histidyl-tRNA synthetase, class IIa,IPR006195:Aminoacyl-tRNA synthetase, class II, conserved region,IPR009068:S15/NS1, RNA-binding,IPR015807:Histidyl-tRNA synthetase, class IIa, subgroup, dme00970:Aminoacyl-tRNA biosynthesis, PIRSF001549:His-tRNA\_synth,PIRSF001549:histidyl-tRNA synthetase, Aminoacyl-tRNA synthetase,complete proteome,ligase,

1635821\_at Mediator complex subunit 28 Drosophila melanogaster GO:0006350~transcription,GO:0006355~regulation of transcription, DNA-dependent,GO:0006357~regulation of transcription from RNA polymerase II promoter,GO:0045449~regulation of transcription,GO:0051252~regulation of RNA metabolic process, GO:0005654~nucleoplasm,GO:0016592~Srb-mediator complex,GO:0031974~membrane-enclosed lumen,GO:0031981~nuclear lumen,GO:0043233~organelle lumen,GO:0044451~nucleoplasm part,GO:0070013~intracellular organelle lumen, GO:0003702~RNA polymerase II transcription factor activity,GO:0016251~general RNA polymerase II transcription factor activity,GO:0016455~RNA polymerase II transcription mediator activity,GO:0030528~transcription regulator activity, activator,coiled coil,complete proteome,nucleus,Transcription,transcription regulation,chain:Mediator of RNA polymerase II transcription subunit 28,compositionally biased region:Pro-rich,

1627459\_at N(6)-adenine-specific DNA methyltransferase 2 homolog Drosophila melanogaster GO:0006730~one-carbon metabolic process,GO:0032259~methylation, IPR002052:N-6 adenine-specific DNA methylase, conserved site,IPR019369:N-6 adenine-specific DNA methylase-related, eukaryotic, complete proteome,methyltransferase,transferase, chain:N(6)-adenine-specific DNA methyltransferase 2 homolog,sequence conflict,

1627078\_at Organic anion transporting polypeptide 58Dc Drosophila melanogaster GO:0006811~ion transport,GO:0006820~anion transport,GO:0015711~organic anion transport, GO:0016021~integral to membrane,GO:0031224~intrinsic to membrane, GO:0008509~anion transmembrane transporter activity,GO:0008514~organic anion transmembrane transporter activity,GO:0015347~sodium-independent organic anion transmembrane transporter activity, IPR002350:Proteinase inhibitor I1, Kazal,IPR004156:Organic anion transporter polypeptide OATP,IPR011497:Protease inhibitor, Kazal-type, SM00280:KAZAL,

|            |   |                         |   |
|------------|---|-------------------------|---|
| 1638217_at | Probable dolichol-phosphate mannosyltransferase | Drosophila melanogaster | GO:0006486~protein amino acid glycosylation, GO:0009100~glycoprotein metabolic process, GO:0009101~glycoprotein biosynthetic process, GO:0043413~biopolymer glycosylation, GO:0070085~glycosylation, GO:0005783~endoplasmic reticulum, GO:0000030~mannosyltransferase activity, GO:0004582~dolichyl-phosphate beta-D-mannosyltransferase activity, IPR001173:Glycosyl transferase, family 2, dme00510:N-Glycan biosynthesis, PIRSF005860:dolichyl-phosphate beta-D-mannosyltransferase, complete proteome, endoplasmic reticulum, glycosyltransferase, transferase, chain:Probable dolichol-phosphate mannosyltransferase,  |
| 1638350_at | Probable ribosome production factor 1           | Drosophila melanogaster | GO:0006364~rRNA processing, GO:0006396~RNA processing, GO:0016072~rRNA metabolic process, GO:0022613~ribonucleoprotein complex biogenesis, GO:0034470~ncRNA processing, GO:0034660~ncRNA metabolic process, GO:0042254~ribosome biogenesis, GO:0005730~nucleolus, GO:0031974~membrane-enclosed lumen, GO:0031981~nuclear lumen, GO:0043228~non-membrane-bounded organelle, GO:0043232~intracellular non-membrane-bounded organelle, GO:0043233~organelle lumen, GO:0070013~intracellular organelle lumen, GO:0003723~RNA binding, GO:0019843~rRNA binding, IPR007109:Brix domain, PIRSF015949:U3 small nucleolar ribonucleoprotein (snoRNP) complex, Imp4p subunit, complete proteome, nucleus, ribosome biogenesis, rna-binding, rrna processing, rrna-binding, chain:Probable ribosome production factor 1, domain:Brix, region of interest:RNA-binding,  |
| 1639993_at | Protein RFT1 homolog                            | Drosophila melanogaster | GO:0006869~lipid transport, GO:0010876~lipid localization, GO:0016021~integral to membrane, GO:0031224~intrinsic to membrane, GO:0005319~lipid transporter activity, IPR007594:RFT1, dme00510:N-Glycan biosynthesis, complete proteome, membrane, transmembrane, chain:Protein RFT1 homolog, transmembrane region,  |
| 1631648_at | Signal recognition particle 9 kDa protein       | Drosophila melanogaster | GO:0006417~regulation of translation, GO:0006448~regulation of translational elongation, GO:0006605~protein targeting, GO:0006612~protein targeting to membrane, GO:0006613~cotranslational protein targeting to membrane, GO:0006614~SRP-dependent cotranslational protein targeting to membrane, GO:0006886~intracellular protein transport, GO:0008104~protein localization, GO:0009890~negative regulation of biosynthetic process, GO:0010558~negative regulation of macromolecule biosynthetic process, GO:0010605~negative regulation of macromolecule metabolic process, GO:0010608~posttranscriptional regulation of gene expression, GO:0015031~protein transport, GO:0017148~negative regulation of translation, GO:0031327~negative regulation of cellular biosynthetic process, GO:0032268~regulation of cellular protein metabolic process, GO:0032269~negative regulation of cellular protein metabolic process, GO:0033365~protein localization in organelle, GO:0034613~cellular protein localization, GO:0045047~protein targeting to ER, GO:0045184~establishment of protein |

localization, GO:0045900~negative regulation of translational elongation, GO:0046907~intracellular transport, GO:0051248~negative regulation of protein metabolic process, GO:0070727~cellular macromolecule localization, GO:0005786~signal recognition particle, endoplasmic reticulum targeting, GO:0030529~ribonucleoprotein complex, GO:0048500~signal recognition particle, GO:0003723~RNA binding, GO:0003729~mRNA binding, GO:0008312~7S RNA binding, IPR008832:Signal recognition particle, SRP9 subunit, IPR009018:Signal recognition particle, SRP9/SRP14 subunit, dme03060:Protein export, PIRSF017029:signal recognition particle, 9 kDa protein, PIRSF017029:Signal\_recog\_particle\_SRP9, complete proteome, cytoplasm, ribonucleoprotein, rna-binding, signal recognition particle, chain:Signal recognition particle 9 kDa protein,

1638272\_at Signal recognition particle protein 19 Drosophila melanogaster GO:0006605~protein targeting, GO:0006612~protein targeting to membrane, GO:0006613~cotranslational protein targeting to membrane, GO:0006614~SRP-dependent cotranslational protein targeting to membrane, GO:0006886~intracellular protein transport, GO:0008104~protein localization, GO:0015031~protein transport, GO:0033365~protein localization in organelle, GO:0034613~cellular protein localization, GO:0045047~protein targeting to ER, GO:0045184~establishment of protein localization, GO:0046907~intracellular transport, GO:0070727~cellular macromolecule localization, GO:0005786~signal recognition particle, endoplasmic reticulum targeting, GO:0030529~ribonucleoprotein complex, GO:0048500~signal recognition particle, GO:0003723~RNA binding, GO:0008312~7S RNA binding, IPR002778:Signal recognition particle, SRP19 subunit, dme03060:Protein export, PIRSF006433:Signal recognition particle 19 kDa protein, PIRSF500827:Eukaryota signal recognition particle 19 kDa prot ein, complete proteome, cytoplasm, ribonucleoprotein, rna-binding, signal recognition particle, chain:Signal recognition particle 19 kDa protein, compositionally biased region:Poly-Gly, region of interest:Basic region, potentially involved in RNA-binding, sequence conflict,

1635305\_s\_at Trithorax-like Drosophila melanogaster GO:0000087~M phase of mitotic cell cycle, GO:0000278~mitotic cell cycle, GO:0000279~M phase, GO:0000280~nuclear division, GO:0002165~instar larval or pupal development, GO:0006323~DNA packaging, GO:0006325~chromatin organization, GO:0006333~chromatin assembly or disassembly, GO:0006350~transcription, GO:0006355~regulation of transcription, DNA-dependent, GO:0006357~regulation of transcription from RNA polymerase II promoter, GO:0006461~protein complex assembly, GO:0007049~cell cycle, GO:0007067~mitosis, GO:0007276~gamete generation, GO:0007292~female gamete generation, GO:0007444~imaginal disc development, GO:0007472~wing disc morphogenesis, GO:0007476~imaginal disc-derived wing morphogenesis, GO:0007549~dosage compensation, GO:0007552~metamorphosis, GO:0007560~imaginal disc morphogenesis, GO:0009791~post-embryonic development, GO:0009886~post-embryonic

