## Table S9

Genes that display a significant change in expression during pupal stages (ANOVA, P<0.001)

Gene ID mixed annotation (+ indicates sequence confirmation)

CG12505+ unknown \* CG12505 LD41905 50F6-50F6 ID:101A2

+ Ote motor\_protein \* 1e-174 OTE\_DROME OTEFIN otefin - fruit fly (Drosophila melanogas \* 1e-176 DMOTEDA\_2 Ote \* \*

CG5581 CG5581 LD41911 55C3-55C4 ID:101A4

CG1636 + unknown \* CG1636 LD42063 7D21-7D21 dup:1/2 ID:101B10

CG17602+ unknown \* CG17602 LD42024 20A1-20A1 ID:101B4

+ TH1 unknown \* TH1(aa) \* DMTH1X\_3 TH1 \* potential zinc-finger domains centered at aa and aa 364; kDa protein; putative(aa)

CG9984 \* DMTH1X\_3 TH1 CG9984 LD42626 14C4-14C4 ID:101F4

+ Pabp2 RNA\_binding \* HYPOTHETICAL 29.0 KD PROTEIN IN BET1-PAN1 INTERGENIC REGION(aa) \* DMROX2Y\_3 Rox2 \*

CG2163 RNA binding protein(aa) \* 3e-39 Similarity to Bovine Poly-A bind [RNP\_1 // RBD // rrm] CG2163 LD42638 44A7-44A8 ID:101F6 + grp protein\_kinase \* 5e-08 Ssp31 protein kinase \* 2e-54 Ser/Thr kinase \* 5e-13 serine/threonine kinase \* 7e-27 Chk1; checkpoint CG17161 kinase [PROTEIN KINASE DOM // pkinase] CG17161 LD42896 36A6-36A7 ID:101G7

+ cell\_cycle\_regulator \* pombe Cdc5-related protein(aa) \* similar to MYB transforming protein; cDNA EST comes from this gene; cDNA EST comes from this gene; cDNA [MYB\_1 // MYB\_2 // myb\_DNA-binding // MY] CG6905 LD43082 61C1-61C1 dup:2/2 CG6905 ID:102A1

+ Chc transporter \* DMCHC\_2 Chc \* CLH\_YEAST CLATHRIN HEAVY CHAIN clathrin heavy chain - y \* CLH\_DROME CLATHRIN HEAVY CHAIN clathrin heavy chain - fr \* CLH\_CAEEL PRO[RCC1\_2 // Clathrin\_repeat // CLATHRIN\_R] CG9012 LD43101 13F3-CG9012 13F3 dup:1/3 ID:102A3

CG10165+ unknown \* CG10165 LD43293 37F1-37F1 ID:102C2

+ motor\_protein \* 7e-10 NUF1\_YEAST NUF1 PROTEIN (SPINDLE POLY BODY SPACER PROTEIN SPC110) \* 2e-14

CG5740 nonmuscle myosin-II heavy chain \* 1e-10 Similarity to Human endosoma CG5740 LD43488 94A-96C1 dup:2/2 ID:102D1

+ structural\_protein \* 6E-55\* 1e-06 R02F2.4 gene product \* 2e-06 peritrophin \* 7e-35 Gasp CG17052 LD43683 19C1-19C1 CG17052 dup:1/2 ID:102F1

CG4702 + unknown \* CG4702 LD43816 88A1-88A1 ID:102F9

+ unknown \* protein kinase cAMP-dependent protein kinase ) unlocalised cAMP-dependent protein kinase ) map\_position:77F \* \* CG18677 CG18677 LD43873 77E8-77E8 ID:102G2

+ BG:BACR48E02.4 cell\_adhesion \* Ras suppressor protein 1(aa) \* 3e-07 adenylate cyclase \* 3e-06 CHAO\_DROME CHAOPTIN PRECURSOR (PHOTORECEPTOR CELL-SPECIFIC MEMBRANE PROTEIN) \* 3e-63 [LRR // LEURICHRPT] CG9031 LD43891 CG9031 36E3-36E3 ID:102G5

+ unknown \* 8e-74 GPI3\_YEAST N-ACETYLGLUCOSAMINYL-PHOSPHATIDYLINOSITOL BIOSYNTHETIC PROTEIN (GLCN \*

CG6401 6e-92 similar to phosphatidylinositol biosynthetic protein; [Glycos\_transf\_1] CG6401 LD44262 54E7-54E7 ID:103B2 + CycA cell\_cycle\_regulator \* cell cycle regulator cyclin ) map\_position:68E1-2 \* DMCYCA\_3 CycA \* G2/MITOTIC-SPECIFIC CYCLIN A(aa) \* 2e-27 CG23\_YEAST G2/MITOTIC-SPECIFIC[cyclin // HELIX\_LOOP\_HELIX // CYCLINS] CG5940 LD44443 68D4-CG5940 68D4 dup:2/2 ID:103C10

- + Cyp310a1cytochrome\_P450 \* cytochrome P450(aa) \* DMLCPM Cyt-P450-rBF6-2 \* 2e-29 cytochrome P450 monooxygenase \* 2e-
- CG1039117 similar to cytochrome P450 [EP450II // p450 // P450 // MITP450 // E] CG10391 LD44491 37A3-37A3 ID:103C12
  - + Iswi DNA\_binding \* enzyme DNA dependent adenosinetriphosphatase ) transcription factor binding transcription co-activator ) map\_position:72A3 \* enzyme DNA dependent ad [helicase\_C // SNF2\_N // NLS\_BP // ATP\_G] CG8625 LD44594 49B6-49B7
- CG8625 ID:103D12
  - + unknown \* F1N21.18(aa) \* HYPOTHETICAL 51.8 KD PROTEIN ZK632.11 IN CHROMOSOME III(aa) \* \* [ZF\_CCHC //
- CG4622 PRO\_RICH // zf-CCHC // NLS\_B] CG4622 LD44757 60D5-60D5 dup:3/3 ID:103E12
- CG7832 + unknown \* [NLS\_BP // ANTIFREEZEI] CG7832 LD44696 88C10-88C10 dup:3/3 ID:103E7
- CG7347 + motor\_protein \* 8e-05 myosin heavy chain \* \* [PRO\_RICH] CG7347 LD44887 75B10-75B10 ID:103G1
  - + smid endopeptidase \* DMSMMIN\_2 smallminded \* smallminded(aa) \* 3e-68 AFG2\_YEAST AFG2 PROTEIN valosin-containing
- CG8571 protein homolo \* smallminded [ENDOLAPTASE // AAA // ATP\_GTP\_A] CG8571 65F5-65F6 dup:2/2 ID:103G2
- + unknown \* weak similarity to rat cytosolic acyl coenzyme A thioester hydrolase \* acyl-CoA thioesterase(aa) \* contains weak CG1635 similarity to rat cytosolic acyl CG1635 LD44914 100D2-100D2 ID:103G3
- + unknown \* NY-REN-2 antigen(aa) \* 1e-27 hypothetical protein YDR374c yeast (Saccharomyces cerevisiae) (U \* 9E-49\*
- CG6422 Similarity to A. thaliana gene product F21M [PRO\_RICH] CG6422 LD44979 96B14-96B15 ID:103G8
  - + unknown \* fruit fly STS clone T7(dna) \* PUTATIVE PEROXISOMAL ANTIOXIDANT ENZYME (LIVER TISSUE 2D-PAGE
- CG7217 SPOT 71B)(aa) \* PEROXISOMAL MEMBRANE PROTEIN PMP20(aa) \* [AhpC-TSA] CG7217 LD45324 90E-90E dup:2/2 ID:104B9
- + ion\_channel \* HISTIDINE-RICH GLYCOPROTEIN PRECURSOR(aa) \* histidine-rich protein Plasmodium lophurae (fragment)
- CG9411 hi \* [PRO\_RICH] CG9411 LD45449 12E8-12E8 ID:104C11
- CG18638+ CG18638 36A7-36A7 ID:104D7
- + up ligand\_binding\_or\_carrier \* DMTROPT\_2 up \* clot.789(dna)\* 1e-112 troponin T fruit fly (Drosophila melanogaster) \* 4e-28
- CG7107 TRT\_CAEEL TROPONIN T coded for by C. elegans cDNA yk7 [Troponin // NLS\_BP] CG7107 LD45641 12A2-12A4 dup:2/2 ID:104E5
  - + enzyme \* BLASTX 7.5E-52 FUM1|Fumarate hydratase (fumarase) (mitochondrial and cytoplasmic), converts L-malate to fumarate as part of the TCA cycle(dna) \* fum [DCRYSTALLIN // FUMRATELYASE // FUMARATE] CG4094 LD46083 6C7-6C7
- CG4094 ID:104H12
- + transporter \* cystic fibrosis transmembrane conductance regulator(aa) \* DMMDR49\_2 Mdr49 \* canalicular multispecific organic anion transporter (ABC superfamily)(a[ATP\_GTP\_A2 // ABC\_TRANSPORTER // ABC\_tr] CG7627 LD46040 29B2-29B2 dup:2/4 CG7627 ID:104H4
- + unknown \* farnesoic acid o-methyltransferase(aa) \* 2e-21 farnesoic acid o-methyltransferase farne \* CG10527 LD46156 CG1052757B20-57B20 ID:105A6
  - + receptor \* protein kinase C substrate 80K-H(aa) \* similar to Human protein kinase C substrate, 80KD protein, heavy chain,
- CG6453 SWISS-PROT Accession Number \* similar [LDLRA\_2 // ER\_TARGET // EF\_HAND] CG6453 LD46533 36C4-36C4 ID:105D11
  - + SelD enzyme \* SelD protein \* 2e-93 similar to AIR synthase related proteins elegans \* 1e-143 selenophosphate synthetase \* 1e-
- CG8553 159 SELD\_HUMAN SELENIDE,WATER DIKINAS [AIRS] CG8553 LD46437 50F-50F dup:1/2 ID:105D2
- + hep protein\_kinase \* MAP kinase kinase(aa) \* Mkk4 \* hep \* 2e-46 polymyxin B resistance protein PBS2 yeast (Saccharomyces
- CG4353 cerevisiae) [PROTEIN\_KINASE\_ST // PROTEIN\_KINASE\_DOM] CG4353 LD46661 11D5-11D6 dup:3/3 ID:105E10
- CG11567 + Cpr enzyme \* NADPH-CYTOCHROME P450 REDUCTASE (CPR)(aa) \* DMNCP450R\_2 Cpr \* NADPH--ferrihemoprotein

- reductase(aa) \* 3e-92 NADPH-cytochrome P450 reductase precurso [oxidored\_fad // FPNCR // FLAVODOXIN // ] CG11567 LD46590 28C7-26C4 dup:4/4 ID:105E4
- + structural\_protein \* 6e-14 CUP7\_DROME PUPAL CUTICLE PROTEIN EDG-78 PRECURSOR ecdyson \* 2e-28 CUD4\_LOCMI ENDOCUTICLE STRUCTURAL GLYCOPROTEIN (ABD-4A) g \* 7e-16 DMEDG78B\_2 [CUTICLE // insect\_cuticle] CG8505 49A3-
- CG8505 49A3 ID:105F10
  - + Gdi signal\_transduction \* 1e-135 GDI1\_YEAST SECRETORY PATHWAY GDP DISSOCIATION INHIBITOR G \* GDP dissociation inhibitor fruit fly (Drosophila melanogaster) \* Guanine nucleo [RABGDIREP // RABGDI // GDI] CG4422 LD46767 30B8-
- CG4422 30B9 ID:105F11
- + transcription\_factor \* 7e-06 MLP2\_DROME MUSCLE LIM PROTEIN MLP84B muscle L \* 2e-41 similar to LIM domain containing proteins (5 domains); cDNA EST yk \* 1e-25 TES2\_M[LIM\_DOMAIN\_1 // LIM // LIM\_DOMAIN\_2] CG11914 LD46723 73D1-CG1191473D3 dup:2/2 ID:105F4
- + nucleic\_acid\_binding \* 2e-08 SFP1 \* 3e-06 zinc-finger protein Pur-1 mouse \* 3e-06 MAZ \* 3e-06 serum amyloid A-activating CG12054 factor SAF-8 [zf-C2H2 // ZINC FINGER C2H2 // ZINC FIN] CG12054 LD46863 100B9-100B9 dup:1/2 ID:105G10
  - + transporter \* 3e-26 GLO3 \* 4e-23 putative ARF1 GTPase activating protein \* 1e-79 YQP4\_CAEEL HYPOTHETICAL 127.4 KD PROTEIN F07F6.4 IN CHROMOSOME III ( \* 3e-09 ADP- [ArfGap // ZF\_GCS // REVINTRACTNG] CG6838 LD46935 79F2-79F2
- CG6838 ID:105H4
- CG8320 + CG8320 ID:105H9
- + cytoskeletal\_structural\_protein \* 1e-62 cell division cycle protein \* 1e-178 SEP2\_DROME SEPTIN septin \* 3e-82 CDC10 \* 1e-148 SEP2\_HUMAN SEPTIN HOMOLOG The gen [COPPER\_BLUE // GTP\_CDC // NLS\_BP // ATP] CG2916 LD47044 43F7-43F7 CG2916 dup:1/2 ID:106A3
- + unknown \* clot.672(dna)\* 7e-07 YEQ8\_YEAST HYPOTHETICAL 58.0 KD PEPTIDASE IN PTP3-ILV1 INTERGENIC REGION CG11367 \* 5e-08 similar to the peptidase family M24B \* 3e-12 CG11367 LD47277 79F2-79F2 dup:2/2 ID:106B10
- endopeptidase \* DMSTUBBLE\_1 Sb \* SERINE PROTEINASE STUBBLE (STUBBLE-STUBBLOID PROTEIN)(aa) \* 2e-32
   similar to plasminogen and to trypsin-like serine proteases elega [trypsin // CHYMOTRYPSIN // TRYPSIN\_SER ] CG4386 LD47230
   CG4386 58A2-58A2 ID:106B7
- + unknown \* calcium-regulated heat stable protein CRHSP-24(aa) \* calcium-regulated heat stable protein CRHSP-24(aa) \* RNA-CG9705 binding protein PIPPin rat PIPPin pr [CSD] CG9705 LD47312 73C-73C ID:106C2
- + ligand\_binding\_or\_carrier \* Rab2 \* BACR37P7.a(aa) \* 5e-33 YP51\_YEAST GTP-BINDING PROTEIN YPT51/VPS21 GTP-CG3870 binding pr \* 7e-28 rab1 [ras // ATP\_GTP\_A // RASTRNSFRMNG] CG3870 LD47384 59E-59E ID:106C7
- + Gbp signal\_transduction \* striatin, calmodulin-binding protein(aa) \* WD-40-family-member \* 3e-16 SFL2 gene poduct (AA 1-669) \* 2e-19 transcription initiation factor IID-as[GPROTEINBRPT // WD40\_REGION // WD\_REPEA] CG5519 LD47390 55C13-55C13
- CG5519 ID:106C9
- CG7269 + RNA binding CG7269 dup:2/2 ID:106E3
  - + unknown \* 2e-16 YKJ2\_CAEEL HYPOTHETICAL 36.9 KD PROTEIN C02D5.2 IN CHROMOSOME III \* 1e-05 INIP\_HUMAN
- CG9796 GAMMA-INTERFERON-INDUCIBLE PROTEIN IP-30 PRECURSOR \* 4e-1 CG9796 LD47508 87E10-87E10 dup:3/3 ID:106E4
- CG4768 + unknown \* [NLS BP] CG4768 LD47733 15A5-15A6 dup:1/2 ID:106H7
- CG1236 + enzyme \* CtBP \* Ygl185cp(aa) \* C-terminal binding protein(aa) \* 5e-31 YN14 YEAST HYPOTHETICAL 38.8 KD PROTEIN IN