morphogenesis,GO:0009891~positive regulation of biosynthetic process,GO:0010557~positive regulation of macromolecule biosyntheti c process,GO:0010604~positive regulation of macromolecule metabolic process,GO:0010628~positive regulation of gene expression,GO:0016568~chromatin modification,GO:0019953~sexual reproduction,GO:0022402~cell cycle process,GO:0022403~cell cycle phase,GO:0031328~positive regulation of cellular biosynthetic process,GO:0031497~chromatin assembly,GO:0032504~multicellular organism reproduction,GO:0033301~cell cycle comprising mitosis without cytokinesis,GO:0035107~appendage morphogenesis,GO:0035114~imaginal disc-derived appendage morphogenesis,GO:0035120~post-embryonic appendage morphogenesis,GO:0035186~syncytial blastoderm mitotic cell cycle,GO:0035220~wing disc development,GO:0040029~regulation of gene expression, epigenetic,GO:0043933~macromolecular complex subunit organization,GO:0045448~mitotic cell cycle, embryonic,GO:0045449~regulation of transcription,GO:0045893~positive regulation of transcription, DNA-dependent,GO:0045935~positive regulation of nucleobase, nucleoside, nucleotide and nucleic acid metabolic process,GO:0045941~positive regulation of transcription,GO:0048285~organelle fission,GO:0048477~oogenesis,GO:0048563~post-embryonic organ morphogenesis,GO:0048569~post-embryonic organ development,GO:0048609~reproductive process in a multicellular organism,GO:0048707~instar larval or pupal morphogenesis,GO:0048736~appendage development,GO:0048737~imaginal disc-derived appendage development,GO:0051173~positive regulation of nitrogen compound metabolic process,GO:0051252~regulation of RNA metabolic process,GO:0051254~positive regulation of RNA metabolic process,GO:0051259~protein oligomerization,GO:0051276~chromosome organization,GO:0051301~cell division,GO:0065003~macromolecular complex assembly,GO:0070271~protein complex biogenesis, GO:0000775~chromosome, centromeric region,GO:0000785~chromatin,GO:0000791~euchromatin,GO:0000792~heterochromatin,GO:0005694~chromosome,GO:0005700~polytene chromosome,GO:0005721~centromeric heterochromatin,GO:0043228~non-membrane-bounded organelle,GO:0043232~intracellular non-membrane-bounded organelle,GO:0044427~chromosomal part, GO:0003677~DNA binding,GO:0003702~RNA polymerase II transcription factor activity,GO:0003704~specific RNA polymerase II transcription factor activity,GO:0008270~zinc ion binding,GO:0016563~transcription activator activity,GO:0030528~transcription regulator activity,GO:0043167~ion binding,GO:0043169~cation binding,GO:0046872~metal ion binding,GO:0046914~transition metal ion binding,GO:0046982~protein heterodimerization activity,GO:0046983~protein dimerization activity, IPR000210:BTB/POZ-like,IPR007087:Zinc finger, C2H2-type,IPR011333:BTB/POZ fold,IPR013069:BTB/POZ,IPR013087:Zinc finger, C2H2-type/integrase, DNA-binding,IPR015318:Zinc finger, GAGAG binding factor,IPR015880:Zinc finger, C2H2-like, SM00225:BTB,SM00355:ZnF\_C2H2, 3d-structure,activator,alternative splicing,cell cycle,cell division,chromatin regulator,complete proteome,developmental protein,differentiation,direct protein sequencing,DNA binding,dna-binding,metal-

binding,mitosis,nucleus,oogenesis,p phosphoryl,protein,repressor,Transcription,transcription factor,transcription regulation,zinc,zinc-finger, chain:Transcription factor  
 GAGA,compositionally biased region:Gln-rich,domain:BTB,helix,modified residue,region of interest:Interaction with E(bx),sequence conflict,splice variant,strand,turn,zinc finger  
 region:C2H2-type; degenerate,

1631998\_at Ubiquitin carrier protein Drosophila melanogaster GO:0006508~proteolysis,GO:0009057~macromolecule catabolic process,GO:0019941~modification-dependent protein catabolic process,GO:0030163~protein catabolic process,GO:0043632~modification-dependent macromolecule catabolic process,GO:0044257~cellular protein catabolic process,GO:0044265~cellular macromolecule catabolic process,GO:0051603~proteolysis involved in cellular protein catabolic process, GO:0004842~ubiquitin-protein ligase activity,GO:0016879~ligase activity, forming carbon-nitrogen bonds,GO:0016881~acid-amino acid ligase activity,GO:0019787~small conjugating protein ligase activity, IPR000608:Ubiquitin-conjugating enzyme, E2,IPR016135:Ubiquitin-conjugating enzyme/RWD-like, dme04120:Ubiquitin mediated proteolysis, PIRSF001567:ubiquitin-protein ligase E2, SM00212:UBCc, complete proteome,ligase,UBL conjugation pathway,

1631909\_at baiser Drosophila melanogaster GO:0003002~regionalization,GO:0003006~reproductive developmental process,GO:0007276~gamete generation,GO:0007281~germ cell development,GO:0007292~female gamete generation,GO:0007308~oocyte construction,GO:0007309~oocyte axis specification,GO:0007310~oocyte dorsal/ventral axis specification,GO:0007311~maternal specification of dorsal/ventral axis, oocyte, germ-line encoded,GO:0007389~pattern specification process,GO:0009798~axis specification,GO:0009950~dorsal/ventral axis specification,GO:0009953~dorsal/ventral pattern formation,GO:0009994~oocyte differentiation,GO:0016192~vesicle-mediated transport,GO:0019953~sexual reproduction,GO:0021700~developmental maturation,GO:0032504~multicellular organism reproduction,GO:0048469~cell maturation,GO:0048477~oogenesis,GO:0048599~oocyte development,GO:0048609~reproductive process in a multicellular organism,GO:0048610~reproductive cellular process, GO:0005794~Golgi apparatus,GO:0005795~Golgi stack,GO:0016021~integral to membrane,GO:0031224~intrinsic to membrane,GO:0044431~Golgi apparatus part, IPR000348:emp24/gp25L/p24,IPR009038:GOLD,IPR015720:TMP21 related, PIRSF005359:conserved hypothetical protein YHR110w, complete proteome,membrane,transmembrane,

1636921\_at lethal (2) 06496 Drosophila melanogaster GO:0007017~microtubule-based process,GO:0007018~microtubule-based movement, GO:0005856~cytoskeleton,GO:0005869~dynactin complex,GO:0005875~microtubule associated complex,GO:0015629~actin cytoskeleton,GO:0015630~microtubule

cytoskeleton,GO:0043228~non-membrane-bounded organelle,GO:0043232~intracellular non-membrane-bounded organelle,GO:0044430~cytoskeletal part,

complete proteome,

1635983\_a\_at no mechanoreceptor potential B Drosophila melanogaster GO:0000902~cell morphogenesis,GO:0007017~microtubule-based process,GO:0007018~microtubule-based movement,GO:0007600~sensory perception,GO:0007605~sensory perception of sound,GO:0009296~flagellum assembly,GO:0010970~microtubule-based transport,GO:0030030~cell projection organization,GO:0030031~cell projection assembly,GO:0030705~cytoskeleton-dependent intracellular transport,GO:0032989~cellular component morphogenesis,GO:0032990~cell part morphogenesis,GO:0035058~sensory cilium assembly,GO:0042073~intraflagellar transport,GO:0042384~cilium assembly,GO:0043064~flagellum organization,GO:0046907~intracellular transport,GO:0048858~cell projection morphogenesis,GO:0050877~neurological system process,GO:0050890~cognition,GO:0050954~sensory perception of mechanical stimulus,GO:0060271~cilium morphogenesis, IPR001440:Tetratricopeptide TPR-1,IPR011990:Tetratricopeptide-like helical,IPR013026:Tetratricopeptide region,IPR019734:Tetratricopeptide repeat, t, SM00028:TPR, complete proteome,receptor,repeat,tpr repeat,

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C

+D

-D

Probe sets:

|              |              |              |              |              |              |
|--------------|--------------|--------------|--------------|--------------|--------------|
| 1623693_a_at | 1625264_s_at | 1626178_s_at | 1627376_at   | 1629839_a_at | 1630824_a_at |
| 1624042_at   | 1625433_at   | 1626566_at   | 1627651_a_at | 1629843_s_at | 1630968_at   |
| 1624943_at   | 1625830_a_at | 1627270_at   | 1629357_s_at | 1630280_s_at | 1631243_s_at |

|              |              |              |              |              |            |
|--------------|--------------|--------------|--------------|--------------|------------|
| 1631426_at   | 1634869_at   | 1635711_s_at | 1636682_at   | 1638994_at   | 1641506_at |
| 1632916_at   | 1634877_at   | 1636423_at   | 1638050_s_at | 1639321_s_at |            |
| 1633965_at   | 1635202_s_at | 1636521_at   | 1638186_a_at | 1640224_s_at |            |
| 1634707_s_at | 1635619_a_at | 1636591_at   | 1638727_at   | 1640754_at   |            |

Functional annotation table:

| ID           | Gene Name             | Species                 | COG_ONTOLOGY    | GOTERM_BP_FAT   | GOTERM_CC_FAT | GOTERM_MF_FAT | INTERPRO | KEGG_PATHWAY | PIR_SUPERFAMILY | SMART |  |
|--------------|-----------------------|-------------------------|-----------------|---|---------------|---------------|----------|--------------|-----------------|-------|--|
|              |                       |                         | SP_PIR_KEYWORDS | UP_SEQ_FEATURE  |               |               |          |              |                 |       |  |
| 1635711_s_at | Ankyrin               | Drosophila melanogaster |                 | GO:0007010~cytoskeleton organization, GO:0007016~cytoskeletal anchoring at plasma membrane, GO:0008104~protein localization, GO:0032507~maintenance of protein location in cell, GO:0045185~maintenance of protein location, GO:0051235~maintenance of location, GO:0051651~maintenance of location in cell, GO:0005886~plasma membrane, GO:0043228~non-membrane-bounded organelle, GO:0043232~intracellular non-membrane-bounded organelle, GO:0045169~fusome, GO:0045170~spectrosome, GO:0005198~structural molecule activity, GO:0005200~structural constituent of cytoskeleton, GO:0008092~cytoskeletal protein binding, IPR000488:Death, IPR000906:ZU5, IPR002110:Ankyrin, SM00005:DEATH, SM00218:ZU5, SM00248:ANK, ank repeat, complete proteome, repeat, |               |               |          |              |                 |       |  |
| 1625264_s_at | Cysteine proteinase-1 | Drosophila melanogaster |                 | GO:0002165~instar larval or pupal development, GO:0006508~proteolysis, GO:0007431~salivary gland development, GO:0007435~salivary gland morphogenesis, GO:0007552~metamorphosis, GO:0007559~histolysis, GO:0007586~digestion, GO:0008219~cell death, GO:0009057~macromolecule catabolic process, GO:0009791~post-embryonic development, GO:0009886~post-embryonic morphogenesis, GO:0012501~programmed cell death, GO:0016265~death, GO:0016271~tissue death, GO:0022612~gland morphogenesis, GO:0030163~protein catabolic process, GO:0035070~salivary gland   |               |               |          |              |                 |       |  |

histolysis,GO:0035071~salivary gland cell autophagic cell death,GO:0035272~exocrine system development,GO:0048102~autophagic cell death,GO:0048707~instar larval or pupal morphogenesis,GO:0048732~gland development, GO:0000323~lytic vacuole,GO:0005764~lysosome,GO:0005773~vacuole, GO:0004175~endopeptidase activity,GO:0004197~cysteine-type endopeptidase activity,GO:0008233~peptidase activity,GO:0008234~cysteine-type peptidase activity,GO: 0070011~peptidase activity, acting on L-amino acid peptides, IPR000169:Peptidase, cysteine peptidase active site,IPR000668:Peptidase C1A, papain C-terminal,IPR013128:Peptidase C1A, papain,IPR013201:Proteinase inhibitor I29, cathepsin propeptide, dme04142:Lysosome, PIRSF001182:papain, SM00645:Pept\_C1,alternative splicing,complete proteome,developmental protein,digestion,disulfide bond,glycoprotein,hydrolase,lysosome,Protease,signal,thiol protease,zymogen, chain:Cathepsin L heavy chain,chain:Cathepsin L light chain,disulfide bond,glycosylation site:N-linked (GlcNAc...),propeptide:Activation peptide,sequence conflict,signal peptide,splice variant,

1638994\_at Dmel(CG10627) Drosophila melanogaster GO:0000287~magnesium ion binding,GO:0004610~phosphoacetylglucosamine mutase activity,GO:0016866~intramolecular transferase activity,GO:0016868~intramolecular transferase activity, phosphotransferases,GO:0043167~ion binding,GO:0043169~cation binding,GO:0046872~metal ion binding, IPR005843:Alpha-D-phosphohexomutase, C-terminal,IPR005844:Alpha-D-phosphohexomutase, alpha/beta/alpha domain I,IPR005845:Alpha-D-phosphohexomutase, alpha/beta/alpha domain II,IPR016055:Alpha-D-phosphohexomutase, alpha/beta/alpha I, II and III,IPR016066:Alpha-D-phosphohexomutase, conserved site,IPR016657:Phosphoacetylglucosamine mutase, dme00520:Amino sugar and nucleotide sugar metabolism, PIRSF016408:PAGM,PIRSF016408:phosphoacetylglucosamine mutase, complete proteome,Isomerase,magnesium,metal-binding,

1641506\_at Dmel(CG12400) Drosophila melanogaster GO:0006091~generation of precursor metabolites and energy,GO:0006119~oxidative phosphorylation,GO:0006120~mitochondrial electron transport, NADH to ubiquinone,GO:0006793~phosphorus metabolic process,GO:0006796~phosphate metabolic process,GO:0015980~energy derivation by oxidation of organic compounds,GO:0016310~phosphorylation,GO:0022900~electron transport chain,GO:0022904~respiratory electron transport chain,GO:0042773~ATP synthesis coupled electron transport,GO:0042775~mitochondrial ATP synthesis coupled electron transport,GO:0045333~cellular respiration,GO:0055114~oxidation reduction, GO:0005739~mitochondrion,GO:0005740~mitochondrial envelope,GO:0005743~mitochondrial inner membrane,GO:0005746~mitochondrial respiratory chain,GO:0005747~mitochondrial respiratory chain complex I,GO:0019866~organelle inner membrane,GO:0030964~NADH dehydrogenase complex,GO:0031090~organelle membrane,GO:0031966~mitochondrial membrane,GO:0031967~organelle envelope,GO:0031975~envelope,GO:0044429~mitochondrial part,GO:0044455~mitochondrial membrane part,GO:0045271~respiratory chain complex I,GO:0070469~respiratory chain,

|              |               |                         |   |
|--------------|---------------|-------------------------|---|
|              |               |                         | GO:0003954~NADH dehydrogenase activity, GO:0008137~NADH dehydrogenase (ubiquinone) activity, GO:0016651~oxidoreductase activity, acting on NADH or NADPH, GO:0016655~oxidoreductase activity, acting on NADH or NADPH, quinone or similar compound as acceptor, GO:0050136~NADH dehydrogenase (quinone) activity, IPR009423:NADH:ubiquinone oxidoreductase, subunit b14.5b, dme00190:Oxidative phosphorylation, PIRSF017834:NADH-UbQ_OxRdtase_b14.5b, complete proteome, oxidoreductase,  |
| 1640224_s_at | Dmel(CG13796) | Drosophila melanogaster | GO:0006836~neurotransmitter transport, GO:0005886~plasma membrane, GO:0005887~integral to plasma membrane, GO:0016021~integral to membrane, GO:0031224~intrinsic to membrane, GO:0031226~intrinsic to plasma membrane, GO:0044459~plasma membrane part, GO:0005275~amine transmembrane transporter activity, GO:0005326~neurotransmitter transporter activity, GO:0005328~neurotransmitter:sodium symporter activity, GO:0015171~amino acid transmembrane transporter activity, GO:0015175~neutral amino acid transmembrane transporter activity, GO:0015187~glycine transmembrane transporter activity, GO:0015293~symporter activity, GO:0015294~solute:cation symporter activity, GO:0015370~solute:sodium symporter activity, IPR000175:Sodium:neurotransmitter symporter, IPR000792:Transcription regulator LuxR, C-terminal, SM00421:HTH_LUXR, Symport, transmembrane, transport, |
| 1630968_at   | Dmel(CG13907) | Drosophila melanogaster | GO:0008028~monocarboxylic acid transmembrane transporter activity, GO:0015355~secondary active monocarboxylate transmembrane transporter activity, IPR011701:Major facilitator superfamily MFS-1, complete proteome,  |
| 1634877_at   | Dmel(CG15546) | Drosophila melanogaster | complete proteome,  |
| 1624943_at   | Dmel(CG1636)  | Drosophila melanogaster | complete proteome,  |
| 1636521_at   | Dmel(CG1981)  | Drosophila melanogaster | GO:0006259~DNA metabolic process, GO:0006281~DNA repair, GO:0006289~nucleotide-excision repair, GO:0006298~mismatch repair, GO:0006974~response to DNA damage stimulus, GO:0033554~cellular response to stress, GO:0034984~cellular response to DNA damage stimulus, GO:0000700~mismatch base pair DNA N-glycosylase activity, GO:0003677~DNA binding, GO:0003690~double-stranded DNA binding, GO:0008263~pyrimidine-specific mismatch base pair DNA N-glycosylase activity, GO:0016799~hydrolase activity, hydrolyzing N-glycosyl compounds, GO:0019104~DNA N-glycosylase  |

|              |               |                         |   |   |
|--------------|---------------|-------------------------|---|---|
|              |               |                         | activity,GO:0043566~structure-specific DNA binding, conserved site, dme03410:Base excision repair,  | IPR005122:Uracil-DNA glycosylase-like,IPR015637:DNA glycosylase, G/T mismatch,IPR017956:AT hook, DNA-binding, SM00384:AT_hook, complete proteome, |
| 1632916_at   | Dmel(CG31357) | Drosophila melanogaster | General function prediction only, terminal to LisH motif,IPR013144:Ran binding protein-like, CRA domain,  | IPR006594:LisH dimerisation motif,IPR006595:CTLH, C-SM00667:LisH,SM00668:CTLH,SM00757:CRA, complete proteome,                                     |
| 1636682_at   | Dmel(CG31778) | Drosophila melanogaster | GO:0004857~enzyme inhibitor activity,GO:0004866~endopeptidase inhibitor activity,GO:0004867~serine-type endopeptidase inhibitor activity,GO:0030414~peptidase inhibitor activity,   | IPR002223:Proteinase inhibitor I2, Kunitz metazoa, SM00131:KU, complete proteome,   |
| 1626178_s_at | Dmel(CG32149) | Drosophila melanogaster | GO:0004427~inorganic diphosphatase activity, SM00324:RhoGAP, complete proteome,hydrolase,   | IPR000198:RhoGAP,IPR008162:Inorganic pyrophosphatase,   |
| 1631426_at   | Dmel(CG32412) | Drosophila melanogaster | GO:0006508~proteolysis, cyclotransferase activity,GO:0016755~transferase activity, transferring amino-acyl groups,  | GO:0008233~peptidase activity,GO:0016603~glutaminyl-peptide IPR007484:Peptidase M28, Acyltransferase,complete proteome,hydrolase,transferase,     |
| 1630824_a_at | Dmel(CG33145) | Drosophila melanogaster | GO:0006486~protein amino acid glycosylation,GO:0009100~glycoprotein metabolic process,GO:0009101~glycoprotein biosynthetic process,GO:0043413~biopolymer glycosylation,GO:0070085~glycosylation, GO:0005794~Golgi apparatus,GO:0016021~integral membrane,GO:0031224~intrinsic to membrane,GO:0008378~galactosyltransferase activity,GO:0008499~UDP-galactose:beta-N-acetylglucosamine beta-1,3-galactosyltransferase activity,GO:0035250~UDP-galactosyltransferase activity,GO:0048531~beta-1,3-galactosyltransferase activity, | IPR002659:Glycosyl transferase, family 31, complete proteome,glycosyltransferase,golgi apparatus,membrane,transferase,transmembrane,              |
| 1623693_a_at | Dmel(CG3365)  | Drosophila melanogaster | GO:0032012~regulation of ARF protein signal transduction,GO:0032312~regulation of ARF GTPase activity,GO:0032318~regulation of Ras GTPase activity,GO:0043087~regulation of GTPase activity,GO:0046578~regulation of Ras protein signal transduction,GO:0051056~regulation of small GTPase mediated signal transduction,GO:0051336~regulation of hydrolase activity, activator activity,GO:0008047~enzyme activator activity,GO:0008060~ARF GTPase activator activity,GO:0008270~zinc ion binding,GO:0030695~GTPase regulator   | GO:0005083~small GTPase regulator activity,GO:0005096~GTPase  |