- MET2-SEC2 INTERGENIC REGION [D\_2\_HYDROXYACID\_DH\_3 // 2-Hacid\_DH] CG1236 LD48009 83C1-83C1 dup:2/2 ID:107C3 + shg cell\_adhesion \* DMDACHSOU\_2 ds \* EPITHELIAL-CADHERIN PRECURSOR (E-CADHERIN) (LIVER CELL ADHESION MOLECULE) (L-CAM)(aa) \* DE-cadherin(aa) \* DMDEC\_1 shg [EGF\_1 // EGF\_2 // LAM\_G\_DOMAIN // Cadhe] CG3722 LP01248 CG3722 57B19-57B20 ID:107D10
- + transporter \* 9e-23 probable membrane protein YPR011c yeast (Saccharomyces cerevisiae) \* 2e-07 colt \* 2e-39 Similar to CG6608 mitochondrial carrier protein \* 6e-15 bra [mito\_carr // MITOCARRIER // MITOCH\_CARR] CG6608 LP01207 86C7-86C7 ID:107D8
- + enzyme \* ribulose-1,5-bisphosphate carboxylase/oxygenase N-methyltransferase(aa) \* ribulose-1,5-bisphosphate CG3042 carboxylase/oxygenase small subunit N-methyltra CG3042 LP01222 6E3-6E3 ID:107D9
- + Cht3 enzyme \* chitinase(aa) \* 2e-22 probable membrane protein YDR371w yeast (Saccharomyces cerevisiae) \* 2e-63 chitinase CG18140 \* 1e-44 CHIT CAEEL PUTATIVE ENDOCHITIN CG18140 LP01426 40D5-40D5 dup:4/4 ID:107E10
- CG1252 + Ccp84Ab structural\_protein cuticle cluster 7 CUTICLE, insect\_cuticle CG1252 LP01435 dup:2/2 ID:107E11
- CG4664 + CG4664 dup:2/2 ID:107E12
- + enzyme \* cDNA EST comes from this gene; cDNA EST yk282d3.5 comes from this gene(aa) \* 1e-06 CCA1\_YEAST TRNA NUCLEOTIDYLTRANSFERASE PRECURSOR (TRNA ADENYLYLT [MET\_TRANS // SAM\_BIND] CG1239 LP01332 83C1-83C1
   CG1239 dup:2/2 ID:107E5
- + signal\_transduction \* similar to epidermal growth factor receptor kinase substrate; cDNA EST comes from this gene; cDNA
- CG8907 EST comes from this gene; cDNA EST yk246h9.3 come [SH3 // PRO\_RICH] CG8907 LP01469 92C1-92C1 ID:107F1
- + receptor \* 4e-06 LDL receptor-like repeat; orfla \* 2e-47 coded for by C. elegans cDNA yk9e10.5; coded for by C. elegans cDNA
- CG8756 yk9e10.3; mu \* 3e-07 very low dens [LDLRA\_2 // Idl\_recept\_a // LDLRA\_1] CG8756 LP01646 76C-76C ID:107F11
- + unknown \* ECDYSONE-INDUCED PROTEIN 74EFA (ETS-RELATED PROTEIN E74A)(aa) \* 1e-62 ecdysone-induced protein CG6273 E74A fruit fly (Drosophila pseudoobscura) \* 5e-91 e CG6273 LP01487 74E-74E ID:107F2
  - + enzyme \* steroid sulfotransferase 3(aa) \* 7e-25 tyrosine-ester sulfotransferase \* 2e-24 SUPM\_HUMAN MONOAMINE-
- CG5431 SULFATING PHENOL SULFOTRANSFERASE (SULFOTRANSFER [Sulfotransfer] CG5431 LP01553 59F4-59F4 ID:107F4
  - + enzyme \* 1e-107 ecto-5'-nucleotidase \* 1e-105 5' nucleotidase (CD73) 5'-NUCLEOTID \* 1e-132 putative 5'-nucleotidase \* 3e-
- CG4827 08 inserted at base 5' end of P elem [PHOSPHO\_ESTER // 5\_nucleotidase // 5\_NU] CG4827 LP01562 54C6-54C6 ID:107F5
- + peptidase \* |pdb|1AYE| Human Procarboxypeptidase A2(aa) \* 4e-45 YHT2\_YEAST HYPOTHETICAL 49.8 KD PROTEIN IN ACT3-YCK1 INTERGENIC REGION PRECURSOR \* 0.0000000006\* [CARBOXYPEPT\_ZN\_1 // CARBOXYPEPT\_ZN\_2 //] CG3097 CG3097 LP01667 5B6-5B6 ID:107G1
- + transmembrane\_receptor \* 2e-08 /match=(desc: \* 6e-55 predicted using Genefinder \* No definition line found \* predicted using CG14205 Genefinder CG14205 LP01839 18D7-18D7 ID:107G10
- + cell\_adhesion \* DMSCA\_3 sca \* 4e-15 scabrous protein precursor fruit fly (Drosophila melanogaster) \* 2e-05 coded for by C. CG6788 elegans cDNA yk9a2.5; coded for by C. e [fibrinogen C] CG6788 LP01858 16E2-16E2 ID:107G11
- + Lcp1 structural\_protein \* 9e-53 CLP1\_DROME LARVAL CUTICLE PROTEIN I PRECURSOR cuticle prot \* 1e-35 larval cuticle CG11650 protein 1, LCP1=Lcp1 gene product {Y allele} miranda \* 4e-53 [CUTICLE // insect cuticle] CG11650 LP01670 44C1-44C1 ID:107G2
- + enzyme \* STERYL-SULFATASE PRECURSOR (STEROID SULFATASE) (STERYL-SULFATE SULFOHYDROLASE) (ARYLSULFATASE C) (ASC)(aa) \* 5e-14 weakly similar to arylsulfatase B [Sulfatase // SULFATASE\_2] CG5584 LP01735 75A2-CG5584 75A2 ID:107G6

- + Lcp65Ag1structural\_protein \* Lcp65Ag1 \* 3e-44 cuticle protein LCP65Ag1 cuticle \* 1e-30 cuticle homolog \* CU15\_MANSE CG10530 CUTICLE PROTEIN CP14.6 PRECURSOR (MSCP14.6) cut [CUTICLE // insect cuticle] CG10530 LP01749 65A-65A ID:107G7
- + ligand\_binding\_or\_carrier \* 2e-08 galactose specific C-type lectin \* 3e-10 lectin lambda \* 7e-13 mannose receptor, C type CG9134 MACROPH \* 3e-08 C-type lectin-like protein [lectin\_c // C\_TYPE\_LECTIN\_1 // C\_TYPE\_L] CG9134 LP02252 61F4-61F4 ID:108A3
- CG18179+ unknown \* CG18179 LP02275 67B-67B ID:108A4
- CG13627 + unknown \* CG13627 LP02282 96A20-96A20 ID:108A5
- CG18596+ unknown \* CG18596 LP02352 96D4-96D4 ID:108A7
- + P5cr enzyme \* 6e-29 PROC\_YEAST PYRROLINE-5-CARBOXYLATE REDUCTASE (P5CR) (P5C REDUCTASE) \* 1e-157 CG6009 pyrroline 5-carboxylate reductase \* 3e-52 similar to pyrroline-5- [P5CR] CG6009 LP02537 91E4-91E4 ID:108B2
- CG1733 + unknown \* 2e-06 inserted at base 3' end of P element Inverse PCR \* \* CG1733 LP02557 12A1-12A2 dup:3/5 ID:108B3
- CG10200+ unknown \* CG10200 LP02570 51C5-51C5 ID:108B4
- + actin\_binding \* kelch protein; ring canal component involved in cytoplasmic bridges; 77% Similarity to \* 2e-93 kelch protein, CG17754 long form fruit fly (Drosophila mela [BTB // Kelch] CG17754 LP02641 8D6-8D6 dup:2/2 ID:108B7
- + endopeptidase serine proteinase (EC 3.4.21.-) 2 precursor fruit fly CHYMOTRYPSIN,TRYPSIN\_CATAL, TRYPSIN\_SER,] CG10475 CG10475 ID:108C1
- + nucleic\_acid\_binding \* 2e-06 Zinc finger-AT hook protein \* 2e-13 protein \* 5e-09 XFIN\_XENLA XFIN PROTEIN Xfin protein CG14438 (AA \* 2e-08 DMRNAD19A D19A [zf-C2H2 // ZINC FINGER C2H2 // ZINC FIN] CG14438 LP02916 6C12-6C12 dup:2/3 ID:108C7
- + unknown \* 1bm \* 1e-09 LBM\_DROME LATE BLOOMER PROTEIN late bloomer me \* 1e-11 lbm \* [TM4\_2] CG4471 LP02988 CG4471 42E2-42E2 ID:108C9
- + Ald enzyme \* plastidic aldolase(aa) \* ALDOLASE-RELATED PROTEIN(aa) \* DMALD\_10 Ald \* 1e-118 similar to Fructose-bisphosphate aldolase class-I; cDNA EST yk252e [glycolytic\_enzy // ALDOLASE\_CLASS\_I // ] CG6058 LP03138 97A6-97A6 dup:4/4 CG6058 ID:108D12
- CG7906 + unknown \* CG7906 LP03104 74E1-74E1 ID:108D7
- + serpin \* ZG-21p protein rat(aa) \* protease inhibitor (ovalbumin type)(aa) \* 9e-10 Similar to serine protease inhibitor \* 2e-17 CG1342 PAI2\_MOUSE PLASMINOGEN ACTIV [serpin] CG1342 LP03106 100A3-100A3 ID:108D8
- + protein\_kinase \* SERINE/THREONINE-PROTEIN KINASE UNC-51(aa) \* 5e-35 APG1\_YEAST AUTOPHAGY SERINE/THREONINE-PROTEIN KINASE APG1 \* 3e-24 p90 ribosomal S6 kinase \* [PROTEIN\_KINASE\_ST // TYRKINASE // CG10967 PROTE] CG10967 LP03175 69E1-69E2 dup:2/2 ID:108E3
- CG5904 + islet mitochondrial antigen CG5904 LP03542 ID:108F8
- + brat transcription\_factor \* transcription factor(aa) \* 1e-142 YOG2\_CAEEL HYPOTHETICAL ZINC FINGER PROTEIN ZK112.2 IN CHROMOSOME III \* 2e-38 protein \* 9e-38 RING finge[ZF\_BBOX // NHL // ZINC\_FINGER\_C2H2 // Z] CG10719 LP03649 37C4-37C CG10719 dup:3/5 ID:108G1
- CG6234 + motor\_protein \* 1e-06 TRFA \* \* CG6234 LP04345 87C6-87C6 dup:1/2 ID:108H11
- CG11169+ unknown \* CG11169 LP04006 60A1-60A2 ID:108H6
- + ligand\_binding\_or\_carrier \* ecdysone-induced membrane protein IMP-E3 fruit fly (Drosophila melanogaster)(aa) \* \* CG2723 CG2723 LP04438 84E6-84E6 ID:109A3

- + enzyme \* lipoamide dehydrogenase(aa) \* 1e-157 DLDH\_YEAST DIHYDROLIPOAMIDE DEHYDROGENASE PRECURSOR dihydr \* 7e-19 GSHR\_DROME GLUTATHIONE REDUCTASE (GR) (GRAS [HGRDTASE // FADPNR // pyr\_redox // PYRI] CG7430 CG7430 LP04889 75A4-75A4 ID:109B9
- + endopeptidase \* zgr;Try \* chimeric AFGP/trypsinogen-like serine protease precursor(aa) \* 1e-40 TRYA\_DROME TRYPSIN ALPHA PRECURSOR trypsin-like proteinase ( \* 4e-27 [trypsin // CHYMOTRYPSIN // G\_PROTEIN\_RE] CG10882 LP05220 23D1-CG10882 22D4 ID:109C11
- CG9021 + unknown \* Cr-PII allergen(aa) \* Cr-PII \* major allergen Per a \* CG9021 LP05310 26A5-26A5 ID:109C12
- + Neurotactin cell adhesion axon, ocellar nerve, ventral nerve cord CARBOXYLESTERASE\_B\_2, COesterase, ESTERA] CG9704 LP05519 ID:109D11
- CG13598+ sba unknown \* DMTF125\_2 Tf125 \* type I(aa) \* [MBD] CG13598 LP05532 95C9-95C11 ID:109D12
  - + Oscp enzyme \* DMOSCPPRE\_2 Oscp \* ATP synthase, H+ transporting, mitochondrial F1 complex, O subunit (oligomycin
- CG4307 sensitivity conferring protein)(aa) \* coded for b [ATPASEDELTA // OSCP] CG4307 90D1-90D1 dup:2/2 ID:109D2
- CG4818 + structural protein \* 1e-08 cuticular protein \* \* [insect cuticle] CG4818 LP05492 72F1-72F1 ID:109D9
  - + ppl enzyme \* predicted using Genefinder(aa) \* 5e-19 GCSH\_YEAST GLYCINE CLEAVAGE SYSTEM H PROTEIN
- CG7758 PRECURSOR F \* 3e-28 predicted using Genefinder \* 7e-32 glycine c [LIPOYL] CG7758 LP05579 78C8-78C8 dup:2/2 ID:109E4 + mas endopeptidase \* mas \* masquerade precursor fruit fly (Drosophila melanogaster) \* 5e-30 similar to peptidase family S1 (trypsin family) \* 4e-38 KAL\_MOUSE PLASMA KA [trypsin // CHYMOTRYPSIN // TRYPSIN\_HIS ] CG15002 LP06006 64A12-64A12 CG15002 ID:109F11
- + enzyme \* MEMBRANE-BOUND ALKALINE PHOSPHATASE PRECURSOR (M-ALP)(aa) \* DMALKPHOS\_2 Aph-4 \* 8e-26 repressible alkaline phosphatase (EC 3.1.3.1) \* 9e-78 alkaline [ALKPHPHTASE // alk\_phosphatase] CG5656 LP05865 78D5-78D5 CG5656 dup:2/2 ID:109F4
- CG9795 + unknown \* CG9795 LP05867 82A5-82A5 dup:2/2 ID:109F5
  - + unknown \* 6e-35 C09B9.3 gene product \* 5e-16 bestrophin homolog \* 1e-106 vitelliform macular dystrophy (Best disease,
- CG6264 bestrophin) \* 2e-48 RFP family member; t [Worm\_family\_8] CG6264 LP05915 85F13-85F14 dup:1/2 ID:109F6
- CG5770 + unknown \* CG5770 LP06072 55B-55B ID:109G1
- CG4449 + unknown \* CG4449 LP06117 97B1-94E9 ID:109G2
- CG6968 + unknown \* [NLS\_BP] CG6968 LP06178 78D-78D dup:1/3 ID:109G3
- CG14455+ CG14455 LP06288 ID:109G6
- + Ag5r unknown \* antigen 5-related protein(aa) \* Ag5r \* 1e-156 antigen 5-related \* 6e-33 antigen 5-related protein CG9538 CG9538 LP06338 12F5-12F5 ID:109G8
- + structural\_protein \* Abd-5=endocuticular protein migratoria=migratory locusts, abdomen, Peptide, \* Acp65Aa \* 2e-12 cuticle CG7160 protein ACP65A \* Abd-5=endocuticular protein g [CUTICLE // insect\_cuticle] CG7160 LP06660 78F1-78F1 ID:109H3
- CG3421 + CG3421 ID:113B12
- CG13323+ unknown CG13323 ID:113D4
- + unknown \* coded for by C. elegans cDNA yk61f1.3; coded for by C. elegans cDNA yk109h8.3; coded for by C. elegans cDNA CG8576 CEESX42F; coded for by C. elegans cDNA CG8576 SD02002 65F5-65F5 ID:113D5

- + motor\_protein \* contains similarity to ATP synthase subunit B(aa) \* Segregation of mitotic chromosomes (SMC1, yeast human homolog of(aa) \* 1e-124 SMC1\_YEAST CHROMOS [DA\_BOX // NLS\_BP // ATP\_GTP\_A] CG6057 SD02122 95D5-95D5 dup:2/2 CG6057 ID:113E11
- + aft unknown \* 2e-05 YBR1\_YEAST HYPOTHETICAL 34.7 KD PROTEIN IN ORC2-TIP1 INTERGENIC REGION \* Adrift \* 2e-22 CG5032 contains similarity to Methanococcus jannaschii cell d CG5032 SD02116 54E10-54E10 dup:3/3 ID:113E9
- + ligand\_binding\_or\_carrier \* ALPHA-TOCOPHEROL TRANSFER PROTEIN (ALPHA-TTP)(aa) \* retinaldehyde-binding protein, CRALBP Peptide, \* retinaldehyde-binding protein 1(aa) \* tocophero [CRETINALDHBP // CRAL\_TRIO] CG10026 SD02235 37E3-37E3 CG10026 ID:113G7
- CG9653 + brk transcription\_factor \* putative transcription factor(aa) \* \* CG9653 SD02279 7A4-7A4 dup:3/6 ID:113H5 + signal\_transduction \* beta2-chimerin, cerebellar human(aa) \* beta2-chimerin, cerebellar rat (fragment)(aa) \* 2e-07 BEM2\_YEAST GTPASE ACTIVATING PROTEIN BEM2/IP[RHO\_GAP // RhoGAP // DAG\_PE\_BINDING\_DOM] CG3208 SD02309
- CG3208 5A8-5A8 dup:1/3 ID:113H7
- CG7434 + RpL22 ribosomal\_protein Ribosomal protein L22 60S subunit ANTIFREEZEI CG7434 SD02522 ID:114C6 + Cyp12a4 cytochrome\_P450 \* CYTOCHROME P450 CYP12A2(aa) \* 3e-17 lanosterol 14-demethylase cytochrome P450 \* 5e-24 cytochrome P450 cytochrome P4 \* 4e-20 YS45\_CAEEL PUTATIVE CYTO [EP450II // p450 // P450 // MITP450 // C] CG6042 CG6042 SD03227 91F3-91F4 ID:115D8
- + signal\_transduction \* 5e-15 VPS9 protein yeast (Saccharomyces cerevisiae) (Z46 \* 7e-28 cDNA EST yk210c11.3 comes from CG9139 this gene; cDNA EST yk210c11.5 co \* 3e-09 Ras inhi CG9139 SD03358 61F5-62B4 dup:3/4 ID:115F1
- CG9344 + RNA binding CG9344 ID:116F8
- + DNA\_binding \* DNA (cytosine-5-)-methyltransferase 1(aa) \* protein(aa) \* HYPOTHETICAL 56.5 KD PROTEIN IN CAJ1-HOM3 CG11033 INTERGENIC REGION(aa) \* DNA (cytosine-5-)-methyl CG11033 SD04170 85C6-85C7 dup:1/5 ID:116H3
- CG8593 + unknown CG8593 dup:2/2 ID:116H4
- CG5953 + It has been mapped cytologically to 36A2--3 PRO\_RICH CG5953 SD04335 dup:1/3 ID:117B7
- CG2818 + unknown PHO85 protein PIPLC\_X\_DOMAIN CG2818 SD04355 dup:1/2 ID:117B8
- CG14971+ unknown Homo sapiens CGI-15 protein CG14971 SD04505 ID:117D9
- CG18061 + CG18061 SD04793 ID:117H2
- + Mcm6 DNA\_replication\_factor Minichromosome maintenance 6, chromatin binding involved in pre-replicative complex formation CG4039 MCM, MCM 1, MCM 2 CG4039 SD04977 dup:3/3 ID:118B11
  - + cytoskeletal\_structural\_protein homolog of human KIAA1323 protein, similar to ankyrin proteins ANK\_REP,
- CG5841 ANK\_REP\_REGION, ZF\_RING, ZF\_ZZ,] CG5841 SD05267 dup:3/3 ID:118E5
- + BcDNA:GH13356 enzyme beta galactosyltransferase MITOCH\_CARRIER, XYLOSE\_ISOMERASE\_2 CG8536 SD05469 dup:1/2 CG8536 ID:118G11
- + transporter \* Ydr205wp(aa) \* 5e-09 Zn/Cd resistance gene \* 1e-06 cDNA EST yk447c2.5 comes from this gene; cDNA EST co CG6672 \* 1e-06 zinc transporter ZnT-1 mouse ZnT-1 [KININOGEN] CG6672 86D7-86D7 dup:1/2 ID:118G3
- + transporter \* 1e-14 YNM5\_YEAST HYPOTHETICAL 73.8 KD PROTEIN IN SPC98-TOM70 INTERGENIC REGION \* 1e-61 CG13907/match=(desc:; /ma \* 6e-43 K05B2.5 gene product \* 3e-26 MOT1\_ CG13907 SD05443 61E1-61E1 dup:1/3 ID:118G6