|              |                              |   |   |
|--------------|------------------------------|---|---|
|              |                              | activity, GO:0043167~ion binding, GO:0043169~cation binding, GO:0046872~metal ion binding, GO:0046914~transition metal ion binding, GO:0060589~nucleoside-triphosphatase regulator activity, IPR001164:Arf GTPase activating protein, | SM00105:ArfGap, complete proteome,  |
| 1627270_at   | Dmel(CG42240)                | Drosophila melanogaster   | complete proteome,  |
| 1630280_s_at | Dmel(CG42353); Dmel(CG42354) | Drosophila melanogaster   | complete proteome,  |
| 1634869_at   | Dmel(CG4581)                 | Drosophila melanogaster   | GO:0006631~fatty acid metabolic process, GO:0006635~fatty acid beta-oxidation, GO:0009062~fatty acid catabolic process, GO:0016042~lipid catabolic process, GO:0016054~organic acid catabolic process, GO:0019395~fatty acid oxidation, GO:0030258~lipid modification, GO:0034440~lipid oxidation, GO:0044242~cellular lipid catabolic process, GO:0046395~carboxylic acid catabolic process, GO:0055114~oxidation reduction, GO:0005739~mitochondrion, GO:0005759~mitochondrial matrix, GO:0005811~lipid particle, GO:0016507~fatty acid beta-oxidation multienzyme complex, GO:0031974~membrane-enclosed lumen, GO:0031980~mitochondrial lumen, GO:0043233~organelle lumen, GO:0044429~mitochondrial part, GO:0070013~intracellular organelle lumen, GO:0003988~acetyl-CoA C-acyltransferase activity, GO:0016408~C-acyltransferase activity, GO:0016509~long-chain-3-hydroxyacyl-CoA dehydrogenase activity, IPR002155:Thiolase, IPR016038:Thiolase-like, subgroup, dme00062:Fatty acid elongation in mitochondria, dme00071:Fatty acid metabolism, dme00280:Valine, leucine and isoleucine degradation, PIRSF000429:Ac-CoA_Ac_transf, |
|              |                              |   | Acyltransferase, complete proteome, oxidoreductase, transferase,  |
| 1635202_s_at | Dmel(CG5640)                 | Drosophila melanogaster   | IPR001440:Tetratricopeptide TPR-1, IPR003347:Transcription factor jumonji/aspartyl beta-hydroxylase, IPR011990:Tetratricopeptide-like helical, IPR013026:Tetratricopeptide region, IPR013129:Transcription factor jumonji, IPR019734:Tetratricopeptide repeat, SM00028:TPR, SM00558:JmjC,   |
|              |                              |   | complete proteome, repeat, tpr repeat,  |
| 1633965_at   | Dmel(CG6020)                 | Drosophila melanogaster   | GO:0006091~generation of precursor metabolites and energy, GO:0006119~oxidative phosphorylation, GO:0006120~mitochondrial electron transport, NADH to ubiquinone, GO:0006793~phosphorus metabolic process, GO:0006796~phosphate metabolic process, GO:0015980~energy derivation by oxidation of organic compounds, GO:0016310~phosphorylation, GO:0022900~electron transport chain, GO:0022904~respiratory electron transport chain, GO:0042773~ATP synthesis coupled electron transport, GO:0042775~mitochondrial ATP synthesis coupled electron transport, GO:0045333~cellular respiration, GO:0055114~oxidation reduction, GO:0005739~mitochondrion, GO:0005740~mitochondrial envelope, GO:0005743~mitochondrial inner membrane, GO:0005746~mitochondrial respiratory chain, GO:0005747~mitochondrial respiratory chain complex I, GO:0019866~organelle inner membrane, GO:0030964~NADH  |

|              |                   |                                     |  |
|--------------|-------------------|-------------------------------------|--|
|              |                   |                                     | dehydrogenase complex, GO:0031090~organelle membrane, GO:0031966~mitochondrial membrane, GO:0031967~organelle envelope, GO:0031975~envelope<br>, GO:0044429~mitochondrial part, GO:0044455~mitochondrial membrane part, GO:0045271~respiratory chain complex I, GO:0070469~respiratory chain,<br>GO:0003954~NADH dehydrogenase activity, GO:0008137~NADH dehydrogenase (ubiquinone) activity, GO:0016651~oxidoreductase activity, acting on NADH or<br>NADPH, GO:0016655~oxidoreductase activity, acting on NADH or NADPH, quinone or similar compound as acceptor, GO:0048037~cofactor binding, GO:0050136~NADH<br>dehydrogenase (quinone) activity, GO:0050662~coenzyme binding, IPR001509:NAD-dependent epimerase/dehydratase, IPR016040:NAD(P)-binding domain,   |
|              |                   | dme00190:Oxidative phosphorylation, | complete proteome, oxidoreductase,   |
| 1636423_at   | Dmel_CG8012       | Drosophila melanogaster             | complete proteome,   |
| 1636591_at   | Dmel_CG8881       | Drosophila melanogaster             | Posttranslational modification, protein turnover, chaperones,<br>GO:0006508~proteolysis, GO:0006511~ubiquitin-dependent protein catabolic process, GO:0009057~macromolecule catabolic process, GO:0019941~modification-<br>dependent protein catabolic process, GO:0030163~protein catabolic process, GO:0043632~modification-dependent macromolecule catabolic process, GO:0044257~cellular protein<br>catabolic process, GO:0044265~cellular macromolecule catabolic process, GO:0051603~proteolysis involved in cellular protein catabolic process, IPR001232:SKP1<br>component, IPR011333:BTB/POZ fold, IPR016072:SKP1 component, dimerisation, IPR016073:SKP1 component, POZ, IPR016897:E3 ubiquitin ligase, SCF complex, Skp subunit,<br>dme04120:Ubiquitin mediated proteolysis, dme04310:Wnt signaling pathway, dme04350:TGF-beta signaling pathway, PIRSF028729:E3_ubiquit_lig_SCF_Skp,<br>SM00512:Skp1, complete proteome,                         |
| 1638727_at   | Dmel_CG9821       | Drosophila melanogaster             | complete proteome,   |
| 1629839_a_at | G protein gamma 1 | Drosophila melanogaster             | GO:0007010~cytoskeleton organization, GO:0007015~actin filament organization, GO:0007155~cell<br>adhesion, GO:0007166~cell surface receptor linked signal transduction, GO:0007186~G-protein coupled receptor protein signaling pathway, GO:0007405~neuroblast<br>proliferation, GO:0007507~heart development, GO:0007584~response to nutrient, GO:0007610~behavior, GO:0007635~chemosensory behavior, GO:0007637~proboscis extension<br>reflex, GO:0008104~protein localization, GO:0008105~asymmetric protein localization, GO:0008283~cell proliferation, GO:0008360~regulation of cell shape, GO:0009991~response to<br>extracellular stimulus, GO:0017145~stem cell division, GO:0022604~regulation of cell morphogenesis, GO:0022610~biological adhesion, GO:0030029~actin filament-based<br>process, GO:0030036~actin cytoskeleton organization, GO:0031667~response to nutrient levels, GO:0035050~embryonic heart tube development, GO:0035295~tube |

development,GO:0045165~cell fate commitment,GO:0045176~apical protein localization, GO:0048103~somatic stem cell division,GO:0051301~cell division,GO:0051780~behavioral response to nutrient,GO:0055057~neuroblast division,GO:0055059~asymmetric neuroblast division,GO:0060004~reflex, GO:0005834~heterotrimeric G-protein complex,GO:0005886~plasma membrane,GO:0009898~internal side of plasma membrane,GO:0019897~extrinsic to plasma membrane,GO:0019898~extrinsic to membrane,GO:0044459~plasma membrane part, GO:0003924~GTPase activity, IPR01770:G-protein, gamma subunit,IPR015898:G-protein, gamma-like subunit, PIRSF002398:GTP-binding regulatory protein gamma chain, SM00224:GGI, cell membrane,complete proteome,GTP binding,lipoprotein,membrane,methylated carboxyl end,methylation,prenylated cysteine,prenylation,transducer, chain:Guanine nucleotide-binding protein subunit gamma-1,lipid moiety-binding region:S-geranylgeranyl cysteine,modified residue,propeptide:Removed in mature form,

1624042\_at G protein-coupled receptor kinase 2 Drosophila melanogaster GO:0006468~protein amino acid phosphorylation,GO:0006793~phosphorus metabolic process,GO:0006796~phosphate metabolic process,GO:0007166~cell surface receptor linked signal transduction,GO:0007186~G-protein coupled receptor protein signaling pathway,GO:0007224~smoothed signaling pathway,GO:0007276~gamete generation,GO:0007292~female gamete generation,GO:0008277~regulation of G-protein coupled receptor protein signaling pathway,GO:0016310~phosphorylation,GO:0019953~sexual reproduction,GO:0032504~multicellular organism reproduction,GO:0048477~oogenesis,GO:0048609~reproductive process in a multicellular organism, GO:0005886~plasma membrane, GO:0000166~nucleotide binding,GO:0001882~nucleoside binding,GO:0001883~purine nucleoside binding,GO:0004672~protein kinase activity,GO:0004674~protein serine/threonine kinase activity,GO:0004703~G-protein coupled receptor kinase activity,GO:0005524~ATP binding,GO:0017076~purine nucleotide binding,GO:0030554~adenyl nucleotide binding,GO:0032553~ribonucleotide binding,GO:0032555~purine ribonucleotide binding,GO:0032559~adenyl ribonucleotide binding, IPR000239:GPCR kinase,IPR000342:Regulator of G protein signalling,IPR000719:Protein kinase, core,IPR000961:AGC-kinase, C-terminal,IPR002290:Serine/threonine protein kinase,IPR008271:Serine/threonine protein kinase, active site,IPR017441:Protein kinase, ATP binding site,IPR017442:Serine/threonine protein kinase-related, dme04144:Endocytosis, SM00133:S\_TK\_X,SM00220:S\_TKc,SM00315:RGS, ATP,atp-binding,complete proteome,developmental protein,differentiation,kinase,membrane,nucleotide-binding,oogenesis,phosphoprotein,phosphotransferase,repeat,serine/threonine-protein kinase,serine/threonine-specific protein kinase,transferase, active site:Proton acceptor,binding site:ATP,chain:G protein-coupled receptor kinase 2,compositionally biased region:Asn-rich, domain:AGC-kinase C-terminal, domain:Protein kinase, domain:RGS 1, domain:RGS 2, modified residue,nucleotide phosphate-binding region:ATP,region of interest:N-terminal,sequence conflict,

1634707\_s\_at Glutamine:fructose-6-phosphate aminotransferase 1 Drosophila melanogaster Cell envelope biogenesis, outer membrane, GO:0016051~carbohydrate biosynthetic process, GO:0004360~glutamine-fructose-6-phosphate transaminase (isomerizing) activity,GO:0005529~sugar binding,GO:0008483~transaminase activity,GO:0016769~transferase activity, transferring nitrogenous groups,GO:0030246~carbohydrate binding, IPR000583:Glutamine amidotransferase, class-II,IPR001347:Sugar isomerase (SIS),IPR005855:Glucosamine-fructose-6-phosphate aminotransferase, isomerising,IPR017932:Glutamine amidotransferase, type II, dme00250:Alanine, aspartate and glutamate metabolism,dme00520:Amino sugar and nucleotide sugar metabolism, Aminotransferase,complete proteome,transferase,