- + kis motor\_protein \* BLASTX 1.2E-06 Plasmodium falciparum GGM tandem repeat protein mRNA, partial cds.(dna) \* kismet(aa) \*
- CG3696 1e-07 contains similarity to chromo (chromatin [NLS\_BP // ATP\_GTP\_A] CG3696 SD05649 21B4-21B4 dup:4/8 ID:119B7
- CG12016+ enzyme \* [ATP\_GTP\_A] CG12016 SD05789 63C5-63C5 dup:1/3 ID:119D9
- CG11860 + BG:DS07851.11 unknown \* CG11860 35C4-35C4 dup:2/2 ID:119H7
- + emb transporter \* CRM1\_YEAST CHROMOSOME REGION MAINTENANCE PROTEIN CRM1 \* strong similarity to CRM1 chromosome maintenance protein from y \* exportin (CRM1, yeast, ho [LIPOYL // IBN\_NT] CG13387 GH01059 29C1-29C1 dup:1/2 CG13387 ID:30A3
- + Aph-4 enzyme \* alkaline phosphatase(aa) \* 3e-28 repressible alkaline phosphatase (EC 3.1.3.1) \* 4e-95 PPBE\_MOUSE ALKALINE PHOSPHATASE, EMBRYONIC PRECURSOR (EAP) e [ALKALINE\_PHOSPHATASE // ALKPHPHTASE // ] CG1462 CG1462 GH01338 100B-100B dup:1/2 ID:30C5
- + protein\_phosphatase \* 3e-41 LAR\_DROME PROTEIN-TYROSINE PHOSPHATASE DLAR PRECURSOR (PROTEIN-TYROSINE-PHOSPHAT \* 5e-40 similar to protein-tyrosine phosphatase with [Y\_phosphatase // TYR\_PHOSPHATASE\_PTP //] CG4355 CG4355 GH01353 22A1-22A1 dup:1/3 ID:30C7
- + enzyme \* PROBABLE SUCCINYL-COA:3-KETOACID-COENZYME A TRANSFERASE PRECURSOR (3-OXOACID COATRANSFERASE)(aa) \* 3-oxoacid CoA transferase precursor; succinyl-Co [COA\_TRANSF\_1 // COA\_TRANSF\_2 // CoA\_tra] CG1140 CG1140 GH01464 62B11-62B11 ID:30D6
- + BG:DS09217.1 unknown \* 1e-14 predicted using Genefinder; cDNA EST comes from this g \* \* CG13240 GH01660 35D6-35D6 CG13240 dup:2/2 ID:30E12
- + endopeptidase \* 3e-64 cysteine proteinase cysteine \* 2e-56 predicted using Genefinder; similar to cathepsin-like protease; cD \* CG4847 1e-59 cathepsin K \* 1e-59 cathepsi[THIOL PROTEASE CYS // PAPAIN // Peptida] CG4847 GH01592 54C9-54C9 dup:3/4 ID:30E3
- + unknown \* 5e-09 SHP1\_YEAST SHP1 PROTEIN hypothetical protein YBL058w ye \* 1e-34 p47 \* 2e-33 p47 XY40 \* undulin CG11139 human (fragment) undulin CG11139 GH01724 43C4-43C5 dup:3/3 ID:30F6
- CG6210 + unknown \* CG6210 GH01813 68A7-68A7 ID:30G1
- + endopeptidase \* endothelin converting enzyme-2 bovine (fragment)(aa) \* endothelin converting enzyme-like 1(aa) \* 7e-30
- CG14528 similar to Zinc-binding metalloprotease; cD [NEPRILYSIN // PRENYLATION // ZINC\_PROTE] CG14528 GH01940 98F-98F ID:30G10 + I(2)efl chaperone \* similar to the small heat shock protein (HSP20) family(aa) \* DMHS09\_2 Hsp23 \* DMHSP27G\_3 Hsp27 \* HYPOTHETICAL 12.3 KD PROTEIN C14B9.1 IN CHROMOSOME [HSP20 // ACRYSTALLIN] CG4533 GH01960 59F4-59F4 CG4533 ID:30G12
- endopeptidase \* DMC9D2 \* 8e-57 serine protease SER4 precursor \* 6e-12 predicted using Genefinder; similar to transmembrane receptor (r \* 2e-19 serine protease (BSP) [trypsin // CHYMOTRYPSIN // TRYPSIN\_SER ] CG8329 GH01822 67B-CG8329 67B ID:30G2
- + structural\_protein \* /match=(desc:; /match=(desc:(aa) \* 2e-21 /match=(desc:; /ma \* 3e-16 CU1A\_TENMO LARVAL CUTICLE
- CG4791 PROTEIN A1A (TM-A1A) (TM-LCP A1A) \* 6e-19 DMEDG84A\_3 E [CUTICLE // insect\_cuticle] CG4791 GH02089 31A1-31A1 ID:31A2 + BcDNA:GH02431 \* 2e-48 hypothetical protein YLR348c yeast (Saccharomyces cerevisiae) (U \* 1e-87 Oxoglutarate/malate carrier
- CG8790 protein Caenorhabditis elegans \* 6e-3 [mito\_carr // MITOCARRIER] CG8790 87E8-87E8 dup:1/2 ID:31C11
  - + Rh3 G\_protein\_linked\_receptor \* OPSIN RH3 (INNER R7 PHOTORECEPTOR CELLS OPSIN)(aa) \* DMRH3A\_3 Rh3 \*
- CG10888 OPS3\_DROME OPSIN RH3 (INNER R7 PHOTORECEPTOR CELLS OPSIN) \* 5e-2[GPCRRHODOPSN // OPSIN //

- G PROTEIN RECE] CG10888 GH02505 92C5-92C5 dup:2/2 ID:31C6
- + Argk \* Argk \* ARGININE KINASE (AK)(aa) \* 1e-131 KAG1\_CAEEL PROBABLE ARGININE KINASE F46H5.3 (AK) similar t \* 7e-76 KCRM\_MOUSE CREATINE KINASE, M CHAIN (M-C [GUANIDO\_KINASE // ATP-gua\_Ptrans] CG5173 68E1-68E1 dup:1/3 CG5173 ID:31C7
- + Reg-2 \* RHYTHMICALLY EXPRESSED GENE PROTEIN (DREG-2)(aa) \* Reg-2 \* 4e-16 YM14\_YEAST HYPOTHETICAL 35.3 KD PROTEIN IN POM152-REC114 INTERGENIC REGION \* 1e-157 [Hydrolase // HADHALOGNASE] CG3200 61C-61C dup:4/4 CG3200 ID:31E8
- + RNA\_binding \* probable splicing factor Ceprp21 Caenorhabditis elegans(aa) \* pre-mRNA splicing factor SF3a (120 kDa CG16941 subunit), similar to S. cerevisiae PRP21(aa) | ISURP // ubiquitin // UBIQUITIN // UBIQUI CG16941 GH03554 92C1-92C1 ID:32A12
- + structural\_protein \* 2e-05 CUP7\_DROME PUPAL CUTICLE PROTEIN EDG-78 PRECURSOR ecdyson \* 8e-06 CU26\_ARADI ADULT-SPECIFIC RIGID CUTICULAR PROTEIN 12.6 (ACP 12.6) \* 2e-07 DM [CUTICLE // insect\_cuticle] CG12045 GH03728 100B-CG12045 100B ID:32B12
- CG4784 + structural\_protein \* 2e-05 DMEDG84A\_3 Edg84A \* \* [CUTICLE // insect\_cuticle] CG4784 GH03623 72F1-72F1 ID:32B4
- CG7738 + CG7738 dup:2/2 ID:32C2
- CG4184 + BcDNA:GH03922 unknown \* CG4184 GH03922 21C3-21C dup:1/3 ID:32C9
- CG10658 + Os9 unknown \* Os9 \* \* CG10658 GH03980 38B1-38B1 ID:32D2
- + unknown \* 7e-06 pdb|1BIH|A Chain A, Crystal Structure Of The Insect Immune Protein Hemolin: A New Domain \*
- CG5597 HEMO\_HYACE HEMOLIN PRECURSOR (P4 PROTEIN) (HEMOCYT [ig] CG5597 GH04238 60A8-60A8 dup:2/2 ID:32E10
- + serpin \* serine protease inhibitor(aa) \* OVALBUMIN (PLAKALBUMIN) (ALLERGEN GAL D 2) (GAL D II)(aa) \* LEUKOCYTE CG9456 ELASTASE INHIBITOR (LEI) (LEUCOCYTE NEUTRAL P [serpin] CG9456 GH04125 42C8-42C8 dup:2/2 ID:32E4
- + enzyme \* PROBABLE SERYL-TRNA SYNTHETASE (SERINE--TRNA LIGASE) (SERRS)(aa) \* SERYL-TRNA SYNTHETASE (SERINE--TRNA LIGASE) (SERRS)(aa) \* seryl-tRNA synthetase(a [tRNA-synt\_2b // TRNASYNTHSER] CG17259 GH04194 23C4-CG1725923C5 dup:2/2 ID:32E7
- CG4468 + unknown \* CG4468 GH04205 92B9-92B9 dup:2/2 ID:32E8
- CG6186 + CG6186 dup:2/2 ID:32G1
- + Appl unknown \* DMS1C4\_1 Appl \* 2e-25 beta-amyloid homolog apl-1 Caenorhabditis elegans beta- \* 4e-21 Alzheimer's disease amyloid beta/A4 protein homolog precurso [A4\_EXTRA // A4\_INTRA // AMYLOIDA4 // NL] CG7727 GH04413 1B7-1B8 dup:1/2 CG7727 ID:32G7
- + enzyme \* aminomethyltransferase (glycine cleavage system protein T)(aa) \* 2e-68 glycine cleavage T protein \* 7e-91 partial CG6415 CDS, \* 1e-97 GCST\_HUMAN AMINOMETHY CG6415 GH04419 32A2-32A2 dup:1/2 ID:32G8
- + n-syb transporter \* 2e-21 synaptobrevin isoform B fruit fly (Drosophila melanogaster) (L142 \* 2e-21 SNB-1; synaptobrevin SNB-1; sy \* 6e-24 SYB2\_MOUSE SYNAPTOBREVI[SYNAPTOBREVN // SYNAPTOBREVIN // synapt] CG17248 GH04664 62A10-62A10 CG17248 dup:2/2 ID:32H12
- + Motor-protein motor\_protein \* 1e-152 motor protein \* 2e-40 coded for by C. elegans cDNA yk119d2.3; coded for by C. elegans CG6455 cDNA yk86f8.3; c \* 6e-50 motor protein \* 1e-154 DMMOTPR [WD\_REPEATS] CG6455 GH04666 93F14-93F14 ID:33A1 CG10233+ signal transduction \* 9e-12 hypothetical protein \* unknown \* phosphatidylinositol-4-phosphate 5-kinase isolog \* CG10233

- GH04877 83A1-83A1 ID:33B12
- + BcDNA:GH04978 protein\_kinase \* 2e-39 YAK1\_YEAST PROTEIN KINASE YAK1 protein kinase YAK1 (EC 2. \* 3e-43 serin/threonin-kinase \* 1e-126 similar to serine/threonine kinase; cDNA EST[PROTEIN\_KINASE\_ST // PROTEIN\_KINASE\_DOM]
- CG7028 CG7028 GH04978 61A6-61A6 ID:33D1
- CG3364 + unknown \* CG3364 GH05668 42D5-42D6 ID:33G9
- + BcDNA:GH05741 enzyme \* agr;-Est10 \* 8e-48 alpha esterase \* 6e-46 ACE1\_CAEEL ACETYLCHOLINESTERASE PRECURSOR (ACHE) acetyl \* 3e-54 ACES\_MOUSE ACETYLCHOLINESTERASE PRECURSOR [CARBOXYLESTERASE\_B\_1 // ESTERASE // CG4757 COe] CG4757 GH05741 86D4-86D5 ID:33H7
  - + transporter \* solute carrier family (organic anion transporter), member 7(aa) \* BLASTX 4.2E-24 Rattus organic cation
- CG9317 transporter OCT1A mRNA, complete cds.(dna) \* [sugar\_tr] CG9317 GH05908 38E3-38E3 dup:1/2 ID:34A5
- CG15900+ unknown \* CG15900 GH05918 41E4-41E4 ID:34A6
- + unknown \* SEC14 (S. cerevisiae)-like(aa) \* HYPOTHETICAL 84.0 KD PROTEIN T23G5.2 IN CHROMOSOME III(aa) \* 4e-21 CG9528 pdb|1AUA| Phosphatidylinositol Transfer Protein [CRAL\_TRIO] CG9528 GH05975 26D3-26D4 ID:34B2
- + endopeptidase \* human factor XII(aa) \* 7e-31 masquerade precursor fruit fly (Drosophila melanogaster) \* 2e-05 similar to Trypsin \* 5e-25 MCT6\_MOUSE MAST CELL PRO [trypsin // CHYMOTRYPSIN // TRYPSIN\_CATA] CG6639 GH06092 36C2-36C2 CG6639 ID:34C3
- + enzyme \* 2e-69 similar to 3-HYDROXYISOBUTYRATE DEHYDROGENASE PRECURSOR (EC 1.1.1. \* 2e-77 D3HI\_RAT 3-HYDROXYISOBUTYRATE DEHYDROGENASE PRECURSOR (HIBADH) \* mm [6PGDHDRGNASE] CG15093 GH06781 55F1-55F1 CG15093 ID:34G10
- CG12279+ chaperone HEAT SHOCK PROTEIN 67B2 RHODANESE, RHODANESE\_2 CG12279 dup:2/2 ID:34H6
- + unknown \* 2e-22 YJJ7\_YEAST HYPOTHETICAL 24.5 KD PROTEIN IN SAP185-BCK1 INTERGENIC REGION \* 4e-40 No CG6746 definition line found \* 2e-68 inserted at base Both 5' and CG6746 GH07085 33B9-33B9 ID:35A11
- CG8547 + DNA binding \* [PRENYLATION] CG8547 50F-50F dup:1/3 ID:35A2
- CG3672 + structural protein \* 7e-10 cuticular protein \* \* CG3672 67B2-67B2 dup:1/2 ID:35A3
- CG9921 + unknown \* 6e-05 HSPC010 \* 1e-05 putative protein \* CG9921 GH07174 14B15-14B15 ID:35B4 + BcDNA:GH07643 endopeptidase \* unknown(aa) \* 1e-59 similar to Zinc-binding metalloprotease; cDNA EST come \* 1e-132 NEP\_MOUSE NEPRILYSIN (NEUTRAL ENDOPEPTIDASE) (NEP) (ENKE[NEPRILYSIN // ZINC\_PROTEASE // Peptidas] CG9761 GH07643 82D6-82D7 dup:2/2 ID:35E5
- CG13480 + unknown \* CG13480 GH07663 70E4-70E4 dup;2/2 ID:35E7
- + cell\_adhesion \* DMSLIT\_2 sli \* DMNOTCH3\_2 N \* 2e-05 NOTC\_DROME NEUROGENIC LOCUS NOTCH PROTEIN PRECURSOR growth \* 7e-07 GLP1\_CAEEL GLP-1 PROTEIN PRECURSOR glp1 prote [EGF\_2] CG9572 GH07746 19C1-19C1 CG9572 ID:35F1
- + blw enzyme \* DMASSUBA blw \* F1F0-ATPase alpha subunit precursor \* mitochondrial ATP synthase alpha subunit precursor mel \* similar to ATP synthase alpha and beta [ATP-synt\_A-c // ATP-synt\_ab // ATPASE\_A] CG3612 GH08132 59A3-59A3 dup:1/2 CG3612 ID:35H12
- CG12091+ unknown \* similar to Protein phosphatase 2C (2 domains); cDNA EST yk279g8.5 comes from this gene(aa) \* HYPOTHETICAL