1626566\_at Probable medium-chain specific acyl-CoA dehydrogenase, mitochondrial Drosophila melanogaster Lipid metabolism, GO:0006631~fatty acid metabolic process,GO:0006635~fatty acid beta-oxidation,GO:0009062~fatty acid catabolic process,GO:0016042~lipid catabolic process,GO:0016054~organic acid catabolic process,GO:0019395~fatty acid oxidation,GO:0030258~lipid modification,GO:0034440~lipid oxidation,GO:0044242~cellular lipid catabolic process,GO:0046395~carboxylic acid catabolic process,GO:0055114~oxidation reduction, GO:0005739~mitochondrion,GO:0005759~mitochondrial matrix,GO:0005811~lipid particle,GO:0031974~membrane-enclosed lumen,GO:0031980~mitochondrial lumen,GO:0043233~organelle lumen,GO:0044429~mitochondrial part,GO:0070013~intracellular organelle lumen, GO:0000166~nucleotide binding,GO:0001882~nucleoside binding,GO:0001883~purine nucleoside binding,GO:0003995~acyl-CoA dehydrogenase activity,GO:0009055~electron carrier activity,GO:0017076~purine nucleotide binding,GO:0030554~adenyl nucleotide binding ,GO:0048037~cofactor binding,GO:0050660~FAD binding,GO:0050662~coenzyme binding, IPR006089:Acyl-CoA dehydrogenase, conserved site,IPR006090:Acyl-CoA oxidase/dehydrogenase, type 1,IPR006091:Acyl-CoA oxidase/dehydrogenase, central region,IPR006092:Acyl-CoA dehydrogenase, N-terminal,IPR013764:Acyl-CoA oxidase/dehydrogenase, type1/2, C-terminal,IPR013786:Acyl-CoA dehydrogenase/oxidase, N-terminal, dme00071:Fatty acid metabolism,dme00280:Valine, leucine and isoleucine degradation,dme00410:beta-Alanine metabolism,dme00640:Propanoate metabolism, PIRSF000182:acyl-CoA dehydrogenase, complete proteome,FAD,fatty acid metabolism,Flavoprotein,lipid metabolism,mitochondrion,oxidoreductase,transit peptide, active site:Proton acceptor,binding site:Substrate; via amide nitrogen,binding site:Substrate; via carbonyl oxygen,chain:Probable medium-chain specific acyl-CoA dehydrogenase, mitochondrial,nucleotide phosphate-binding region:FAD,region of interest:Substrate binding,transit peptide:Mitochondrion,

1638186\_a\_at Protein fem-1 homolog B Drosophila melanogaster GO:0006508~proteolysis,GO:0009057~macromolecule catabolic process,GO:0019941~modification-dependent protein catabolic process,GO:0030163~protein catabolic process,GO:0031396~regulation of protein ubiquitination,GO:0031399~regulation of protein modification process,GO:0032268~regulation of cellular protein metabolic process,GO:0043632~modification-dependent macromolecule catabolic process,GO:0044257~cellular protein catabolic process,GO:0044265~cellular macromolecule catabolic process,GO:0051340~regulation of ligase activity,GO:0051438~regulation of ubiquitin-protein ligase activity,GO:0051603~proteolysis involved in cellular protein catabolic process, GO:0004842~ubiquitin-protein ligase activity,GO:0016879~ligase activity, forming carbon-nitrogen bonds,GO:0016881~acid-amino acid ligase activity,GO:0019787~small conjugating protein ligase activity, IPR002110:Ankyrin, SM00248:ANK, alternative splicing,ank repeat,complete proteome,repeat,UBL conjugation pathway, chain:Protein fem-1 homolog B,repeat:ANK 1,repeat:ANK 2,repeat:ANK 3,repeat:ANK 4,repeat:ANK 5,repeat:ANK 6,repeat:ANK 7,splice variant,

1627376\_at Relish Drosophila melanogaster GO:0002684~positive regulation of immune system process,GO:0002697~regulation of immune effector process,GO:0002700~regulation of production of molecular mediator of immune response,GO:0002759~regulation of antimicrobial humoral response,GO:0002784~regulation of antimicrobial peptide production,GO:0002786~regulation of antibacterial peptide production,GO:0002788~regulation of antifungal peptide production,GO:0002805~regulation of antimicrobial peptide biosynthetic process,GO:0002807~positive regulation of antimicrobial peptide biosynthetic process,GO:0002808~regulation of antibacterial peptide biosynthetic process,GO:0002810~regulation of antifungal peptide biosynthetic process,GO:0002813~regulation of biosynthetic process of antibacterial peptides active against Gram-negative bacteria,GO:0002831~regulation of response to biotic stimulus,GO:0002920~regulation of humoral immune response,GO:0006350~transcription,GO:0006355~regulation of transcription, DNA-dependent,GO: 0006357~regulation of transcription from RNA polymerase II promoter,GO:0006952~defense response,GO:0006955~immune response,GO:0006959~humoral immune response,GO:0006963~positive regulation of antibacterial peptide biosynthetic process,GO:0006964~positive regulation of biosynthetic process of antibacterial peptides active against Gram-negative bacteria,GO:0006967~positive regulation of antifungal peptide biosynthetic process,GO:0007166~cell surface receptor linked signal transduction,GO:0008063~Toll signaling pathway,GO:0009267~cellular response to starvation,GO:0009617~response to bacterium,GO:0009891~positive regulation of biosynthetic process,GO:0009991~response to extracellular stimulus,GO:0010551~regulation of specific transcription from RNA polymerase II promoter,GO:0010552~positive regulation of specific transcription from RNA polymerase II promoter,GO:0010557~positive regulation of macromolecule biosynthetic process,GO:0010604~positive regulation of macromolecule metabolic process,GO:0010628~positive regulation of gene

expression,GO:0019730~antimicrobial humoral response,GO:0031328~positive regulation of cellular biosynthetic process,GO:0031349~positive regulation of defense response,GO:0031667~response to nutrient levels,GO:0031668~cellular response to extracellular stimulus,GO:0031669~cellular response to nutrient levels,GO:0032583~regulation of gene-specific transcription,GO:0033554~cellular response to stress,GO:0034198~cellular response to amino acid starvation,GO:0042594~response to starvation,GO:0042742~defense response to bacterium,GO:0043193~positive regulation of gene-specific transcription,GO:0043900~regulation of multi-organism process,GO:0045087~innate immune response,GO:0045088~regulation of innate immune response,GO:0045089~positive regulation of innate immune response,GO:0045428~regulation of nitric oxide biosynthetic process,GO:0045429~positive regulation of nitric oxide biosynthetic process,GO:0045449~regulation of transcription,GO:0045893~positive regulation of transcription, DNA-dependent,GO:0045935~positive regulation of nucleobase, nucleoside, nucleotide and nucleic acid metabolic process,GO:0045941~positive regulation of transcription,GO:0045944~positive regulation of transcription from RNA polymerase II promoter,GO:0048584~positive regulation of response to stimulus,GO:0050778~positive regulation of immune response,GO:0050829~defense response to Gram-negative bacterium,GO:0051173~positive regulation of nitrogen compound metabolic process,GO:0051252~regulation of RNA metabolic process,GO:0051254~positive regulation of RNA metabolic process, GO:0003677~DNA binding,GO:0003700~transcription factor activity,GO:0030528~transcription regulator activity, IPR000451:NF-kappa-B/Rel/dorsal,IPR002110:Ankyrin,IPR002909:Cell surface receptor IPT/TIG,IPR011539:Rel homology,IPR013783:Immunoglobulin-like fold, SM00248:ANK,SM00429:IPT,activator,alternative splicing,ank repeat,complete proteome,cytoplasm,direct protein sequencing,immune response,in innate immunity,nucleus,phosphoprotein,repeat,Transcription,transcription regulation, chain:Nuclear factor NF-kappa-B p110 subunit,chain:Nuclear factor NF-kappa-B p49 subunit,chain:Nuclear factor NF-kappa-B p68 subunit, domain:RHD,modified residue,mutagenesis site,repeat:ANK 1,repeat:ANK 2,repeat:ANK 3,repeat:ANK 4,repeat:ANK 5,sequence conflict,sequence variant,short sequence motif:Nuclear localization signal,site:Cleavage (when cotranslationally processed),splice variant,

1629357\_s\_at SNF1A/AMP-activated protein kinase Drosophila melanogaster GO:0000278~mitotic cell cycle,GO:0000902~cell morphogenesis,GO:0006468~protein amino acid phosphorylation,GO:0006793~phosphorus metabolic process,GO:0006796~phosphate metabolic process,GO:0006897~endocytosis,GO:0006909~phagocytosis,GO:0006911~phagocytosis, engulfment,GO:0007049~cell cycle,GO:0007163~establishment or maintenance of cell polarity,GO:0010324~membrane invagination,GO:0016044~membrane organization,GO:0016192~vesicle-mediated transport,GO:0016310~phosphorylation,GO:0032989~cellular component morphogenesis,GO:0035088~establishment or maintenance of apical/basal cell polarity,GO:0045197~establishment or maintenance of epithelial cell apical/basal

polarity, GO:0031588~AMP-activated protein kinase complex, GO:0000166~nucleotide binding, GO:0001882~nucleoside binding, GO:0001883~purine nucleoside binding, GO:0004672~protein kinase activity, GO:0004674~protein serine/threonine kinase activity, GO:0004679~AMP-activated protein kinase activity, GO:0004703~G-protein coupled receptor kinase activity, GO:0005524~ATP binding, GO:0017076~purine nucleotide binding, GO:0030554~adenyl nucleotide binding, GO:0032553~ribonucleotide binding, GO:0032555~purine ribonucleotide binding, GO:0032559~adenyl ribonucleotide binding, IPR000719:Protein kinase, core, IPR002290:Serine/threonine protein kinase, IPR008271:Serine/threonine protein kinase, active site, IPR015741:Snf1-like protein AMPK, IPR017441:Protein kinase, ATP binding site, IPR017442:Serine/threonine protein kinase-related, dme04140:Regulation of autophagy, dme04150:mTOR signaling pathway, PIRSF000590:Snf1/AMPK-type protein kinases, catalytic subunits, SM00220:S\_TKc, atp-binding, complete proteome, kinase, nucleotide-binding, serine/threonine-protein kinase, transferase,

**1625433\_at** Sarcoplasmic calcium-binding protein 1 Drosophila melanogaster GO:0005783~endoplasmic reticulum, GO:0016528~sarcoplasm, GO:0016529~sarcoplasmic reticulum, GO:0005509~calcium ion binding, GO:0043167~ion binding, GO:0043169~cation binding, GO:0046872~metal ion binding, IPR002048:Calcium-binding EF-hand, IPR011992:EF-Hand type, IPR018247:EF-HAND 1, IPR018248:EF hand, IPR018249:EF-HAND 2, SM00054:EFh, calcium,

**1638050\_s\_at** Sox box protein 14 Drosophila melanogaster GO:0006350~transcription, GO:0045449~regulation of transcription, GO:0003677~DNA binding, GO:0003700~transcription factor activity, GO:0030528~transcription regulator activity, IPR000910:High mobility group, HMG1/HMG2, SM00398:HMG, complete proteome, DNA binding, dna-binding, nucleus, Transcription, transcription regulation, chain:Putative transcription factor SOX-14, compositionally biased region:Poly-Ala, compositionally biased region:Poly-Asn, DNA-binding region:HMG box, sequence conflict,

**1639321\_s\_at** Toll Drosophila melanogaster Function unknown, GO:0000578~embryonic axis specification, GO:0000910~cytokinesis, GO:0002520~immune system development, GO:0002697~regulation of immune effector process, GO:0002700~regulation of production of molecular mediator of immune response, GO:0002759~regulation of antimicrobial humoral response, GO:0002784~regulation of antimicrobial peptide production, GO:0002786~regulation of antibacterial peptide production, GO:0002788~regulation of antifungal peptide production, GO:0002805~regulation of antimicrobial peptide biosynthetic process, GO:0002807~positive regulation of antimicrobial peptide biosynthetic process, GO:0002808~regulation of antibacterial peptide biosynthetic process, GO:0002810~regulation of antifungal peptide biosynthetic process, GO:0002831~regulation of response to biotic stimulus, GO:0002920~regulation of humoral immune response, GO:0003002~regionalization, GO:0006952~defense response, GO:0006955~immune

|              |                           |                         |   |
|--------------|---------------------------|-------------------------|---|
|              |                           |                         | itive regulation of antibacterial peptide biosynthetic process,GO:0006967~positive regulation of antifungal peptide biosynthetic process,GO:0007155~cell adhesion,GO:0007166~cell surface receptor linked signal transduction,GO:0007352~zygotic determination of dorsal/ventral axis,GO:0007389~pattern specification process,GO:0007416~synaptogenesis,GO:0008063~Toll signaling pathway,GO:0008283~cell proliferation,GO:0009617~response to bacterium,GO:0009620~response to fungus,GO:0009798~axis specification,GO:0009880~embryonic pattern specification,GO:0009891~positive regulation of biosynthetic process,GO:0009950~dorsal/ventral axis specification,GO:0009953~dorsal/ventral pattern formation,GO:0019730~antimicrobial humoral response,GO:0019732~antifungal humoral response,GO:0022610~biological adhesion,GO:0030097~hemopoiesis,GO:0031328~positive regulation of cellular biosynthetic process,GO:0035007~regulation of melanization defense response,GO:0035172~hemocyte proliferation,GO:0042742~defense response to bacterium,GO:0043062~extracellular structure organization,GO:0043455~regulation of secondary metabolic process,GO:0043900~regulation of multi-organism process,GO:0045087~innate immune response,GO:0045088~regulation of innate immune response,GO:0045610~regulation of hemocyte differentiation,GO:0048534~hemopoietic or lymphoid organ development,GO:0050808~synapse organization,GO:0050830~defense response to Gram-positive bacterium,GO:0050832~defense response to fungus,GO:0051301~cell division, GO:0005886~plasma membrane,GO:0005887~integral to plasma membrane,GO:0016021~integral to membrane,GO:0031224~intrinsic to membrane,GO:0031226~intrinsic to plasma membrane,GO:0044459~plasma membrane part, GO:0019955~cytokine binding,GO:0042802~identical protein binding, IPR000157:Toll-Interleukin receptor,IPR000372:Leucine-rich repeat, cysteine-rich flanking region, N-terminal,IPR000483:Cysteine-rich flanking region, C-terminal,IPR001611:Leucine-rich repeat,IPR003591:Leucine-rich repeat, typical subtype,IPR004075:Interleukin-1 receptor, t y pe l/Toll precursor, SM00013:LRRNT,SM00082:LRRCT,SM00255:TIR,SM00369:LRR_TYP,cell adhesion,cell membrane,complete proteome,developmental protein,disulfide bond,glycoprotein,leucine-rich repeat,membrane,polymorphism,repeat,signal,transmembrane,transmembrane protein, chain:Protein toll, domain:TIR, glycosylation site:N-linked (GlcNAc...),repeat:LRR 1,repeat:LRR 10,repeat:LRR 11,repeat:LRR 12,repeat:LRR 13,repeat:LRR 14,repeat:LRR 15,repeat:LRR 16,repeat:LRR 17,repeat:LRR 18,repeat:LRR 19,repeat:LRR 2,repeat:LRR 20,repeat:LRR 21,repeat:LRR 3,repeat:LRR 4,repeat:LRR 5,repeat:LRR 6,repeat:LRR 7,repeat:LRR 8,repeat:LRR 9,sequence conflict,sequence variant,signal peptide,topological domain:Cytoplasmic,topological domain:Extracellular,transmembrane region, |
| 1629843_s_at | Ubiquitin carrier protein | Drosophila melanogaster | GO:0006508~proteolysis,GO:0009057~macromolecule catabolic process,GO:0016567~protein ubiquitination,GO:0019941~modification-dependent protein catabolic process,GO:0030163~protein catabolic process,GO:0032446~protein modification by small protein   |

conjugation,GO:0043632~modification-dependent macromolecule catabolic process,GO:0044257~cellular protein catabolic process,GO:0044265~cellular macromolecule catabolic process,GO:0051603~proteolysis involved in cellular protein catabolic process,GO:0070647~protein modification by small protein conjugation or removal,  
 GO:0004842~ubiquitin-protein ligase activity,GO:0016879~ligase activity, forming carbon-nitrogen bonds,GO:0016881~acid-amino acid ligase activity,GO:0019787~small conjugating protein ligase activity, IPR000608:Ubiquitin-conjugating enzyme, E2,IPR015581:Ubiquitin-conjugating enzyme,IPR016135:Ubiquitin-conjugating enzyme/RWD-like, dme04120:Ubiquitin mediated proteolysis, SM00212:UBCc, complete proteome,ligase,ubl conjugation pathway,

1640754\_at brummer Drosophila melanogaster GO:0006638~neutral lipid metabolic process,GO:0006639~acylglycerol metabolic process,GO:0006641~triglyceride metabolic process,GO:0006642~triglyceride mobilization,GO:0006662~glycerol ether metabolic process,GO:0007568~aging,GO:0008340~determination of adult life span,GO:0010259~multicellular organismal aging,GO:0016042~lipid catabolic process,GO:0018904~organic ether metabolic process,GO:0019433~triglyceride catabolic process,GO:0044242~cellular lipid catabolic process,GO:0044269~glycerol ether catabolic process,GO:0046461~neutral lipid catabolic process,GO:0046464~acylglycerol catabolic process,GO:0046486~glycerolipid metabolic process,GO:0046503~glycerolipid catabolic process,GO:0005811~lipid particle, GO:0004091~carboxylesterase activity,GO:0004806~triacylglycerol lipase activity,GO:0016298~lipase activity, IPR002641:Patatin, complete proteome,hydrolase,lipid degradation,

1635619\_a\_at centrosomin Drosophila melanogaster GO:0000087~M phase of mitotic cell cycle,GO:0000226~microtubule cytoskeleton organization,GO:0000278~mitotic cell cycle,GO:0000279~M phase,GO:0000280~nuclear division,GO:0007010~cytoskeleton organization,GO:0007017~microtubule-based process,GO:0007049~cell cycle,GO:0007051~spindle organization,GO:0007052~mitotic spindle organization,GO:0007059~chromosome segregation,GO:0007067~mitosis,GO:0007098~centrosome cycle,GO:0007126~meiosis,GO:0007143~female meiosis,GO:0007422~peripheral nervous system development,GO:0007494~midgut development,GO:0016321~female meiosis chromosome segregation,GO:0022402~cell cycle process,GO:0022403~cell cycle phase,GO:0031023~microtubule organizing center organization,GO:0045132~meiotic chromosome segregation,GO:0048285~organelle fission,GO:0048565~gut development,GO:0051297~centrosome organization,GO:0051301~cell division,GO:0051321~meiotic cell cycle,GO:0051327~M phase of meiotic cell cycle, GO:0000242~pericentriolar material,GO:0005813~centrosome,GO:0005815~microtubule organizing center,GO:0005856~cytoskeleton,GO:0005875~microtubule associated complex,GO:0005929~cilium,GO:0005932~microtubule basal body,GO:0015629~actin cytoskeleton,GO:0015630~microtubule cytoskeleton,GO:0016459~myosin

complex, GO:0019861~flagellum, GO:0042995~cell projection, GO:0043228~non-membrane-bounded organelle, GO:0043232~intracellular non-membrane-bounded organelle, GO:0044430~cytoskeletal part, GO:0044450~microtubule organizing center part, GO:0044463~cell projection part, GO:0008017~microtubule binding, GO:0008092~cytoskeletal protein binding, GO:0015631~tubulin binding, GO:0016887~ATPase activity, GO:0042624~ATPase activity, uncoupled, IPR012943:Spindle associated, alternative splicing, cell cycle, cell division, cell projection, cilium, coiled coil, complete

residue, sequence conflict, short sequence motif:Nuclear localization signal, splice variant,