- 41.2 KD PROTEIN IN ERG7-NMD2 INTERGENIC R CG12091 GH07996 62A6-62A6 ID:35H5
- CG12152+ BcDNA:GH10333 unknown \* 2e-91 hypothetical protein \* \* [ALDOKETO\_REDUCTASE\_3] CG12152 GH10333 7B8-7B8 ID:37G11
  - + enzyme \* NADH-UBIQUINONE DEHYDROGENASE KD SUBUNIT PRECURSOR(aa) \* NADH-UBIQUINONE OXIDOREDUCTASE KD SUBUNIT PRECURSOR(aa) \* NADH-UBIQUINONE OXIDOREDUCTASE KD [COMPLEX1 24K //
- CG5703 complex1\_24kD // NLS\_BP] CG5703 16B10-16B10 dup:1/3 ID:37G5
  - + BcDNA:GH08860 \* 9e-86 cif1 \* 1e-37 predicted using Genefinder; similar to trehalose phosphate synthas \* 4e-86 TPS1 KLULA
- CG4104 ALPHA, ALPHA-TREHALOSE-PHOSPHATE SYNTHASE (U [TrehaloseP\_syn] CG4104 24F1-24F1 dup:1/3 ID:37G7
- + electron\_transfer \* NADH-UBIQUINONE OXIDOREDUCTASE KD SÜBÜNIT PRECURSOR (COMPLEX I-39KD) (CI-39KD)(aa) \* 9e-70 NUEM\_HUMAN NADH-UBIQUINONE OXIDOREDUCTASE KD SUBUNIT PREC CG6020 GH10437 77C3-77C3 CG6020 ID:37H12
- + unknown \* /match=(desc:; /match=(desc:; /match=(desc:; /ma \* 1e-05 predicted using Genefinder \* No definition CG10562 line found CG10562 GH10454 96C8-96C8 ID:38A2
- + structural\_protein \* U4/U6-associated RNA splicing factor(aa) \* 9e-24 hypothetical protein YDR473c yeast (Saccharomyces CG7757 cerevisiae) (U \* 1e-101 cDNA EST comes from thi [NLS\_BP] CG7757 GH10477 76D7-ID:38A4
- + enzyme \* 405aa long hypothetical succinyl-CoA synthetase beta chain(aa) \* PROBABLE SUCCINYL-COA LIGASE (GDP-
- CG11963 FORMING), BETA-CHAIN PRECURSOR (SUCCINYL-COA SYNT [ligase-CoA] CG11963 GH10480 85C1-85C2 ID:38A5 + unknown \* 1e-45 YABC\_ECOLI HYPOTHETICAL 34.9 KD PROTEIN IN FRUR-FTSL INTERGENIC REGION (ORFB) >g \* 1E-
- CG14683170\* hypothetical protein \* hypothetical protein CG14683 GH10770 86C2-86C2 ID:38C10
- CG9133 + unknown \* CG9133 GH10732 61F4-61F4 dup:1/3 ID:38C6
- + unknown \* No definition line found(aa) \* putative protein(aa) \* 5e-71 putative protein \* hypothetical protein CG6910 GH10741 CG6910 68F7-68F7 dup:1/2 ID:38C7
- + signal\_transduction \* glucosyltransferase; Die2p(aa) \* 1e-16 DIE2\_YEAST DIE2 PROTEIN DIE2 protein yeast (Saccharom \* CG7624 6e-23 Similarity to Yeast DIE2 protein elega \* 4e-4 [SH3] CG7624 GH10931 68A6-68A7 ID:38D12
- + endopeptidase \* 5e-32 Similarity to human placental protein \* 2e-42 glucocorticoid-sensitive T cell-specific protein mouse \* CG2145 5e-41 placental protein (serine prote CG2145 GH10845 10A1-10A1 dup:2/2 ID:38D4
- + enzyme \* DEOXYRIBONUCLEASE II PRECURSOR (DNASE II) (ACID DNASE) (LYSOSOMAL DNASE II)(aa) \* 2e-48
- CG7780 YKU5\_CAEEL HYPOTHETICAL 41.5 KD PROTEIN C07B5.5 IN CHROMOSOM CG7780 GH10876 90D-90D ID:38D8
- + BcDNA:GH11322 cell\_adhesion \* Pxn \* 6e-20 roundabout \* 2e-15 hemicentin precursor \* 1e-10 rig-1 protein [ig // fn3] CG16857 CG16857 GH11322 24E4-24E4 dup:2/5 ID:38G12
- + unknown \* unknown(aa) \* 4e-12 putative Bop-like zinc finger protein \* 1e-19 DMC103B4 [IPNS\_1 // CYTOCHROME\_C] CG8503 CG8503 GH11294 50E8-50E8 ID:38G9
- CG3624 + cell\_adhesion \* [ig] CG3624 GH11432 58D7-58D7 dup:2/2 ID:38H12
- + Rpn5 endopeptidase \* proteasome (prosome, macropain) 26S subunit, non-ATPase, 12(aa) \* 5e-42 hypothetical protein
- CG1100 YDL147w yeast (Saccharomyces cerevisiae) \* 2e-81 No d [PCI\_DOMAIN // PCI // NLS\_BP] CG1100 GH11341 83C-83C ID:38H3 + NaCP60E ion\_channel \* DMSODCHA\_6 para \* DMCA1\_2 Ca- agr;1D \* sodium channel protein fruit fly (Drosophila melanogaster) (fragments) \* 4e-76 similar to dihydropryridine- [NACHANNEL // ion\_trans // CATION\_CHANNE] CG9071 GH11402 60E4-60E5 CG9071 dup:2/2 ID:38H6

- + RNA\_binding \* pre-mRNA splicing factor(aa) \* contains similarity to G-beta repeats(aa) \* 1e-76 Cdc40p \* 3e-15
  T2D4\_DROME TRANSCRIPTION INITIATION FACTOR TFIID KD [GPROTEINBRPT // WD40\_REGION // WD\_REPEA] CG6015
  CG6015 GH11406 94A1-94A1 ID:38H8
- CG12907+ unknown \* 1E-145\* \* [PRO\_RICH // NLS\_BP] CG12907 GH11521 47A-47A ID:39A8
- + enzyme \* contains similarity to CDP-alcohol phosphotransferases(aa) \* aminoalcoholphosphotransferase(aa) \* 4e-24 sn-1,2-
- CG7149 diacylglycerol cholinephosphotransf [CDP\_ALCOHOL\_P\_TRANSF // CDP\_ALCOHOL\_P\_T] CG7149 GH11618 28C8-28C9 ID:39B5
  - + enzyme \* FLAVONOL 3-SULFOTRANSFERASE (F3-ST)(aa) \* steroid sulfotransferase 3(aa) \* sulfotransferase family 2B,
- CG5428 member 1(aa) \* sulfotransferase, estrogen-pre [Sulfotransfer] CG5428 GH11818 59F4-59F4 ID:39C6
- + transporter \* 2e-50 Na(+)-dependent inorganic phosphate cotransporter mela \* 7e-54 YLD2\_CAEEL HYPOTHETICAL 52.7 KD
- CG15095 PROTEIN C38C10.2 IN CHROMOSOME III \* 2e-45 NPT1 [sugar\_tr] CG15095 GH11849 55F1-55F1 ID:39C9
  - + Pfk enzyme \* DMPFK\_5 Pfk \* DMPFK\_5 Pfk \* 1e-151 phosphofructokinase, beta subunit \* K6PF\_DROME 6-PHOSPHOFRUCTOKINASE (PHOSPHOFRUCTOKINASE) (PHOSPHOHEXOKINASE) [PFK // PHFRCTKINASE] CG4001
- CG4001 GH12192 46E4-46E4 dup:4/5 ID:39E11
- + enzyme \* 1e-30 YHX6\_YEAST HYPOTHETICAL 42.4 KD PROTEIN IN ENO2-STB5 INTERGENIC REGION \* 9e-53 similar to flavin-containing monooxygenases \* 2e-29 FMO3\_MOUSE [ADXRDTASE // FADPNR // FMO-like // PNDR] CG3174 GH12207 42B3-
- CG3174 42B3 dup:2/2 ID:39E12
  - + ligand\_binding\_or\_carrier \* ALPHA-TOCOPHEROL TRANSFER PROTEIN (ALPHA-TTP)(aa) \* 4e-08 YKJ1\_YEAST 36.1 KD PROTEIN IN BUD2-MIF2 INTERGENIC REGION \* 5e-10 62D9.a \* 2e-25 cellular [CRETINALDHBP // CRAL\_TRIO] CG5973
- CG5973 GH12376 27F7-28A1 ID:39F12
- + enzyme \* Ynr027wp(aa) \* 8e-44 YEC9\_YEAST HYPOTHETICAL 35.6 KD PROTEIN IN MCM3-VMA3 INTERGENIC REGION
- CG4446 \* 2e-57 PDXK\_CAEEL PUTATIVE PYRIDOXINE KINASE (PYRIDOXAL [pfkB] CG4446 GH12231 67B1-67B1 ID:39F3 + CBP calcium\_binding \* CBP \* sarcoplasmic calcium-binding protein(aa) \* 1e-161 sarcoplasmic calcium-binding protein \* 4e-23 SCP\_PERVT SARCOPLASMIC CALCIUM-BINDING PROTEIN [EF\_HAND // NLS\_BP // efhand // EF\_HAND\_] CG1435 GH12350 CG1435 7A4-7A4 ID:39F9
- + enzyme \* D-ASPARTATE OXIDASE (DASOX) (DDO)(aa) \* D-AMINO ACID OXIDASE (DAMOX) (DAO) (DAO)(aa) \* similar to D-amino acid oxidase(aa) \* D-aspartate oxidase i [DAO // FMOXYGENASE // PROTEIN\_KINASE\_AT] CG11236 GH12548 28E7-CG1123628E7 ID:39G11
- + signal\_transduction \* 1e-115 disc growth factor \* 2e-14 CHIT\_CAEEL PUTATIVE ENDOCHITINASE coded for by C. elegans \*
- CG5154 7e-26 BRP39 protein mouse BRP39 protein m \* 5e-30 Ch [Glyco\_hydro\_18] CG5154 GH12410 55C9-55C9 ID:39G4 + Idgf2 enzyme \* IDGF2 \* 5e-09 probable membrane protein YDR371w yeast (Saccharomyces cerevisiae) \* disc growth factor \*
- CG4475 3e-24 CHIT CAEEL PUTATIVE ENDOCHITINASE co [2SGLOBULIN // Glyco hydro 18] CG4475 GH12581 36A1-36A1 ID:39H4
- + chaperone \* embryonal lethal (2)13-1 (el(2)13-1) fruit fly (Drosophila melanogaster)(aa) \* 4e-16 HS27 DROME HEAT
- CG4461 SHOCK PROTEIN heat shock protein f \* 9e-10 [HSP20] CG4461 GH12586 67B1-67B1 ID:39H6
- + cell\_adhesion \* DMSCA\_3 sca \* 2e-21 sca protein \* 1e-09 coded for by C. elegans cDNA yk9a2.5; coded for by C. elegans
- CG1889 cDNA yk9a2.3; simi \* 5e-30 ficolin-A [fibrinogen\_C] CG1889 GH12692 9A3-9A3 ID:40A10
- + Rh4 G\_protein\_linked\_receptor \* opsin(aa) \* Rh4 \* OPS4\_DROME OPSIN RH4 (INNER R7 PHOTORECEPTOR CELLS
- CG9668 OPSIN) \* 2e-15 YXX5\_CAEEL PUTATIVE NEUROPEPTIDE Y RECEPTOR (NPY-R) simila [GPCRRHODOPSN // OPSIN //

- OPSINRH3RH4] CG9668 GH12673 73C5-73D1 ID:40A5
- + unknown \* ABC transporter, ATP-binding protein, putative(aa) \* 2e-18 conserved protein \* daunorubicin resistance membrane
- CG6166 protein (drrB) \* CG6166 GH12746 97A9-97A9 dup:1/2 ID:40B5
- CG6306 + unknown \* CG6306 GH12946 17B1-17B1 ID:40C7
  - + transporter \* VACUOLAR ATP SYNTHASE SUBUNIT D (V-ATPASE D SUBUNIT) (V-ATPASE KD ACCESSORY PROTEIN)(aa) \* 1e-58 VATD\_YEAST VACUOLAR ATP SYNTHASE SUBUNIT D (V-ATPAS CG8186 GH12958 52A10-52A10
- CG8186 ID:40C8
- + unknown \* insect intestinal mucin IIM22(aa) \* putative cell surface glycoprotein; Sed1p(aa) \* 71(aa) \* GLYCOPROTEIN X
- CG7874 PRECURSOR(aa) CG7874 GH13361 18B6-18B6 dup:2/2 ID:40E12
  - + Mipp2 protein\_phosphatase \* Mipp2 \* multiple inositol polyphosphate phosphatase 2; MIPP2 \* 1e-27 multiple inositol polyphosphate phosphatase \* 1e-25 multiple inositol polyphosp [CYTOCHROME\_B\_QO] CG4317 GH13296 5D2-5D2 dup:4/4
- CG4317 ID:40E4
- + Pglym78 enzyme \* phosphoglyceromutase fruit fly (Drosophila melanogaster)(aa) \* DMPGLY\_4 Pglym78 \* 7e-48 pdb|4PGM|A
- CG1721 Chain A, Saccharomyces Cerevisiae Phosphoglycer [PGAM // PG\_MUTASE] CG1721 GH13304 99A1-99A1 dup:2/2 ID:40E5 + enzyme \* LYSOSOMAL ACID PHOSPHATASE PRECURSOR (LAP)(aa) \* acid phosphatase 2, lysosomal(aa) \* 8e-60 acid phosphatase (EC 3.1.3.2) Acph-1 precursor, lysosomal [HIS\_ACID\_PHOSPHAT\_1 // acid\_phosphat] CG9451 GH13318 76B6-76B6
- CG9451 dup:2/2 ID:40E7
  - + transporter \* 5e-75 Na(+)-dependent inorganic phosphate cotransporter mela \* 7e-67 YLD2\_CAEEL HYPOTHETICAL 52.7 KD
- CG3036 PROTEIN C38C10.2 IN CHROMOSOME III \* 4e-46 NPT1 [NLS\_BP] CG3036 GH13494 26D1-26D1 dup:3/4 ID:40F10
  - + enzyme \* MALATE OXIDOREDUCTASE, CHLOROPLAST PRECURSOR (MALIC ENZYME) (ME) (NADP-DEPENDENT MALIC ENZYME) (NADP-ME)(aa) \* malic enzyme(aa) \* 4e-86 MAOX\_YEAST [MALOXRDTASE // malic // ATP\_GTP\_A] CG5889
- CG5889 GH13437 97E11-97F ID:40F4
- + Fpps enzyme \* 8e-80 FPPS\_YEAST FARNESYL PYROPHOSPHATE SYNTHETASE (FPP SYNTHETASE) (FPS) (FARNESYL DI \* farnesyl pyrophosphate synthase melanogas \* 2e-37 predicted [polyprenyl\_synt // POLYPRENYL\_SYNTHET\_1] CG12389
- CG12389 GH13450 47E5-47E6 dup:2/2 ID:40F5
  + OstStt3 enzyme \* STT3\_YEAST OLIGOSACCHARYL TRANSFERASE STT3 SUBUNIT STT3 \* STT3\_CAEEL
  OLIGOSACCHARYL TRANSFERASE STT3 SUBUNIT HOMOLOG \* STT3 MOUSE OLIGOSACCHARYL [ATPASE ALPHA BETA]
- CG7748 CG7748 GH13452 98F6-98F6 ID:40F6
- + Pgi enzyme \* glucosephosphate isomerase(aa) \* DMPGIAAAA\_11 \* glucose-6-phosphate isomerase(aa) \* G6PI\_YEAST GLUCOSE-6-PHOSPHATE ISOMERASE (GPI) (PHOSPHOGLUCOSE [PGI // P\_GLUCOSE\_ISOMERASE\_1 // P\_GLUCO] CG8251 GH13575 44F9-44F9 ID:40G4
- + RNA\_binding \* 3e-16 RNA-binding protein cabeza fruit fly (Drosophila melanogaster) ( \* 4e-14 EWS\_MOUSE RNA-BINDING CG14718 PROTEIN EWS RNA-binding protein E \* 2e-15 TLS [RBD // zf-RanBP // rrm // ZF\_RANBP] CG14718 GH13594 86F1-86F1 ID:40G5 + bun transcription\_factor \* shortsighted class 2(aa) \* DMSHSA\_5 bun \* shortsighted class \* 2e-07 protein [TSC22] CG5461 CG5461 GH13775 33E-33E6 ID:40H5
- CG2176 + unknown \* CG2176 GH14263 99E2-99E2 ID:41C11
- CG3662 + structural protein \* E25 protein(aa) \* integral membrane protein 2(aa) \* 2e-07 putative integral membrane pro \* 1e-08

- dJ696H22.1 (mouse E25 like protein) [NLS\_BP] CG3662 GH14111 21D2-21D2 ID:41C3
- + Pdh enzyme \* Pdh \* 1e-08 FOX2\_YEAST PEROXISOMAL HYDRATASE-DEHYDROGENASE-EPIMERASE (HDE) (MULTIFUNCTIONAL \* 1e-146 pigment cell dehydrogenase reductase \* 2e-10 pr [GDHRDH // UBA\_NAD // adh\_short // ADH\_S] CG4899 GH14170 72F1-72F1 ID:41C6
- + unknown \* BLASTX 9.9E-08 Human mRNA for hU1-70K snRNP protein (RNP8).(dna) \* \* [NLS\_BP] CG12239 GH14380 5B8-CG122395B8 ID:41D11
- + unknown \* YIr193cp(aa) \* bromodeoxyuridine-sensitive transcript protein chicken(aa) \* hypothetical protein(aa) \* CGI-107 CG9131 protein(aa) CG9131 GH14384 26B2-26B3 ID:41D12
- + enzyme \* Depressed growth-rate protein; Deg1p(aa) \* PROBABLE PSEUDOURIDYLATE SYNTHASE E02H1.3 (PSEUDOURIDINE SYNTHASE)(aa) \* 6e-54 PUS3\_YEAST PSEUDOURIDYLATE [PseudoU\_synth\_1] CG3045 GH14326 58C5-CG3045 58C5 dup:2/2 ID:41D5
- + defense/immunity\_protein \* UNKNOWN(aa) \* 3e-07 peptidoglycan recognition protein precursor \* TNF superfamily, member CG5523 (LTB)-like (peptidoglycan recognition \* hypothetical prote CG5523 GH14535 66A5-66A5 dup:2/2 ID:41E10
- + enzyme \* cytochrome c oxidase subunit IV(aa) \* CYTOCHROME C OXIDASE POLYPEPTIDE IV PRECURSOR(aa) \* 2e-22 CG10664 COX4\_MOUSE CYTOCHROME C OXIDASE POLYPEPTIDE IV PRECU CG10664 GH14536 38A8-38A8 dup:2/2 ID:41E11
- CG18525+ unknown \* CG18525 GH14439 88E7-88E7 dup:2/2 ID:41E4
- CG1552 + unknown \* CG1552 GH14443 10A-10A dup:2/2 ID:41E5
- + unknown \* HNK-1 sulfotransferase(aa) \* 1e-20 HNK-1 sulfotransferase HN \* \* [NLS\_BP] CG4826 GH14503 36A11-36A11 CG4826 dup:3/3 ID:41E9
- CG10675+ motor\_protein \* 2e-17 /match=(desc:; /ma \* \* CG10675 GH14673 96C9-96C9 ID:41F11
- + structural\_protein \* 3e-05 MAGE tumor antigen D1 \* 5e-13 FMRA\_ANTEL ANTHO-RFAMIDE NEUROPEPTIDE PRECURSOR CG11395 Antho-RFa \* LWamide neuropeptide precursor protein \* 33K hydroxy CG11395 GH14572 54A2-54A2 dup:2/2 ID:41F2
- + signal\_transduction \* 6e-05 particle 102K chain human \* 4e-05 katanin p80 subunit \* 7e-05 Lis1 \* coatomer protein complex, CG9144 subunit beta (beta prime) [WD40 REGION // F-box // FBOX DOMAIN // ] CG9144 GH14636 26B3-26B3 ID:41F7
- + enzyme \* NADH-ubiquinone oxidoreductase B22 subunit homolog(aa) \* 6e-22 similar to NADH-ubiquinone oxidoreductase B22 CG9306 (B. taurus, SP:NI2M \* 1e-26 NI2M\_BOVIN CG9306 GH14794 34B6-34B6 ID:41G11
- + enzyme \* 1e-103 IDH2\_YEAST ISOCITRATE DEHYDROGENASE MITOCHONDRIAL SUBUNIT PRECURSOR (IS \* 1e-139 IDHA\_CAEEL PROBABLE ISOCITRATE DEHYDROGENASE (NAD), MITOCHON [IDH\_IMDH // isodh] CG12233 GH14729 18D3-CG12233 18D3 ID:41G6
- + unknown \* 3e-06 LBM\_DROME LATE BLOOMER PROTEIN late bloomer me \* 4e-08 lbm \* \* [transmembrane4 // TMFOUR // CG12840 TM4\_2] CG12840 GH14950 42E2-42E2 ID:41H10
- + enzyme \* Yjr105wp(aa) \* Similarity to Human adenosine kinase cDNA EST comes from this gene; cD [PFKB\_KINASES\_2 // ADENOKINASE // pfkB] CG11255 GH14845 69F2-69F2 ID:41H4 + Cyp6g1 cytochrome\_P450 \* CYP6-like microsomal cytochrome P450 \* 1e-33 YRV5\_CAEEL PUTATIVE CYTOCHROME P450 T10B9.5 IN CHROMOSOME II \* 1e-59 cytochrome P450 3A11 mouse c[EP450II // p450 // P450 // MITP450 // C] CG8453 GH14851 CG8453 48F1-48F1 dup:2/4 ID:41H5
- CG9008 + BG:DS00797.2 unknown \* 6e-38 YMY9\_YEAST HYPOTHETICAL 34.0 KD PROTEIN IN CTF13-YPK2 INTERGENIC REGION \* 3e-

- 35 putative protein \* AAPC PENCL POSSIBLE APOSPORY-ASSOCIATED PR CG9008 GH14910 34D1-34D1 ID:41H8
- metabolism \* similar to glutamate synthase; cDNA EST comes from this gene; cDNA EST comes from this gene; cDNA EST comes from this gene; cDNA EST comes from thi [ADXRDTASE // FADPNR // PNDRDTASEII] CG9674 GH14941 73C-73C2 dup:4/5
   CG9674 ID:41H9
- + enzyme \* stromal cell-derived factor 2(aa) \* 2e-09 PMT6\_YEAST DOLICHYL-PHOSPHATE-MANNOSE--PROTEIN CG11999 MANNOSYLTRANSFERASE \* 7e-07 /match=(desc:; /ma \* 3e-47 cont CG11999 GH15022 83A4-83A4 ID:42A4
  - + enzyme \* Adh-Finnegan(aa) \* fat body protein 2(aa) \* development-specific 25K protein flesh fly (Sarcophaga peregrina)(aa) \*
- CG4842 7e-09 YM71\_YEAST HYPOTHETICAL [adh\_short // ADH\_SHORT // adh\_short\_C] CG4842 GH15220 72F1-72F1 ID:42B10 + enzyme \* coded for by C, elegans cDNA vk16b2.3; coded for by C, elegans cDNA vk16b2.5; Similar to amidase.(aa) \*
- PUTATIVE AMIDASE AMIA2(aa) \* 3364, putative [CRYSTALLIN\_BETAGAMMA // Amidase] CG7910 GH15201 84E10-84E10 CG7910 ID:42B9
- + ligand\_binding\_or\_carrier \* DMC30B8 \* ALPHA-TOCOPHEROL TRANSFER PROTEIN (ALPHA-TTP)(aa) \* alpha tocopherol CG2663 transfer protein(aa) \* 62D9.a(aa) [CRETINALDHBP // CRAL TRIO] CG2663 GH15295 83A6-83A6 ID:42C7
- CG11993 + Mst85C unknown \* CG11993 LD21554 85C6-85C6 ID:43A6
- + motor\_protein \* 1e-34 3-hydroxyisobutyrate dehydrogenase \* 1e-10 inserted at base Both 5' and 3' ends of P element Inverse CG4747 PCR \* YKWC\_BACSU HYPOTHETICAL 30.7 KD PR CG4747 LD22344 30F5-30F5 ID:43B10
- CG3510 + CycB cell\_cycle\_regulator G2/MITOTIC-SPECIFIC CYCLIN B CYCLINS, cyclin CG3510 dup:2/4 ID:43B3
- + noi RNA\_binding \* noi \* noisette(aa) \* 1e-30 PR09\_YEAST PRE-MRNA SPLICING FACTOR PRP9 PRP9 protein ye \* noisette
- CG2925 [ZF\_MATRIN] CG2925 LD22754 83B4-83B4 ID:43C11
- + Cyt-c2 electron\_transfer \* DMCYCDC4\_4 Cyt-c2 \* 9e-36 pdb|2YCC| Cytochrome c (Isozyme 1) (Oxidized) (Mutant With Cys Replaced By Thr) (C102T \* 1e-59 CYC2\_DROME CYTOCHROME C-2 c [CYTCHRMECIAB // cytochrome\_c] CG17903 LD23501 CG17903 36A7-36A7 ID:43F5
  - + mus210 DNA\_repair\_protein \* DNA-REPAIR PROTEIN COMPLEMENTING XP-C CELLS HOMOLOG (XERODERMA PIGMENTOSUM GROUP C COMPLEMENTING PROTEIN HOMOLOG) (XPCDM)(aa) \* DMXPCCF\_2 Xpcc \* 4e- [MYB\_1 //
- CG8153 NLS\_BP] CG8153 51F4-51F5 dup:1/3 ID:43G11
- CG2994 + CG2994 LD26546 dup:4/4 ID:44E6
- + protein\_phosphatase \* 4e-56 P2C2\_YEAST PROTEIN PHOSPHATASE 2C HOMOLOG (PP2C-2) hyp \* 9e-20 unknown \* 1e-108 P2C2\_CAEEL PROBABLE PROTEIN PHOSPHATASE 2C T23F11.1 (PP2C) \* 4 [PP2C // PP2C\_1 // PP2C\_2] CG17746 64A3-CG1774664A3 dup:4/4 ID:44F12
- + transcription\_factor \* 9e-06 Z33A\_HUMAN ZINC FINGER PROTEIN 33A (ZINC FINGER PROTEIN KOX31) (HA09 \* 8e-05 zinc finger protein XFDL \* 3e-05 DMDROSOPH\_4 wdn \* zinc finger;[zf-C2H2 // ZINC\_FINGER\_C2H2 // ZINC\_FIN] CG11906 CG11906 LD27134 56C7-56C8 ID:44G9
- CG6564 + unknown CG6564 LD27203 ID:44H2
- + enb signal\_transduction \* map\_position:56B5 \* clot.396(dna)\* 1e-124 Abl substrate ena (enabled) fruit fly (Drosophila melanogaster) \* 6e-39 neural variant mena+ protein [WH1 // PRO\_RICH // RANBP1\_WASP] CG15112 LD27343 56B5-56B5 dup:3/5 CG15112 ID:45A1

- + unknown \* Ser/Arg-related nuclear matrix protein (plenty of prolines 101-like)(aa) \* 7e-33 cDNA EST comes from this gene; CG11274 cDNA EST co \* 2e-43 plenty-of-prolin [RIBOSOMAL\_S12 // NLS\_BP] CG11274 LD28048 69F2-69F2 dup:1/2 ID:45C10 CG4609 + fax failed axon connections protein CG4609 LD28084 dup:2/2 ID:45D1
- + enzyme \* nudix (nucleoside diphosphate linked moiety X)-type motif 3(aa) \* 7e-40 diphosphoinositol polyphosphate CG6391 phosphohydrolase (A \* [MUTT // mutT] CG6391 LD28241 67F4-67F4 dup:3/4 ID:45E3
- + Gdh enzyme \* 7e-28 glutamate dehydrogenase dehyd \* glutamate dehydrogenase (NAD(P)+) \* 1e-180 Similarity to Drosphila Glutamate dehydrogenase cDNA \* DHE3\_MOUSE [GLFV\_DEHYDROGENASE // GLFDHDRGNASE // G] CG5320 95C-95C13 CG5320 dup:2/2 ID:45F11
- CG14657+ unknown CG14657 LD28447 ID:45F4
- CG2890 + CG2890 dup:2/3 ID:45H3
- CG16944+ sesB transporter ADP/ATP translocase ADPTRNSLCASE, MITOCARRIER CG16944 ID:46A4
  - + ND42 enzyme \* NADH-ubiquinone oxidoreductase kDa subunit(aa) \* DMNUBO42K ND42 \* NADH-UBIQUINONE
- CG6343 OXIDOREDUCTASE KD SUBUNIT PRECURSOR (COMPLEX I-42KD) (CI-42KD)(aa [ATP\_GTP\_A] CG6343 93F14-94A1 ID:46B3
- + unknown \* 1e-07 ADRP\_MOUSE ADIPOSE DIFFERENTIATION-RELATED PROTEIN (ADRP) \* \* [ATP\_GTP\_A] CG9057 CG9057 13A11-13A11 dup:2/2 ID:46D11
- CG10928+ CG10928 LD29844 dup:3/3 ID:46E11
- + motor\_protein \* 4e-28 KIP1\_YEAST KINESIN-LIKE PROTEIN KIP1 kinesin-related prot \* 6e-33 PAV-KLP protein \* 4e-33 Similar to kinesin-like protein; coded for by C. ele [kinesin // KINESIN\_MOTOR\_DOMAIN2 // KIN] CG12298 LD30305 54E7-54E7 CG12298 ID:46H7
- + chaperone It encodes a chaperone involved in proteolysis and peptidolysis which is a component of the mitochondrion CG4164 DNAJPROTEIN, DNAJ 1, DNAJ 2, DnaJ CG4164 LD30318 ID:46H8
- + transcription\_factor \* general transcription factor IIH, polypeptide (52kD subunit)(aa) \* TFIIH subunit Tfb2; has homology to CG7764 CAK and human IIH subunits; Tfb2p(aa) \* 9e-71 CG7764 LD30622 71D3-71D4 ID:47B11
- + unknown \* 4e-09 predicted using Genefinder; similar to emp24/gp25L/p24 family; cDN \* 1e-08 putative T1/ST2 receptor CG10733 binding protein precursor \* 2e-07 putative [EMP24\_GP25L] CG10733 LD30746 65A3-65A3 ID:47C7
- + Cbp80 RNA\_binding \* cap-binding protein human(aa) \* nuclear cap binding protein, 80kD(aa) \* 4e-17 GCR3\_YEAST GCR3 CG7035 PROTEIN (STO1 PROTEIN) (SUT1 PROTEIN) \* by match; 1- [NLS\_BP] CG7035 LD31211 4C7-4C7 ID:47F4
- CG1530 + unknown CG1530 ID:47H2
- + transcription\_factor \* DMMLP84B\_2 Mlp84B \* ajuba; jub(aa) \* BLASTX 7.1E-07 Human LIM protein (LPP) mRNA, partial CG11063 cds.(dna) \* 8e-06 LRG1 [LIM DOMAIN 1 // LIM // LIM DOMAIN 2 // ] CG11063 LD31670 12B9-12B9 ID:47H4
- + enzyme \* PROCOLLAGEN-LYSINE,2-OXOGLUTARATE 5-DIOXYGENASE PRECURSOR (LYSYL HYDROXYLASE) (LH)(aa) \* PROCOLLAGEN-LYSINE,2-OXOGLUTARATE 5-DIOXYGENASE PRECURSOR ( [GLYC\_TRANS // HTH\_LYSR\_FAMILY] CG6199 LD31687 68A8-68A8 dup:3/4 ID:47H7
- + RnrS enzyme \* 1e-113 RIR2\_YEAST RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE SMALL CHAIN (RIBONUCLEOTIDE R \* 1e-107 RIR2\_DROME PROBABLE RIBONUCLEOSIDE-DIPHOSPHATE REDUCTA [RIBORED\_SMALL] CG8975 LD32770 48D8-CG8975 48D8 ID:48D10

- + enzyme \* SUMO-1 activating enzyme subunit 1(aa) \* Similar to ubiquitin activating proteins; Aos1p(aa) \* 6e-30 RH31\_YEAST CG12276 DNA DAMAGE TOLERANCE PROTEIN RHC31 ( [UBA NAD // ThiF family] CG12276 LD33652 87B15-87B15 ID:49A3
  - + Caf1 signal\_transduction \* Caf1 \* Rack1 \* CHROMATIN ASSEMBLY FACTOR P55 SUBUNIT (CAF-1 P55 SUBUNIT) (DCAF-1)(aa) \* 2e-73 HAT2\_YEAST HISTONE ACETYLTRANSFERASE TYPE B SUBUNIT hy [GPROTEINBRPT // WD40\_REGION //
- CG4236 WD REPEA] CG4236 LD33761 88E8-88E8 ID:49A9
- + enzyme \* 2e-60 COXX\_YEAST CYTOCHROME C OXIDASE ASSEMBLY PROTEIN COX10 PRECURSOR \* 5e-94 heme A: farnesyltransferase \* 4e-46 putative heme A:farnesyltransfera [COX10\_ctaB\_cyoE // COX10\_CTAB\_CYOE] CG5037 LD33876 31D9-CG5037 31D9 dup:3/3 ID:49B6
- + I(3)03670 unknown \* DMC507\_2 anon-I \* 5e-93 head-elevated expression in 0.9 kb \* 8e-92 inserted at base Unknown 5' end of P CG1715 element Plasmid rescue \* CG1715 LD33960 100B-100B ID:49B8
- + cell\_cycle\_regulator \* DMUNKNOWN anon-DM192 \* unknown product(aa) \* 4e-05 CC27\_YEAST CELL DIVISION CONTROL CG4050 PROTEIN cell division \* 1e-139 unknown product [TPR REGION // TPR REPEAT // TPR] CG4050 57C2-57C2 dup:3/4 ID:49D5
- + TfIIS transcription factor \* 2e-20 DST1 DNA strand transferase alpha \* 1e-124 TFS2 DROME TRANSCRIPTION ELONGATION
- CG3710 FACTOR S-II (RNA POLYMERASE II ELONGATION FA \* 3e-42 TFS2\_CAEEL [TFIIS] CG3710 LD34766 35C1-35C1 ID:49F1
- + unknown \* 3e-80 YKL6\_CAEEL HYPOTHETICAL 103.8 KD PROTEIN C03C10.6 IN CHROMOSOME III \* E03A3.6 \* E03A3.7 CG5237 \* [AA\_TRNA\_LIGASE\_II\_2 // PRO\_RICH // CYTO] CG5237 GH01039 91F10-91F11 ID:54A4
- + enzyme\_inhibitor \* 7B2(aa) \* cDNA EST comes from this gene(aa) \* 2e-22 cDNA EST comes from this gene \* CG1168 CG1168 GH01053 83A5-83A5 ID:54A6
- + enzyme \* 2e-18 pdb|1GKY| Guanylate Kinase (E.C.2.7.4.8) Complex With Guanosine Monophosphate \* 2e-70 Camguk \* 2e-67 LIN2\_CAEEL LIN-2 PROTEIN LIN-2A \* 5e-97 D [Guanylate\_kin // GUANYLATE\_KINASE\_1 // ] CG13219 GH01140 47D7-47D7 CG13219 ID:54B3
- CG17926+ unknown \* [NLS BP] CG17926 GH01154 66D6-66D7 ID:54B7
- CG10671+ unknown \* cDNA EST yk481g5.5 comes from this gene(aa) \* \* CG10671 GH01192 64C12-64C12 ID:54B9
- + syt transporter \* similar to synaptotagmin(aa) \* SYNAPTOTAGMIN (P65)(aa) \* 2e-09 probable membrane protein YOR086c yeast (Saccharomyces cerevisiae) \* 3e-49 SYT1\_CAE [C2\_DOMAIN\_1 // SYNAPTOTAGMN // C2 // C2] CG3139 GH01240 23B1-CG3139 23B2 dup:1/4 ID:54C2
- + neurotransmitter\_transporter \* 3e-06 cocaine-sensitive serotonin transporter \* 8e-11 NTGL\_MOUSE SODIUM- AND CHLORIDE-DEPENDENT GLYCINE TRANSPORTER (GLYT-1) \* 1e-10 NTGL\_HUMAN SODI [NA\_NEUROTRAN\_SYMP\_3] CG13796 CG13796 GH01326 28C2-28C2 dup:1/3 ID:54C9
- + structural\_protein \* Peritrophin-A \* cDNA EST comes from this gene; cDNA EST yk369a9.5 comes from this gene; cDNA EST CG11142yk438c12.3 comes from this gene; cDNA EST yk438c12 CG11142 GH01453 26A-26A ID:54D11
- CG5532 + unknown \* CG5532 GH01442 59F7-59F7 ID:54D9
- CG1545 + unknown \* CG1545 GH01560 10A-10A dup:2/2 ID:54E10
- + endopeptidase \* DMSER2\_7 Ser99Db \* 7e-70 serine proteinase (EC 3.4.21.-) precursor fruit fly (Drosophila melanogast \* 1e-CG6483 11 similar to peptidase family S1 (tryp[trypsin // CHYMOTRYPSIN // TRYPSIN\_SER ] CG6483 GH01508 65A2-65A2 dup:2/2 ID:54E6 CG10680+ \* CG10680 38B1-38B1 dup:2/3 ID:54F11