1627651\_a\_at locomotion defectsDrosophila melanogaster GO:0000902~cell morphogenesis,GO:0001885~endothelial cell development,GO:0002009~morphogenesis of an epithelium,GO:0002064~epithelial cell development,GO:0003002~regionalization,GO:0003006~reproductive developmental process,GO:0007010~cytoskeleton organization,GO:0007043~cell-cell junction assembly,GO:0007163~establishment or maintenance of cell polarity,GO:0007276~gamete generation,GO:0007292~female gamete generation,GO:0007300~ovarian nurse cell to oocyte transport,GO:0007303~cytoplasmic transport, nurse cell to oocyte,GO:0007389~pattern specification process,GO:0007405~neuroblast proliferation,GO:0007419~ventral cord development,GO:0008069~dorsal/ventral axis specification, ovarian follicular epithelium,GO:0008104~protein localization,GO:0008105~asymmetric protein localization,GO:0008277~regulation of G-protein coupled receptor protein signaling pathway,GO:0008283~cell proliferation,GO:0009798~axis specification,GO:0009950~dorsal/ventral axis specification,GO:0009953~dorsal/ventral pattern formation,GO:0010001~glial cell differentiation,GO:0014045~establishment of endothelial blood-brain barrier,GO:0016333~morphogenesis of follicular epithelium,GO:0016334~establishment or maintenance of polarity of follicular epithelium,GO:0016482~cytoplasmic transport,GO:0017145~stem cell division,GO:0019953~sexual reproduction,GO:0019991~septate junction assembly,GO:0021782~glial cell development,GO:0030029~actin filament-based process,GO:0030036~actin cytoskeleton organization,GO:0030707~ovarian follicle cell development,GO:0030855~epithelial cell differentiation,GO:0030865~cortical cytoskeleton organization,GO:0030866~cortical actin cytoskeleton organization,GO:0032504~multicellular organism reproduction,GO:0032989~cellular component morphogenesis,GO:0034329~cell junction assembly,GO:0034330~cell junction organization,GO:0042063~gliogenesis,GO:0043297~apical junction assembly,GO:0045165~cell fate commitment,GO:0045216~cell-cell junction

organization,GO:0045446~endot  
 helial cell differentiation,GO:0046907~intracellular transport,GO:0048103~somatic stem cell  
 division,GO:0048477~oogenesis,GO:0048609~reproductive process in a multicellular organism,GO:0048610~reproductive cellular process,GO:0048729~tissue  
 morphogenesis,GO:0051301~cell division,GO:0055057~neuroblast division,GO:0055059~asymmetric neuroblast division,GO:0060429~epithelium development,  
 GO:0005886~plasma membrane,GO:0005938~cell cortex,GO:0044448~cell cortex part,GO:0045177~apical part of cell,GO:0045179~apical cortex, GO:0001965~G-  
 protein alpha-subunit binding,GO:0005096~GTPase activator activity,GO:0008047~enzyme activator activity,GO:0030695~GTPase regulator activity,GO:0060589~nucleoside-  
 triphosphatase regulator activity, IPR000342:Regulator of G protein signalling,IPR001478:PDZ/DHR/GLGF,IPR003109:GoLoco motif,IPR003116:Raf-like Ras-  
 binding,IPR006020:Phosphotyrosine interaction region, SM00228:PDZ,SM00315:RGS,SM00390:GoLoco,SM00455:RBD,SM00462:PTB,complete proteome,  
 1625830\_a\_at scruin like at the midline Drosophila melanogaster IPR006652:Kelch repeat type 1,IPR015915:Kelch-type beta propeller,  
 SM00612:Kelch, complete proteome,

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+D

C

-D

Probe sets:

1625199\_s\_at 1633654\_s\_at 1634814\_at 1638325\_at 1638875\_at

Functional annotation table:

-D C +D

| ID         | Gene Name                        | Species                 | GOTERM_BP_FAT  | GOTERM_CC_FAT | GOTERM_MF_FAT  | INTERPRO<br>UP_SEQ_FEATURE | KEGG_PATHWAY | PIR_SUPERFAMILY | SP_PIR_KEYWORDS               |
|------------|----------------------------------|-------------------------|--|---------------|--|----------------------------|--------------|-----------------|-------------------------------|
| 1638875_at | Egg-derived tyrosine phosphatase | Drosophila melanogaster | GO:0006470~protein amino acid dephosphorylation, GO:0006793~phosphorus metabolic process, GO:0006796~phosphate metabolic process, GO:0016311~dephosphorylation, IPR016130:Protein-tyrosine phosphatase, active site,   |               | GO:0004721~phosphoprotein phosphatase activity, GO:0004725~protein tyrosine phosphatase activity, GO:0016791~phosphatase activity, |                            |              |                 | complete proteome, hydrolase, |
| 1638325_at | Henna                            | Drosophila melanogaster | GO:0006558~L-phenylalanine metabolic process, GO:0006559~L-phenylalanine catabolic process, GO:0006575~cellular amino acid derivative metabolic process, GO:0006576~biogenic amine metabolic process, GO:0006586~indolalkylamine metabolic process, GO:0006726~eye pigment biosynthetic process, GO:0006897~endocytosis, GO:0006909~phagocytosis, GO:0006911~phagocytosis, engulfment, GO:0009063~cellular amino acid catabolic process, GO:0009072~aromatic amino acid family metabolic process, GO:0009074~aromatic amino acid family catabolic process, GO:0009309~amine biosynthetic process, GO:0009310~amine catabolic process, GO:0010324~membrane invagination, GO:0016044~membrane organization, GO:0016054~organic acid catabolic process, GO:0016192~vesicle-mediated transport, GO:0018130~heterocycle biosynthetic process, GO:0019439~aromatic compound catabolic process, GO:0042398~cellular amino acid derivative biosynthetic process, GO:0042401~biogenic amine biosynthetic process, GO:0042427~serotonin biosynthetic process, GO:0042428~serotonin metabolic process, GO:0042430~indole and derivative metabolic process, GO:0042434~indole derivative metabolic process, GO:0042435~indole derivative biosynthetic process, GO:0042440~pigment metabolic process, GO:0042441~eye pigment metabolic process, GO:0043473~pigmentation, GO:0044271~nitrogen compound biosynthetic process, GO:0046148~pigment biosynthetic process, GO:0046219~indolalkylamine biosynthetic process, GO:0046395~carboxylic acid catabolic process, GO:0048066~pigmentation during development, GO:0048069~eye pigmentation, GO:0055114~oxidation reduction, GO:0005811~lipid particle, GO:0004505~phenylalanine 4-monooxygenase activity, GO:0004510~tryptophan 5-monooxygenase activity, GO:0005506~iron ion binding, GO:0016597~amino acid binding, GO:0016714~oxidoreductase activity, acting on paired donors, with incorporation or reduction of molecular oxygen, reduced pteridine as one donor, and incorporation of one atom of oxygen, GO:0031406~carboxylic acid binding, GO:0043167~ion binding, GO:0043169~cation |               |  |                            |              |                 |                               |

binding,GO:0043176~amine binding,GO:0046872~metal ion binding,GO:0046914~transition metal ion binding, IPR001273:Aromatic amino acid hydroxylase,IPR002912:Amino acid-binding ACT,IPR005961:Phenylalanine-4-hydroxylase, tetrameric form,IPR018301:Aromatic amino acid hydroxylase, iron/copper binding site,IPR019773:Tyrosine 3-monooxygenase-like,IPR019774:Aromatic amino acid hydroxylase, C-terminal, dme00360:Phenylalanine metabolism,dme00400:Phenylalanine, tyrosine and tryptophan biosynthesis, PIRSF000336:TH,PIRSF000336:tyrosine 3-monooxygenase, allosteric enzyme,biopterin,complete proteome,iron,metal-binding,metalloprotein,Monoxygenase,oxidoreductase,phenylalanine catabolism,phenylketonuria,phosphoprotein,serotonin biosynthesis, chain:Protein henna, domain:ACT, metal ion-binding site:Iron, modified residue, sequence conflict,

1633654\_s\_at Inositol 1,4,5-triphosphate kinase 2 Drosophila melanogaster GO:0006020~inositol metabolic process,GO:0006793~phosphorus metabolic process,GO:0006796~phosphate metabolic process,GO:0016310~phosphorylation,GO:0019751~polyol metabolic process,GO:0046835~carbohydrate phosphorylation,GO:0046853~inositol and derivative phosphorylation, GO:0004428~inositol or phosphatidylinositol kinase activity,GO:0005516~calmodulin binding,GO:0008440~inositol trisphosphate 3-kinase activity,GO:0048306~calcium-dependent protein binding,GO:0051766~inositol trisphosphate kinase activity, IPR005522:Inositol polyphosphate kinase, dme00562:Inositol phosphate metabolism,dme04070:Phosphatidylinositol signaling system, complete proteome,kinase,transferase,

1634814\_at UPF0183 protein CG7083 Drosophila melanogaster IPR005373:Uncharacterised protein family UPF0183, PIRSF015809:hypothetical protein, Caenorhabditis elegans T01G9.2b type, complete proteome, chain:UPF0183 protein CG7083,

1625199\_s\_at dacapo Drosophila melanogaster GO:0000079~regulation of cyclin-dependent protein kinase activity,GO:0000082~G1/S transition of mitotic cell cycle,GO:0000278~mitotic cell cycle,GO:0001709~cell fate determination,GO:0002165~instar larval or pupal development,GO:0003006~reproductive developmental process,GO:0007049~cell cycle,GO:0007050~cell cycle arrest,GO:0007090~regulation of S phase of mitotic cell cycle,GO:0007276~gamete generation,GO:0007292~female gamete generation,GO:0007293~germarium-derived egg chamber formation,GO:0007294~germarium-derived oocyte fate determination,GO:0007346~regulation of mitotic cell cycle,GO:0007423~sensory organ development,GO:0007424~open tracheal system development,GO:0007444~imaginal disc development,GO:0007488~histoblast morphogenesis,GO:0007552~metamorphosis,GO:0007560~imaginal disc morphogenesis,GO:0008356~asymmetric cell division,GO:0009791~post-embryonic development,GO:0009886~post-embryonic morphogenesis,GO:0009994~oocyte differentiation,GO:0010563~negative regulation of phosphorus metabolic

process, GO:0010564~regulation of cell cycle process, GO:0010605~negative regulation of macromolecule metabolic process, GO:0010948~negative regulation of cell cycle process, GO:0019220~regulation of phosphate metabolic process, GO:0019953~sexual reproduction, GO:0022402~cell cycle process, GO:0022403~cell cycle phase, GO:0030706~germarium-derived oocyte differentiation, GO:0030716~oocyte fate determination, GO:0031399~regulation of protein modification process, GO:0031400~negative regulation of protein modification process, GO:0032268~regulation of cellular protein metabolic process, GO:0032269~negative regulation of cellular protein metabolic process, GO:0032504~multicellular organism reproduction, GO:0033261~regulation of S phase, GO:0035303~regulation of dephosphorylation, GO:0035304~regulation of protein amino acid dephosphorylation, GO:0035305~negative regulation of dephosphorylation, GO:0035308~negative regulation of protein amino acid dephosphorylation, GO:0042325~regulation of phosphorylation, GO:0043549~regulation of kinase activity, GO:0045035~sensory organ precursor cell division, GO:0045165~cell fate commitment, GO:0045749~negative regulation of S phase of mitotic cell cycle, GO:0045786~negative regulation of cell cycle, GO:0045859~regulation of protein kinase activity, GO:0045930~negative regulation of mitotic cell cycle, GO:0045936~negative regulation of phosphate metabolic process, GO:0048477~oogenesis, GO:0048563~post-embryonic organ morphogenesis, GO:0048569~post-embryonic organ development, GO:0048609~reproductive process in a multicellular organism, GO:0048610~reproductive cellular process, GO:0048707~instar larval or pupal morphogenesis, GO:0051174~regulation of phosphorus metabolic process, GO:0051248~negative regulation of protein metabolic process, GO:0051301~cell division, GO:0051318~G1 phase, GO:0051325~interphase, GO:0051329~interphase of mitotic cell cycle, GO:0051338~regulation of transferase activity, GO:0051726~regulation of cell cycle, GO:0060541~respiratory system development, GO:000485