- + cell\_adhesion \* 1e-60 UFD4\_YEAST UBIQUITIN FUSION DEGRADATION PROTEIN (UB FUSION PROTEIN 4) \* 1e-169 coded for by C. elegans cDNA yk34b1.5; coded for by C. elegan[ANK\_REP // ank // HECT\_DOMAIN // ANK\_RE] CG5604 GH01804 CG5604 31D1-31D3 dup:1/2 ID:54H2
- + enzyme \* ODO1\_YEAST 2-OXOGLUTARATE DEHYDROGENASE E1 COMPONENT PRECURSOR (ALPHA-KETOGLUTAR CG11661 \* Similar to 2-oxoglutarate dehydrogenase; coded for by C. elegans [E1\_dehydrog] CG11661 73D6-73D7 dup:3/7 ID:54H3 + HLHmbetatranscription\_factor \* 1e-108 helix-loop-helix protein m-beta fruit fly (Drosophila melanogaster) \* 2e-10 lin-22 \* 3e-20 HES1\_MOUSE TRANSCRIPTION FACTOR HES-1 (HAIRY[HLH // HELIX\_LOOP\_HELIX // HELIX\_LOOP\_H] CG14548 GH01842 CG14548 96F10-96F10 ID:54H5
- CG8401 + unknown \* CG8401 GH01937 52E3-52E4 ID:55A1
  - + cell\_adhesion \* orphan G protein-coupled receptor FEX(aa) \* BLASTX 7.5E-06 Santalum album proline rich protein mRNA,
- CG3413 complete cds.(dna) \* 9e-05 protein \* 5e-05 kek1 [LRR // LEURICHRPT // NLS\_BP // LRRCT] CG3413 GH02310 58D2-58D3 ID:55B8
- CG7506 + unknown \* 2e-07 cDNA EST comes from this gene; cDNA EST co \* \* CG7506 GH02466 66A7-66A7 ID:55C9
- CG1537 + unknown \* CG1537 GH02938 10A-10A dup:2/2 ID:55E12
- + actin\_binding \* filamin(aa) \* 1e-103 similar to endothelial actin-binding protein repeats; cDNA EST EMB \* 7e-11 actin binding CG11605 protein ABP-280 \* 3e-90 gamma filamin [Filamin // FILAMIN\_REPEAT] CG11605 GH03013 58F7-58F7 dup:1/3 ID:55F5
- CG9005 + cell\_adhesion \* 0.00000000000000000003\* \* CG9005 GH03037 48B1-48B2 dup:2/5 ID:55F7
- + Eip63F-1ligand\_binding\_or\_carrier \* Eip63F-1 \* 2e-74 E631\_DROME CALCIUM-BINDING PROTEIN E63-1 calcium-binding pr \* 3e-CG15855 17 similar to EF-hand calcium binding proteins; most similar to ca CG15855 GH03109 63F7-63F7 ID:55G4
- + DNA\_repair\_protein \* putative antisense basic fibroblast growth factor (aa) \* antisense basic fibroblast growth factor B(aa) \* 4e-
- CG8128 30 GFG\_RAT PROTEIN GFG antisense basic f [MUTT // mutT // MUTTDOMAIN] CG8128 GH03273 13E13-13E14 ID:55H3
- CG4275 + moira transcription\_factor chromatin modeling MYB\_3, NLS\_BP, myb\_DNA-binding CG4275 GH03275 ID:55H4
- CG5914 + unknown \* 1E-179\* \* CG5914 GH03315 5D2-5D2 ID:55H6
- CG4782 + unknown \* CG4782 GH03334 86D6-86D6 ID:55H7
- CG2767 + enzyme aldose reductase ALDOKETO\_REDUCTASE\_1, ALDOKETO\_REDUCTASE] CG2767 ID:56C2 + Adh storage\_protein \* DMADHA1\_9 Adh \* 3e-06 FOX2\_YEAST PEROXISOMAL HYDRATASE-DEHYDROGENASE-EPIMERASE (HDE) (MULTIFUNCTIONAL \* 1e-145 alcohol dehydrogenase (EC 1.1.1.1[ALCDHDRGNASE // GDHRDH // adh\_short CG3481 // ] CG3481 GH03875 35B3-35B3 dup:4/6 ID:56D5
- + Bc | larval\_serum\_protein \* pro-phenol oxidase A1 \* pro-phenol oxidase subunit 1; proPO-p1 \* DMORA\_2 Bc \* prophenoloxidase CG5779 | ITYROSINASE 2 // hemocyanin // HEMOCYANII CG5779 GH04080 55A1-55A1 dup:2/2 ID:56E11
- + unknown \* 1e-35 hypothetical protein YDR531w yeast (Saccharomyces cerevisiae) (U \* 3e-27 No definition line found \* 5e-42 CG5725 putative protein \* coded for by C. CG5725 GH04001 77B6-77B6 dup:3/3 ID:56E4
- + peptidase \* 5e-10 carboxypeptidase s \* 3e-90 Similarity to Human aminoacylase-1 (SW:ACY1\_HUMAN) \* 1e-109 aminoacylase AMINOACYLASE-1 (N-A \* 1e-103 ACY1\_PIG AMIN [ARGE\_DAPE\_CPG2\_1 // ARGE\_DAPE\_CPG2\_2] CG6465 CG6465 GH04054 86C2-86C2 dup:2/2 ID:56E8
- CG17977 + unknown \* CG17977 GH04104 44A3-44A3 ID:56F1
- CG3445 + transcription\_factor \* 7e-10 AZF1\_YEAST ASPARAGINE-RICH ZINC FINGER PROTEIN AZF1 fin \* 2e-37 transcription factor

- YY1 homolog \* 1e-14 contains similarity to C2H2-type z[zf-C2H2 // ZINC\_FINGER\_C2H2 // ZINC\_FIN] CG3445 67B4-67B4 dup:3/4 ID:56G10
- + ligand\_binding\_or\_carrier \* 3e-07 similar to agrin and follistatin; egf-like repeats \* 2e-08 FSA\_MOUSE FOLLISTATIN CG12955 PRECURSOR (FS) (ACTIVIN-BINDING PROTEIN) \* 9e-08 follistatin [kazal] CG12955 GH04473 51E9-51E9 ID:57A2
- + transporter \* 3e-23 YNK1\_YEAST HYPOTHETICAL 80.0 KD PROTEIN IN POL1-RAS2 INTERGENIC REGION \* 4e-58 cDNA EST comes from this gene; cDNA EST \* 7e-21 putative amino [AROMATIC\_AA\_PERMEASE\_2] CG8785 GH04538 49B7-49B7 CG8785 ID:57A5
- + enzyme \* putative nicotinate phosphoribosyltransferase(aa) \* 1e-169 putative nicotinate phosphoribosyltransferase \*
- CG3714 hypothetical protein \* similar to nicotin CG3714 25E1-25E1 dup:2/3 ID:57A8
- CG4962 + unknown \* CG4962 GH04593 72E2-72E2 ID:57B2
- CG7515 + CG7515 GH04814 ID:57C5
- CG4294 + motor\_protein \* [PPASE // PRO\_RICH // NLS\_BP] CG4294 GH04951 58F1-58F1 dup:3/4 ID:57D11
- CG9896 + unknown \* [NLS\_BP] CG9896 GH05301 59C1-59C1 ID:57G12
- CG11344+ unknown \* CG11344 GH05223 21E2-21E2 ID:57G3
- + Cyp6a8 cytochrome\_P450 \* DMCYP6A2A\_5 Cyp6a2 \* cytochrome p450 monooxygenase \* 3e-37 predicted using Genefinder; similar to cytochrome P450 \* 5e-49 cytochrome P450 3A11 mou [EP450II // p450 // P450 // MITP450 // C] CG10248 GH05558 51D2-CG1024851D2 ID:58A6
- CG11477 + unknown \* CG11477 GH05565 12E2-12E2 ID:58A7
- + Hrb87F RNA\_binding \* Rbm(aa) \* similar to RNA recognition motif. (aka RRM, RBD, or RNP domain); cDNA EST yk474h4.3 CG12749 comes from this gene; cDNA EST yk505c10.3 comes from [RNP\_1 // RBD // rrm] CG12749 GH05625 87F7-87F7 ID:58B2
- CG9689 + unknown \* CG9689 GH05731 9A2-9A2 ID:58B9
- + enzyme \* acid phosphatase (EC 3.1.3.2) Acph-1 precursor, lysosomal fruit fly (Drosophila melanogaster)(aa) \* acid CG6656 phosphatase-1(aa) \* PUTATIVE ACID PHOSPH [acid\_phosphat] CG6656 GH06011 93F-93F dup:3/3 ID:58E4
- CG12612+ CG12612 GH06062 dup:2/2 ID:58E6
- + enzyme \* lyase(aa) \* lyase(aa) \* lyase (EC 4.3.2.1)(aa) \* [DCRYSTALLIN // FUMRATELYASE // FUMARATE] CG9510 CG9510 GH06087 29F6-29F6 dup:2/2 ID:58E8
- + protein\_kinase \* MIc-k \* Lk6 \* DMRSK\_2 S6kII \* DMDAKT1\_2 Akt1 [PROTEIN\_KINASE\_ST // TYRKINASE // PROTE] CG11221 CG11221 GH06138 27A2-27A2 ID:58F2
- + unknown \* ring finger protein 13(aa) \* RING zinc finger protein(aa) \* 2e-09 GOLI\_DROME GOLIATH PROTEIN (G1 PROTEIN) regulatory protei \* 6e-24 similar to Zinc [GRAM\_POS\_ANCHORING // zf-C3HC4 // CYTOC] CG10277 GH06194 84A4-84A4 dup:2/2 CG10277 ID:58F6
- + signal\_transduction \* 1e-20 YMH2\_YEAST HYPOTHETICAL 171.1 KD PROTEIN IN YL16A-DAK1 INTERGENIC REGION \* 2e-07 SY65\_DROME SYNAPTOTAGMIN (P65) synaptotagmin fruit fly ( \* [C2 // C2\_DOMAIN\_2] CG6643 GH06342 96A-96A CG6643 dup:1/2 ID:58G6
- + \* 2e-19 /match=(desc:; /ma \* 2e-06 No definition line found \* C29F7.1 \* cDNA EST yk381e5.3 comes from this gene CG10550 CG10550 96C8-96C8 dup:1/4 ID:58G9

- CG4377 + unknown \* CG4377 GH06474 58A3-58A3 ID:58H6
- + DNA\_binding \* Ser/Arg-related nuclear matrix protein (plenty of prolines 101-like)(aa) \* elastic titin(aa) \* 1e-11 C. elegans CG3950 UNC-89 \* 8e-07 MAPB MOUSE MICROTUBU [NLS BP] CG3950 GH06555 6B1-6B3 ID:59A3
- + emp transmembrane\_receptor \* DMEMP\_3 emp \* epithelial membrane protein fruit fly (Drosophila melanogaster)(aa) \* 2e-40 CG2727 predicted using Genefinder; similar to CD36 family; cDNA [CD36] CG2727 GH06663 60E7-60E8 ID:59B5
- + Scp2 ligand\_binding\_or\_carrier \* 6e-95 calcium-binding protein Cex C \* 1e-15 YSO6\_CAEEL HYPOTHETICAL CALCIUM-BINDING PROTEIN F56D1.6 IN CHROMOSOME II \* 2e-33 calexcitin \* 7[EF\_HAND // EF\_HAND\_2 // ATP\_GTP\_A] CG14904 CG14904 GH06666 92A1-89D4 dup:2/4 ID:59B6
- + transmembrane\_receptor \* BLASTX 4.3E-09 Mus musculus putative myelin regulatory factor mRNA, partial cds.(dna) \* TPR-containing, SH2-binding phosphoprotein(aa) \*[TPR\_REGION // TPR\_REPEAT // TPR // NLS\_] CG2469 GH07228 62B4-62B4 dup:4/5 CG2469 ID:59D12
- CG18512+ CG18512 GH07187 ID:59D7
- + BG:DS00180.8 cell\_adhesion \* DMTENA\_3 Ten-a \* DMC901PRT C901 \* DMDELTA\_4 DI \* 3e-20 C901 protein [EGF\_2] CG16882 CG16882 GH07717 34E1-34E1 dup:3/4 ID:59H10
- CG8678 + CG8678 dup:1/2 ID:60A10
- + TM4SF unknown \* TM4SF \* 1e-156 belong to the membrane protein group of Transmembrane Super \* 9e-07 CD53\_MOUSE LEUKOCYTE SURFACE ANTIGEN CD53 (CELL SURFACE GLYCOPROT [TMFOUR // TM4\_2] CG11303 GH07902 60A7-60A7 CG11303 dup:2/3 ID:60B10
- + Rbp9 RNA\_binding \* 3e-14 PUB1\_YEAST NUCLEAR AND CYTOPLASMIC POLYADENYLATED RNA-BINDING PROTEIN PUB1 (ARS \* 1e-175 RNA-binding protein \* 5e-70 Similar to the human para [RNP\_1 // RBD // HUDSXLRNA // rrm] CG3151 CG3151 GH07919 23C1-23C2 dup:1/2 ID:60C1
- + unknown \* hypothetical protein(aa) \* DMRNAPER\_2 anon-3B1.2 \* 2e-08 0.9-kb RNA transcript \* 7e-10 DMRNAPER\_2 anon-CG7096 3B1.2 CG7096 GH08336 93B5-93B5 dup:3/3 ID:60E10
- + ligand\_binding\_or\_carrier \* microsomal triglyceride transfer protein large subunit precursor(aa) \* 1e-51 MTP\_MOUSE MICROSOMAL TRIGLYCERIDE TRANSFER PROTEIN, LARGE SUBUNIT PRECU [MYB\_1 // ATP\_GTP\_A] CG9342 GH08556 CG9342 38F4-38F4 dup:1/3 ID:60G5
- CG14830+ \* 1E-102\* \* CG14830 65E10-65E10 dup:2/3 ID:60H4
- + ligand\_binding\_or\_carrier \* DMC30B8 \* retinaldehyde-binding protein 1(aa) \* tocopherol (alpha) transfer protein (ataxia (Friedreich-like) with vitamin E deficiency)(aa) \* 62D[CRETINALDHBP // CRAL\_TRIO] CG10237 GH08711 37E3-37E3 dup:2/3 CG10237 ID:60H5
- + transporter \* Ser89E \* Glut1; \* 5e-38 YB91\_YEAST PROBABLE METABOLITE TRANSPORT PROTEIN YBR241C \* 4e-31 GTRL\_DROME GLUCOSE TRANSPORTER-LIKE PROTEIN glucose transp[HELIX\_LOOP\_HELIX // SUGRTRNSPORT // SUG] CG1208 CG1208 GH09052 83C4-83C4 dup:1/2 ID:61C10
- CG4302 + CG4302 CG11051 GH09393 ID:61F9
- + enzyme \* sphingomyelin phosphodiesterase 1, acid lysosomal (acid sphingomyelinase)(aa) \* SPHINGOMYELIN PHOSPHODIESTERASE PRECURSOR (ACID SPHINGOMYELINASE)(aa [PHOSPHO\_ESTER // SAP\_B] CG3376 GH09489 60C1-CG3376 60C2 dup:2/5 ID:61G4