7~enzyme inhibitor activity, GO:0004860~protein kinase inhibitor activity, GO:0004861~cyclin-dependent protein kinase inhibitor activity, GO:0016538~cyclin-dependent protein kinase regulator activity, GO:0019207~kinase regulator activity, GO:0019210~kinase inhibitor activity, GO:0019887~protein kinase regulator activity, GO:0030291~protein serine/threonine kinase inhibitor activity, IPR003175:Cyclin-dependent kinase inhibitor,

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-D  
C  
+D

Probe sets:

|            |              |            |              |
|------------|--------------|------------|--------------|
| 1625519_at | 1632834_a_at | 1628194_at | 1635491_s_at |
| 1628429_at | 1639762_at   | 1635065_at | 1636639_at   |

Functional annotation table:

| ID             | Gene Name     | Species                 | GOTERM_BP_FAT   | GOTERM_CC_FAT | GOTERM_MF_FAT | INTERPRO | KEGG_PATHWAY | PIR_SUPERFAMILY | SMART | SP_PIR_KEYWORDS |
|----------------|---------------|-------------------------|---|---------------|---------------|----------|--------------|-----------------|-------|-----------------|
| UP_SEQ_FEATURE |               |                         |   |               |               |          |              |                 |       |                 |
| 1635491_s_at   | Dmel(CG11642) | Drosophila melanogaster | GO:0006605~protein targeting, GO:0006612~protein targeting to membrane, GO:0006613~cotranslational protein targeting to membrane, GO:0006614~SRP-dependent cotranslational protein targeting to membrane, GO:0006886~intracellular protein transport, GO:0006897~endocytosis, GO:0006909~phagocytosis, GO:0006911~phagocytosis, engulfment, GO:0008104~protein localization, GO:0010324~membrane invagination, GO:0015031~protein transport, GO:0016044~membrane organization, GO:0016192~vesicle-mediated transport, GO:0033365~protein localization in organelle, GO:0034613~cellular protein localization, GO:0045047~protein targeting to ER, GO:0045184~establishment of protein localization, GO:0046907~intracellular transport, GO:0070727~cellular macromolecule localization, GO:0005783~endoplasmic reticulum, GO:0005811~lipid particle, GO:0016021~integral to membrane, GO:0031224~intrinsic to membrane, IPR006634:TRAM, LAG1 and CLN8 homology, IPR013599:TRAM1-like protein, IPR016447:Translocation associated membrane protein, PIRSF005449:translocation associated membrane protein, PIRSF005449:Translocation_assoc_membrane, SM00724:TLC, membrane, transmembrane, |               |               |          |              |                 |       |                 |

|              |              |                         |   |   |
|--------------|--------------|-------------------------|---|---|
| 1628194_at   | Dmel(CG2918) | Drosophila melanogaster | GO:0006457~protein folding,<br>binding, GO:0001882~nucleoside binding, GO:0001883~purine nucleoside binding, GO:0005524~ATP binding, GO:0017076~purine nucleotide binding, GO:0030554~adenyl nucleotide binding, GO:0032553~ribonucleotide binding, GO:0032555~purine ribonucleotide binding, GO:0032559~adenyl ribonucleotide binding, IPR001023:Heat shock protein Hsp70, IPR013126:Heat shock protein 70, IPR018181:Heat shock protein 70, conserved site,   | GO:0005811~lipid particle, GO:0000166~nucleotide atp-binding, complete proteome, nucleotide-binding,  |
| 1639762_at   | Dmel(CG3734) | Drosophila melanogaster | GO:0006508~proteolysis, activity, GO:0017171~serine hydrolase activity, GO:0070011~peptidase activity, acting on L-amino acid peptides, Pro-X carboxypeptidase / Dipeptidyl-peptidase 2,  | GO:0008233~peptidase activity, GO:0008236~serine-type peptidase activity, IPR008758:Peptidase S28, PIRSF016539:Lysosomal complete proteome, |
| 1632834_a_at | Dmel(CG5946) | Drosophila melanogaster | GO:0006897~endocytosis, GO:0006909~phagocytosis, GO:0006911~phagocytosis, engulfment, GO:0010324~membrane invagination, GO:0016044~membrane organization, GO:0016192~vesicle-mediated transport, GO:0055114~oxidation reduction, reductase activity, GO:0009055~electron carrier activity, GO:0016651~oxidoreductase activity, acting on NADH or NADPH, GO:0016653~oxidoreductase activity, acting on NADH or NADPH, heme protein as acceptor, IPR001433:Oxidoreductase FAD/NAD(P)-binding, IPR001709:Flavoprotein pyridine nucleotide cytochrome reductase, IPR001834:NADH:cytochrome b5 reductase (CBR), IPR008333:Oxidoreductase FAD-binding region, IPR017927:Ferredoxin reductase-type FAD-binding domain, dme00520:Amino sugar and nucleotide sugar metabolism, proteome, FAD, Flavoprotein, nad, oxidoreductase, | GO:0004128~cytochrome-b5 PIRSF000206:cytochrome-b5 reductase, complete  |
| 1625519_at   | Dmel(CG6453) | Drosophila melanogaster | GO:0005783~endoplasmic reticulum, GO:0017177~alpha-glucosidase II complex, GO:0044432~endoplasmic reticulum part, GO:0004558~alpha-glucosidase activity, GO:0015926~glucosidase activity, IPR002172:Low density lipoprotein-receptor, class A, cysteine-rich, IPR012913:Glucosidase II beta subunit-like, IPR018247:EF-HAND 1, proteome, glycosidase, hydrolase,  | PIRSF017177:uncharacterized conserved protein, SM00192:LDLa, complete   |
| 1635065_at   | Dmel(CG7025) | Drosophila melanogaster | GO:0006508~proteolysis, activity, GO:0008233~peptidase activity, GO:0008235~metalloexopeptidase activity, GO:0008237~metallopeptidase activity, GO:0008238~exopeptidase activity, GO:0008270~zinc ion   | GO:0004180~carboxypeptidase activity, GO:0004181~metallocarboxypeptidase  |

binding,GO:0043167~ion binding,GO:0043169~cation binding,GO:0046872~metal ion binding,GO:0046914~transition metal ion binding,GO:0070011~peptidase activity, acting on L-amino acid peptides, IPR000834:Peptidase M14, carboxypeptidase A, SM00631:Zn\_pept, carboxypeptidase,complete proteome,hydrolase,  
 1628429\_at Protein transport protein Sec61 gamma-2 subunit Drosophila melanogaster GO:0006605~protein targeting,GO:0006612~protein targeting to membrane,GO:0006613~cotranslational protein targeting to membrane,GO:0006614~SRP-dependent cotranslational protein targeting to membrane,GO:0006616~SRP-dependent cotranslational protein targeting to membrane, translocation,GO:0006886~intracellular protein transport,GO:0007033~vacuole organization,GO:0007040~lysosome organization,GO:0008104~protein localization,GO:0009894~regulation of catabolic process,GO:0009895~negative regulation of catabolic process,GO:0010506~regulation of autophagy,GO:0010507~negative regulation of autophagy,GO:0015031~protein transport,GO:0031329~regulation of cellular catabolic process,GO:0031330~negative regulation of cellular catabolic process,GO:0033365~protein localization in organelle,GO:0034613~cellular protein localization,GO:0045047~protein targeting to ER,GO:0045184~establishment of protein localization,GO:0046907~intracellular transport,GO:0055085~transmembrane transport,GO:0065002~intracellular protein transmembrane transport,GO:0070727~cellular macromolecule localization, GO:0005783~endoplasmic reticulum,GO:0005784~translocon complex,GO:0005789~endoplasmic reticulum membrane,GO:0005791~rough endoplasmic reticulum,GO:0012505~endomembrane system,GO:0016021~integral to membrane,GO:0030176~integral to endoplasmic reticulum membrane,GO:0030867~rough endoplasmic reticulum membrane,GO:0031090~organelle membrane,GO:0031224~intrinsic to membrane,GO:0031227~intrinsic to endoplasmic reticulum membrane,GO:0031300~intrinsic to organelle membrane,GO:0031301~integral to organelle membrane,GO:0042175~nuclear envelope-endoplasmic reticulum network,GO:0044432~endoplasmic reticulum part, GO:0008320~protein transmembrane transporter activity,GO:0008565~protein transporter activity,GO:0015399~primary active transmembrane transporter activity,GO:0015405~P-P-bond-hydrolysis-driven transmembrane transporter activity,GO:0015450~P-P-bond-hydrolysis-driven protein transmembrane transporter activity,GO:0022884~macromolecule transmembrane transporter activity, IPR001901:Protein secE/sec61-gamma protein,IPR008158:Protein translocase SEC61 complex gamma subunit, PIRSF005525:preprotein translocase Sec, SecE/Sec61-gamma subunit,complete proteome,endoplasmic reticulum,membrane,protein transport,translocation,transmembrane,transport, chain:Protein transport protein Sec61 gamma-2 subunit,topological domain:Cytoplasmic,topological domain:Extracellular,transmembrane region,

1636639\_at      Signal peptide protease      *Drosophila melanogaster*      GO:0006508~proteolysis,GO:0007424~open tracheal system development,GO:0009057~macromolecule catabolic process,GO:0030163~protein catabolic process,GO:0033619~membrane protein proteolysis,GO:0044257~cellular protein catabolic process,GO:0044265~cellular macromolecule catabolic process,GO:0051603~proteolysis involved in cellular protein catabolic process,GO:0060541~respiratory system development, GO:0005783~endoplasmic reticulum,GO:0016021~integral to membrane,GO:0031224~intrinsic to membrane,      GO:0004175~endopeptidase activity,GO:0004190~aspartic-type endopeptidase activity,GO:0008233~peptidase activity,GO:0042500~aspartic endopeptidase activity, intramembrane cleaving,GO:0070001~aspartic-type peptidase activity,GO:0070011~peptidase activity, acting on L-amino acid peptides,      IPR006639:Peptidase A22, presenilin signal peptide,IPR007369:Peptidase A22B, signal peptide peptidase,      SM00730:PSN,      complete proteome,hydrolase,Protease,