- cell adhesion \* 6e-05 similar to the protein kinase domain of myosin light chain kinases \* 6e-05 myosin light chain kinase CG5699 isoform \* 5e-05 KMLS CHICK MYOSIN LIGHT C CG5699 GH09541 62C3-62C3 dup:2/3 ID:61G9
- unknown \* 2e-13 YJT6 YEAST HYPOTHETICAL 36.2 KD PROTEIN IN UBP12-CDC6 INTERGENIC REGION \* 8e-18
- CG9798 YLF4\_CAEEL HYPOTHETICAL 34.1 KD PROTEIN C40H1.4 IN CHROMOSOME CG9798 GH09808 82C1-82C2 dup:3/4 ID:61H12
- cytochrome\_P450 CG17875 GH09824 dup:1/3 ID:62A2 CG17875+
- CG1822 + CG1822 dup:2/2 ID:62B10
- ligand binding or carrier \* 1e-22 YBE9 YEAST HYPOTHETICAL 16.1 KD PROTEIN IN SEC17-QCR1 INTERGENIC CG15309 REGION \* 8e-21 putative zinc-binding protein melanogaste \* 1e-18 No definitio CG15309 GH10478 9B6-9B6 dup:2/2 ID:62E4 \* [PRENYLATION] CG10433 57F3-57F3 dup:4/5 ID:62F12 CG10433+
- ligand binding or carrier \* 2e-16 alpha tocopherol transfer protein \* 1e-15 TTPA RAT ALPHA-TOCOPHEROL TRANSFER CG13848 PROTEIN (ALPHA-TTP) al \* tocopherol (alpha) transfer protein (ata [CRAL TRIO] CG13848 GH10582 96E1-96E1 ID:62F2
- transporter \* 1e-21 putative organic cation transporter \* 1e-08 similar to C. elegans protein and to rat synaptic vesicle protein CG4462 (PIR:S3 \* 3e-14 organic cation t CG4462 GH10729 92B9-92B10 ID:62G4
- none GH10751 ID:62G7 none
- chaperone \* 6e-06 cargo selection protein TIP47 \* placental protein 17b1: PP17b1 \* adipose differentiation-related protein \* 2e-CG1037406 cargo selection protein TIP47 [NLS BP] CG10374 GH10767 95B8-95B9 ID:62G9
  - cell\_adhesion \* DMARTAN\_7 trn \* kek1 \* tartan protein(aa) \* 5e-16 CYAA\_YEAST ADENYLATE CYCLASE (ATP
- CG11280 PYROPHOSPHATE-LYASE) (ADENYLYL CYCLASE) [LRR // LEURICHRPT // LRRCT] CG11280 GH10871 69F5-69F5 ID:62H10 + ninaC motor protein \* DMNINAC 2 ninaC \* ligand binding or carrier calmodulin binding ) protein kinase protein serine/threonine
- CG5125 kinase) cell non-muscle myosin) map posit [myosin head // PROTEIN KINASE TYR // IQ] CG5125 GH10824 27F5-27F6 ID:62H5
- function unknown \* galactokinase 2(aa) \* 2e-45 GAL1 YEAST GALACTOKINASE galactokinase (EC 2.7.1.6) yea \* 5e-35 Similar to galactokinase \* 2e-65 galactose kinase [GHMP kinases // GALCTOKINASE // GHMP KI] CG5288 GH11113 66E6-66E6 CG5288 ID:63B10
- ion channel \* ATP-regulated potassium channel brain. Peptide Partial. \* G PROTEIN-ACTIVATED INWARD RECTIFIER POTASSIUM CHANNEL (GIRK3) (POTASSIUM CHANNEL, INWARDL [CHANNEL PORE K // IRK] CG4370 GH11459 97D1-97D1 CG4370 ID:63D11
- + Dynein heavy chain at 93AB motor protein DYNEIN BETA CHAIN, CILIARY ATP GTP A, MITOCH CARRIER, NLS BP, THIOLI CG3723 CG3723 GH11420 ID:63D9
- unknown \* cold inducible glycoprotein 30(aa) \* 5e-15 SUR4 \* 8e-53 YYS3 CAEEL HYPOTHETICAL 51.5 KD PROTEIN IN CG3971 CHROMOSOME IV (U \* 2e-49 membrane glycoprotein CI CG3971 GH11554 73B1-77B1 dup:2/2 ID:63E9
  - endopeptidase \* similar to the M13 or zinc metalloprotease family of peptidases(aa) \* endothelin converting enzyme 1(aa) \*
- CG9505 endothelin converting enzyme-2 bovine [ZINC\_PROTEASE // Peptidase\_M13] CG9505 GH11680 28D1-28D1 ID:63G3
- unknown \* 1e-06 ectodermal (ect) fruit fly (Drosophila melanogaster) (strain Oregon-R) \* \* [NLS BP] CG6611 GH11838 CG6611 67D2-67D2 ID:63H3
- enzyme \* DNA-DIRECTED RNA POLYMERASE II KD POLYPEPTIDE (RNA POLYMERASE II SUBUNIT 5)(aa) \* polymerase CG6572 (RNA) II (DNA directed) polypeptide G(aa) \* 7e-33 RPB7 [S1] CG6572 GH11867 88E8-88E8 ID:63H5
- CG1449 + zfh2 transcription factor \* ZINC-FINGER PROTEIN (ZINC-FINGER HOMEODOMAIN PROTEIN 2)(aa) \* DMZFH2 2 zfh2 \* 7e-40

- Contains similarity to Pfam domain: (zf-C2H2), Score=[HOMEOBOX\_1 // homeobox // ZF\_MATRIN // ] CG1449 GH11902 102C1-102C3 dup:2/2 ID:63H9
- + bnb unknown \* DMBNBR\_2 bnb \* 1e-148 BNB\_DROME BANGLES AND BEADS PROTEIN bangles and \* GAP-43-related CG7088 protein fruit fly (Drosophila melanogaster) \* bnb gene prod CG7088 GH12078 17D6-17D6 ID:64B8
- + unknown \* 1e-10 cDNA EST yk471b2.5 comes from this gene; cDNA EST yk471b2.3 come \* \* CG4742 GH12140 15A5-15A5 CG4742 ID:64C2
- + unknown \* 6e-05 transmembrane protein \* 2e-12 Similarity to C.elegans cuticulin (SW:CUT1\_CAEEL) \* 7e-07 DMDUSKY\_1 dy CG3541 \* similar to cuticlin CG3541 GH12163 60D7-60D8 dup:1/2 ID:64C4
- + emc transcription\_factor \* DNA-binding protein inhibitor Id-1H human(aa) \* EXTRA-MACROCHAETAE PROTEIN(aa) \* DMEMC\_3 emc \* 7e-78 extramacrochaetae protein fruit fly[HELIX\_LOOP\_HELIX // HELIX\_LOOP\_HELIX\_2] CG1007 GH12170 CG1007 61D1-61D2 dup:1/2 ID:64C5
- + unknown \* 8e-42 YMS5\_CAEEL HYPOTHETICAL 159.2 KD PROTEIN K03H1.5 IN CHROMOSOME III \* 8e-17 alpha tectorin \* CG15560 2e-16 tectorin alpha alpha-tectorin \* 1e-15 alpha CG15560 GH12365 100B8-100B8 ID:64D8
- + EG:100G10.1 unknown \* SH3 domain-binding protein SNP70(aa) \* by content; by match; LD Drosophila melanogaster...(aa) \* 8e-CG2685 06 WW domain binding protein \* [PRO\_RICH // NLS\_BP] CG2685 GH12462 3B5-3B5 dup:3/3 ID:64E6
- + signal\_transduction \* 5e-23 VP27\_YEAST VACUOLAR PROTEIN SORTING-ASSOCIATED PROTEIN VPS27 \* 3e-10 /match=(desc:; /ma \* 9e-65 coded for by C. elegans cDNA yk21d11.3; coded [FYVE\_DOMAIN // FYVE // HRS\_DOMAIN] CG2903 GH12653 23A6-23A7 ID:64F12
- + nucleic\_acid\_binding \* 2e-11 coded for by C. elegans cDNA yk98h8.3; coded for by C. elegans cDNA yk98h8.5 \* \* CG14682 CG14682 GH12580 86C2-86C2 ID:64F6
- + signal\_transduction \* Ras-binding protein SUR-8(aa) \* 4e-25 adenylate cyclase \* 9e-32 gene flightless-I protein fruit fly CG5407 (Drosophila melanogaster) ( \* 1e-152 Ras-bindi [LRR // LEURICHRPT] CG5407 GH12617 90A6-92E12 ID:64F8
- + enzyme \* diacylglycerol kinase(aa) \* 2e-30 diacylglycerol kinase (EC 2.7.1.107) fruit fly (Drosophila melanogaster) \* 1e-57 CG5875 alpha diacylglycerol kinase; a [DAG\_PE\_BINDING\_DOMAIN // RA // C1 // DA] CG5875 GH12677 95D1-97F1 dup:2/5 ID:64G5 CG10806+ transporter \* protein:Na+/H+ antiporter(aa) \* cdu2(aa) \* cdu2 cd \* CG10806 GH12682 27C-27C ID:64G6
- + enzyme \* NADH-UBIQUINONE OXIDOREDUCTASE KD SUBUNIT PRECURSOR (COMPLEX I-49KD) (CI-49KD)(aa) \* BLASTX 2.1E-17 Bovine mRNA fragment for kDa subunit of mitochon [COMPLEX1\_49K // complex1\_49Kd] CG1970 GH13128
   CG1970 102C5-102C5 dup:2/3 ID:65B10
- CG18065+ unknown \* CG18065 GH13245 57A8-57A8 ID:65C11
- + enzyme \* 2e-20 alpha-alpha-trehalase \* 1e-102 similar to family gylcosyl hydrolases; most similar to trehalase \* 1e-124 TREA\_HUMAN TREHALASE PRECURSOR (ALPHA [Trehalase // TREHALASE\_1 // GLHYDRLASE3] CG9364 GH13461 57B20-CG9364 57C dup:4/4 ID:65D10
- \* cdc2MsC(aa) \* cdc2MsC \* CG17108 32A-32A dup:4/4 ID:65E10
- + cytoskeletal\_structural\_protein \* 2e-47 dystrophin \* 1e-117 unnamed protein product \* 1e-143 dystrobrevin dystrobrevin \* 1e-CG8529 143 dystrobrevin B [ZF ZZ // ZZ // CYTOCHROME C] CG8529 GH13689 49A6-49A7 dup:2/2 ID:65E12
- + Cyp4e1 cytochrome\_P450 \* cytochrome P450, Cyp4e2 fruit fly (Drosophila melanogaster) (U5 \* 6e-79 predicted using CG2062 Genefinder; similar to cytochrome P450 \* 3e-50 CYP4B1 [EP450II // p450 // P450 // MITP450 // C] CG2062 GH13635 44C1-44C2

dup:2/2 ID:65E8

- + transporter \* furosemide-sensitive K-Cl cotransporter(aa) \* BLASTX 7.2E-55 Rattus furosemide-sensitive K-Cl cotransporter (KCC2) mRNA, complete cds.(dna) \* 6e-49 [AMINO\_ACID\_PERMEASE\_2 // KCLTRNSPORT] CG5594 GH13642 60A9-60A10 CG5594 dup:4/5 ID:65E9
- + cell\_adhesion \* coded for by C. elegans cDNA yk9a2.5; coded for by C. elegans cDNA yk9a2.3; similar to fibrinogen-like
- CG6676 protein A precursor(aa) \* 3(aa) \* FIBRINOĞEN [FIBRIN\_AG\_C\_DOMAIN // fibrinogen\_C] CG6676 GH13859 58C2-58C2 ID:65G3 + enzyme \* putative dehydrogenase(aa) \* GLYCERATE DEHYDROGENASE (NADH-DEPENDENT HYDROXYPYRUVATE REDUCTASE) (HPR) (GDH) (HYDROXYPYRUVATE DEHYDROGENASE) (GLYOXYL [D\_2\_HYDROXYACID\_DH\_3 // 2-Hacid\_DH] CG9331 CG9331 GH13879 38E9-38E9 ID:65G4
- + transporter \* transmembrane transporter electric ray (Discopyge ommata)(aa) \* 1e-09 HXT3\_YEAST LOW-AFFINITY GLUCOSE TRANSPORTER HXT3 hexose t \* 2e-14 putative o [SUGAR\_TRANSPORT\_1 // SUGAR\_TRANSPORT\_2 ] CG3168 CG3168 GH13883 6C9-6C10 ID:65G5
- + endopeptidase \* mas \* Ser5 \* Tequila \* zgr;Try [trypsin // CHYMOTRYPSIN // TRYPSIN\_SER ] CG11912 GH13929 21B7-CG1191221B8 ID:65G7
- + Cyp6a2 cytochrome\_P450 \* PUTATIVE CYTOCHROME P450 T10B9.7 IN CHROMOSOME II(aa) \* DMCYP6A2A\_5 Cyp6a2 \* CG9438 CYP6A2 \* 3e-43 similar to cytochrome P450 [EP450II // MITP450 // CYTOCHROME\_P450 /] CG9438 GH13965 42C5-42C5 ID:65G9 CG15390 + unknown \* CG15390 GH14074 22E-22E ID:65H11
- + structural\_protein \* nuclear pore protein; Seh1p(aa) \* similar to WD domain, G-beta repeat (2 domains); cDNA EST yk258d4.3
- CG8722 comes from this gene; cDNA EST yk338d5.3 comes [GPROTEINBRPT // WD40] CG8722 GH14024 43F9-43F9 ID:65H2 + Prm motor\_protein \* DMSTPMY\_2 Prm \* 7e-13 integrin homolog yeast (Saccharomyces cerevisiae) \* MYSP\_DROME
- CG5939 PARAMYOSIN, LONG FORM paramyosin, standard f \* 1e-179 Sili [NLS\_BP] CG5939 GH14085 66D-66D ID:66A3
- + unknown \* 2e-05 CU19\_LOCMI CUTICLE PROTEIN (LM-19) (LM-ACP 19) Lm-ACP1 \* \* [GRAM\_POS\_ANCHORING // CG9665 insect\_cuticle] CG9665 GH14349 73D-73D6 ID:66C3
- CG9813 + unknown \* [ATPASE\_ALPHA\_BETA] CG9813 GH14502 87E8-87E9 dup:1/2 ID:66D11
- + transporter \* DMORCT2\_2 Orct \* organic cation transporter(aa) \* Similarity to Rat organic cation transporter cDNA EST CG7084 comes from this gene; cDNA EST comes from [sugar tr] CG7084 GH14589 94A11-96D1 dup:2/2 ID:66E11
- + unknown \* 2e-24 cDNA EST CEMSE83F comes from this gene; cDNA EST comes \* \* CG16791 GH14545 93D6-93D6 CG16791 dup:3/3 ID:66E5
- + Rpn6 endopeptidase \* 26S proteasome subunit p44.5(aa) \* BLASTX 3.9E-25 YDL097C|Protein of unknown function(dna) \* 2e-90 CG10149 hypothetical protein YDL097c yeast (Saccharomyc [PCI\_DOMAIN // PCI] CG10149 GH14689 51C2-51C2 ID:66F12
- + cell\_adhesion \* 4e-06 UNC-89 \* 6e-05 VGR2\_MOUSE VASCULAR ENDOTHELIAL GROWTH FACTOR RECEPTOR
- CG7607 PRECURSOR (VEGFR-2) (PR \* 1e-05 protein tyrosine phosphatase, receptor t [ig] CG7607 GH14648 68A8-68A8 ID:66F6
- + unknown \* hypothetical protein(aa) \* similar to human 5'-nucleotidase \* Unknown(aa) \* 6e-46 similar to human 5'-nucleotidase CG1814 CG1814 GH14884 45F4-45F4 ID:66H7
- + boss G\_protein\_linked\_receptor \* DMBRSEVM\_5 boss \* BOSS\_DROME BRIDE OF SEVENLESS PROTEIN PRECURSOR CG8285 (X558 \* 4e-06 CELF35-1 \* 2e-07 Unknown gene product CG8285 GH14887 96F9-96F9 dup:2/2 ID:66H8
- CG4972 + \* cDNA EST yk335d8.5 comes from this gene; cDNA EST yk335d8.3 comes from this gene(aa) \* 2e-23 cDNA EST yk335d8.5

- comes from this gene; cDNA EST yk335 CG4972 31D7-31D8 dup:2/2 ID:67A10
- + alpha-Est2 enzyme \* alpha esterase(aa) \* agr;-Est2 \* carboxylesterase MdaE7(aa) \* alpha esterase [CHOLNESTRASE // CG2505 ESTERASE // COesterase] CG2505 GH15053 84D6-85A3 ID:67B5
- CG16707+ platelet glycoprotein Ib-alpha CG16707 GH15083 dup:1/2 ID:67B8
- + electron\_transfer \* CYTOCHROME B5 (CYTB5)(aa) \* 3e-17 cytochrome b5 \* 1e-25 Similarity to Human cytochrome b5 (SW:CYB5\_HUMAN); cDNA EST EMBL:D \* 2e-30 CYB5\_MOUSE CY[CYTOCHROME\_B5 // CYTOCHROMEB5 // CYTOCH]
   CG2140 CG2140 GH15091 43D-43D dup:3/3 ID:67B9
- CG18369+ unknown \* CG18369 GH15231 50B9-50B9 ID:67C11
- + endopeptidase \* PROCLOTTING ENZYME PRECURSOR(aa) \* DMEAST\_4 ea \* 6e-67 EAST\_DROME SERINE PROTEASE EASTER PRECURSOR serine protein \* 3e-29 anticoagulant protein C [trypsin // CHYMOTRYPSIN // TRYPSIN\_SER ] CG3066 CG3066 GH15156 85B1-85B1 dup:2/5 ID:67C3
- + Scp1 ligand\_binding\_or\_carrier \* calcium-binding protein alpha-a chain penaeid shrimp (Penaeus sp.)(aa) \* Scp1 \* 5e-94 CG15848 calcium-binding protein \* 2e-43 SCPB\_PENSP SARCOPLASMIC CALC CG15848 GH15296 cyto\_unknown ID:67D6 CG8420 + \* [ER\_TARGET] CG8420 85D2-85D3 dup:3/3 ID:67F12
- + enzyme \* antennal-specific short-chain dehydrogenase/reductase(aa) \* 1e-22 YM71\_YEAST HYPOTHETICAL
   OXIDOREDUCTASE IN MRPL44-MTF1 INTERGENIC REGION \* 1e-13 si [GDHRDH // adh\_short] CG13356 20B1-20B1 dup:1/2
   CG13356 ID:67G2
- CG7105 + unknown \* [FLAGELLA\_BB\_ROD] CG7105 GH15664 28D3-28D3 ID:67H3 + Hml cell\_adhesion \* HEMOCYTIN PRECURSOR (HUMORAL LECTIN)(aa) \* 3e-13 neurexin IV \* 9e-15 similar to EGF-like domain, Fibrinogen beta and gamma chains, C-te \* 1e-145 o[LDLRA\_2 // vwd // EGF\_1 // EGF\_2 // CTC] CG7002 GH15913 70C4-CG7002 70C4 dup:2/3 ID:68B8
- CG16820 + unknown \* CG16820 GH15921 34A11-34A11 dup:2/2 ID:68B9
- + enzyme \* DMACOASYN\_2 AcCoAS \* 6e-96 ACS1\_YEAST ACETYL-COENZYME A SYNTHETASE (ACETATE--COA LIGASE CG6432 1) (ACYL-ACTIVATI \* 1e-81 acetyl-CoA synthetase fruit fly [AMP-binding] CG6432 GH15945 98B1-98B1 dup:1/2 ID:68C1 + ninaE \* DMOPSA\_2 ninaE \* OPS1\_DROME OPSIN RH1 (OUTER R1-R6 PHOTORECEPTOR CELLS OPSIN) \* 1e-06 serotonin receptor \* 1e-35 OPSX\_MOUSE VISUAL PIGMENT-LIKE REC [OPSINRH1RH2 // GPCRRHODOPSN // OPSIN //] CG4550 92B8-
- CG4550 92B9 dup:1/5 ID:68C2
- + unknown \* 1e-109 weak similarity to Bacillus and Pseudomonas probable glucarate transporters (G \* 2e-06 conserved CG1358 hypothetical protein \* 2E-46\* C05G5.1 CG1358 GH16188 43E3-43E4 dup:2/2 ID:68D3
- + cell\_adhesion \* 7e-56 strong similarity to rat integral membrane glycoprotein GP120 precursor (SP:P116 \* 4e-18 protein \* 1e-CG7897 95 GP21\_RAT INTEGRAL MEMBRANE GLYCOPROTE CG7897 GH16206 41F-41F dup:4/6 ID:68D5
- + unknown \* 5e-08 myosin phosphatase, target subunit (A \* 1e-07 PP1M M21 subunit=protein phosphatase 1M kda regulatory CG5600 subunit \* myosin phosphatase, target subu CG5600 GH16214 72D3-72D4 dup:2/4 ID:68D7
- + Anxb11 actin\_binding \* annexin IV(aa) \* ANNEXIN IV (LIPOCORTIN IV) (36 KD ZYMOGEN GRANULE MEMBRANE ASSOCIATED PROTEIN) (ZAP36)(aa) \* DMANNIX AnnIX \* annexin max4(aa) [ANNEXINVI // ANNEXINIV // ANNEXINIV // an] CG9968 CG9968 GH16395 14C5-14C6 dup:3/3 ID:68E11

- + protein\_kinase \* protein kinase C, mu(aa) \* DMPKC98F\_2 Pkc98E \* protein kinase C, mu(aa) \* 6e-42 DUN1\_YEAST DNA DAMAGE RESPONSE PROTEIN KINASE DUN1 protei [DAG\_PE\_BINDING\_DOMAIN // PROTEIN\_KINASE] CG7125 GH16373 CG7125 90F8-90F9 dup:3/3 ID:68E7
- + endopeptidase \* chymotrypsin-like serine protease(aa) \* TRYPSIN DELTA PRECURSOR(aa) \* DMEAST\_4 ea \* Ser6 [trypsin CG9672 // CHYMOTRYPSIN // TRYPSIN\_CATA] CG9672 GH16384 15A2-15A2 dup:2/2 ID:68E9
- CG12191+ cell\_adhesion \* 8e-05 adhesion molecule L1.1 \* \* [ig] CG12191 GH16485 61D4-61D4 ID:68F12
- CG15068+ CG15068 GH16622 ID:68G10
- + Pug enzyme \* Pug \* C1TM\_YEAST C-1-TETRAHYDROFOLATE SYNTHASE MITOCHONDRIAL PRECURSOR (C1-THF SYNTHAS \* C1-THF synthase homolog \* Contains similarity to Pfam doma [THF\_DHG\_CYH\_2 // THFDHDRGNASE // FTHFS ] CG4067 CG4067 GH16587 86C2-86C2 dup:2/2 ID:68G5
- + \* DMWHEELER\_2 18w \* DMCOP10\_2 chp \* 1e-20 leucine-rich motif (LRR) protein homology to interleukin receptor cy \* 2e-CG11910 16 coded for by C. elegans cDNA yk [LRR] CG11910 96D2-96D2 dup:2/2 ID:68G8
- + enzyme \* Similar to calcium channel subunit; coded for by C. elegans cDNA yk19b1.5; coded for by C. elegans cDNA CG6320 yk47a5.3; coded for by C. elegans cDNA yk47a [Ca channel B // SH3 // ATP GTP A] CG6320 GH16612 32D5-32D5 ID:68G9
- CG4230 + unknown \* CG4230 GH16729 25C-25C ID:68H8
  - + enzyme \* GLUTATHIONE S-TRANSFERASE YRS-YRS (GST 12-12) (GLUTATHIONE S-TRANSFERASE SUBUNIT 12)
- CG1681 (CLASS-THETA)(aa) \* glutathione S-transferase theta 2(aa) \* 5e- [GST] CG1681 GH16740 11F1-11F1 ID:68H9
- + RfaBp unknown \* retinoid- and fatty acid-binding glycoprotein \* 1e-15 C. elegans vitellogenin precursor, vit-5 (Spieth et al., NAR \* CG110644e-07 prepro-vWF (aa -22 to 137 [vwd // Vitellogenin N // NLS BP] CG11064 GH18004 102F4-102F4 ID:70A10
- + unknown \* hypothetical protein(aa) \* 3e-09 hypothetical protein \* 3e-91 inserted at base Both 5' and 3' ends of P element CG17223 Inverse PCR \* CG17223 GH17972 23C4-23C4 ID:70A7
- + Taf250 transcription\_factor \* Taf250 \* 3e-49 T145\_YEAST TRANSCRIPTION INITIATION FACTOR TFIID KD SUBUNIT (TBP-ASSOCIATED \* transcription factor \* 5e-34 cDNA EST comes from this[BROMODOMAIN\_2 // NLS\_BP // BROMODOMAIN\_] CG17603 CG17603 GH17990 84A2-84C4 ID:70A9
- + Gad1 enzyme \* DCE\_DROME GLUTAMATE DECARBOXYLASE (GAD) glutamate decarbo \* 1e-163 predicted using Genefinder; similar to Pyridoxal-dependent decar \* 1e-169 67kD g [DDC\_GAD\_HDC\_YDC // pyridoxal\_deC] CG14994 GH18029 64A5-64A7 CG14994ID:70B5
- + ine neurotransmitter\_transporter \* ine \* DMROSA\_2 rosA \* neurotransmitter transporter \* 1e-119 Similarity to Human Na(+)/Cl(-)-CG15444 dependent GABA transporter (SW:NTG [NANEUSMPORT // SNF] CG15444 GH18083 24F6-24F6 ID:70C4
- + peptidase \* 5e-60 putative metalloprotease; Method: conceptual translation supplied by author \* 1e-23 coded for by C. elegans CG8196 cDNA yk27b10.3; coded for by C. el [PEPDIPTASEA // Peptidase\_M2] CG8196 GH18145 45A6-45A6 ID:70D1
- + msta unknown \* /match=(desc:(aa) \* map\_position:2E3 \* 7e-06 t-BOP \* 5e-13 putative Bop-like zinc finger protein CG18033 CG18033 GH18166 2E2-2E2 dup:2/2 ID:70D4
- + \* NADP-dependent isocitrate dehydrogenase(aa) \* 1e-148 IDHP\_YEAST ISOCITRATE DEHYDROGENASE (NADP),
- CG7176 MITOCHONDRIAL PRECURSOR (OXALOSUCCIN \* 1e-180 simil [IDH\_IMDH // isodh] CG7176 66C8-66C8 dup:3/4 ID:70D6
- + actin\_binding \* protein(aa) \* Similarity to Drosophila ring canal protein cDNA EST comes from this gene; cDNA EST comes CG15097 from this gene(aa) \* 1e-116 kelch protein, I [BTB // KELCHREPEAT // Kelch] CG15097 GH18278 55F2-55F3 dup:2/2 ID:70E1

- + defense/immunity\_protein \* 3e-13 peptidoglycan recognition protein precursor \* 4e-17 TNF superfamily, member (LTB)-like CG4384 (peptidoglycan recognition \* 8e-17 cuticular molt prote CG4384 67A8-67A8 dup:3/3 ID:70E2
- + RNA\_binding \* putative RNA binding protein(aa) \* 3e-05 TUD\_DROME MATERNAL TUDOR PROTEIN posterior-group protein t \* 8e-07 YQK1\_CAEEL HYPOTHETICAL 55.9 KD PROTEIN [KH-domain // KH\_DOMAIN // TUDOR] CG7082 GH18329 23D1-23D1 CG7082 dup:3/3 ID:70E4
- CG4975 + unknown \* 4e-05 BE46\_MOUSE BRAIN PROTEIN E46 gene E46 protein mouse \* \* CG4975 GH18454 54E5-54E5 ID:70F8
  - + enzyme \* secretory component(aa) \* mollusk-derived growth factor; MDGF \* AGSA\_APLCA ATRIAL GLAND-SPECIFIC
- CG10143 ANTIGEN PRECURSOR (AGSA) \* [NLS\_BP // A\_deaminase] CG10143 GH18530 51B10-51B10 ID:70G4
- + translation\_factor \* GTP binding protein similar to S. cerevisiae HBS1(aa) \* elongation factor alpha(aa) \* Elf \* DMEF1AF2\_8 CG1898 Ef1 agr;100E [ELONGATNFCT // GTP EFTU // ATP GTP A] CG1898 GH18819 62E3-62E3 ID:71A1
- + enzyme \* 1e-09 ATPK\_CAEEL PUTATIVE ATP SYNTHASE F CHAIN, MITOCHONDRIAL \* 3e-10 ATPK\_MOUSE ATP
- CG4692 SYNTHASE F CHAIN, MITOCHONDRIAL \* 2e-08 F1Fo-ATPase synthase f CG4692 GH18886 60D8-60D8 dup:1/2 ID:71A7
- + endopeptidase \* DMSTUBBLE\_1 Sb \* caldecrin=serum calcium-decreasing factor pancreas, Peptide, \* 7e-36 STUB\_DROME SERINE PROTEINASE STUBBLE (STUBBLE-STUBBLOID PROTEI [trypsin // CHYMOTRYPSIN // TRYPSIN\_HIS ] CG5390 31D5-CG5390 31D6 dup:2/2 ID:71B8
- + transmembrane\_receptor \* DMEMP\_3 emp \* 3e-53 epithelial membrane protein fruit fly (Drosophila melanogaster) \* 5e-24 CG3829 predicted using Genefinder; similar to CD36 family; cD [CD36] CG3829 GH19047 60E8-60E8 ID:71B9
- CG13124+ unknown \* 1E-135\* \* CG13124 GH19095 33A1-33A1 dup:1/2 ID:71C3
- + enzyme \* 3e-07 alpha-actinin-2 associated LIM protein \* 9e-08 actinin-associated LIM protein \* 4e-08 CL36\_RAT LIM
- CG6416 PROTEIN CLP36 LIM protein rat \* alpha-act [PDZ] CG6416 GH19182 66D9-66D ID:71D2
- + enzyme \* 1e-05 GCST\_YEAST AMINOMETHYLTRANSFERASE PRECURSOR (GLYCINE CLEAVAGE SYSTEM T PROTEIN) \* 1e-10 partial CDS, \* 4e-08 sarcosine oxidase \* sarcosine deh [FAD\_Gly3P\_dh // NAD\_BINDING] CG6385 GH19226 CG6385 54E7-54E8 ID:71D6
- CG15386+ unknown \* 1E-132\* \* CG15386 GH19557 23D1-23D1 ID:71F10
- + signal\_transduction \* 5e-30 similar to guanine-nucleotide releasing factors including BCR ele \* 7e-20 transforming protein
- CG7397 (ect2) mouse ect2 >g \* 6e-17 GrfA \* R02F2.2 g [GRF\_DBL // RhoGEF // NLS\_BP] CG7397 GH19526 90C2-90C2 ID:71F7
- CG4679 + unknown \* CG4679 GH19550 49F14-49F15 ID:71F9
- + chp cell\_adhesion \* DMCOP10\_2 chp \* 2e-11 CYAA\_YEAST ADENYLATE CYCLASE (ATP PYROPHOSPHATE-LYASE) (ADENYLYL CYCLASE) \* CHAO\_DROME CHAOPTIN PRECURSOR (PHOTORECEPTOR CELL [ARM\_REPEAT // LRR // CG1744 LEURICHRPTI CG1744 GH19649 100B8-100B9 ID:71G7
- + transporter \* DMC171D11 \* DMMDR65\_2 Mdr65 \* 8e-46 STE6\_YEAST MATING FACTOR A SECRETION PROTEIN STE6 (MULTIPLE DRUG RESISTANCE PROT \* 4e-86 MDR4\_DROME MULTIDRUG RE [ATP\_GTP\_A2 // ABC\_TRANSPORTER // CG1824 ABC tr] CG1824 GH19726 11B12-11B12 ID:71H4
- CG13458+ unknown \* 1E-160\* \* [COPPER\_BLUE] CG13458 GH20023 71B2-71B2 ID:72B12
- + enzyme \* polyketide synthase(aa) \* 1e-68 CEM1\_YEAST SYNTHASE HOMOLOG (BETA-KETOACYL-ACP \* 1e-69 similar to beta-ketoacyl synthase \* 3e-92 putative 3-oxoacyl [B\_KETOACYL\_SYNTHASE // PPTA // ketoacyl] CG12170 GH20093 83B6-83B6 CG12170 ID:72C9

- + transporter \* BLASTX 2.0E-28 Human sodium iodide symporter mRNA, complete cds.(dna) \* 4e-36 unknown \* 2e-17 Similarity CG7720 to Salmonella sodium/proline symporter (SW: [NA\_SOLUTE\_SYMP\_3] CG7720 GH20226 93F9-91C7 ID:72D11
- + enzyme \* aldehyde oxidase(aa) \* DMXDH\_4 ry \* xanthine dehydrogenase(aa) \* XANTHINE DEHYDROGENASE (XD) (ROSY CG6045 LOCUS PROTEIN)(aa) [dehydrog\_molyb // Ald\_Xan\_dh\_C // fer2] CG6045 GH20168 88F8-88F8 ID:72D2
- + serpin \* 3e-34 Similar to serine protease inhibitor \* 6e-38 proteinase inhibitor Spi3 mouse serine proteinase inhib \* 1e-35 CG1865 cytoplasmic antiproteinase, CAP [serpin // SERPIN] CG1865 GH20213 42F1-42F1 ID:72D9
- + unknown \* 1e-39 /match=(desc:; /ma \* 3e-06 F20D6.5 gene product \* predicted using Genefinder \* cDNA EST yk381e5.3 CG10514 comes from this gene [NLS BP] CG10514 GH20308 96C7-96C7 dup:2/2 ID:72E7
- + enzyme \* similar to aspartate aminotransferase(aa) \* 1e-99 aspartate aminotransferase cerevisiae, Peptide Partial, \* 1e-157 CG4233 similar to aspartate aminotransfe [aminotran\_1 // AA\_TRANSFER\_CLASS\_1 // T] CG4233 GH20337 22B8-22B8 dup:2/2 ID:72F2 CG18020 + projectin [Drosophila melanogaster] CG18020 ID:72G5
- CG17111+ unknown \* CG17111 GH20645 94D13-94D13 ID:72H6
- + enzyme \* Similar to glycogenin.(aa) \* GLYCOGENIN(aa) \* 1e-27 GLG2\_YEAST GLYCOGEN SYNTHESIS INITIATOR CG9480 PROTEIN GLG2 hy \* 7e-67 Similar to glycogenin. CG9480 GH20752 57C7-57C7 dup:1/2 ID:73A3
- + structural\_protein \* 4e-07 CUP8\_DROME PUPAL CUTICLE PROTEIN EDG-84 PRECURSOR ecdyson \* 3e-08 CU19\_LOCMI CUTICLE PROTEIN (LM-19) (LM-ACP 19) Lm-ACP1 \* 5e-09 DMEDG84A\_3 Ed [CUTICLE // PRO\_RICH // insect\_cuticle] CG6305 CG6305 GH20904 50C9-50C11 ID:73B10
- CG1383 + unknown \* 2e-74 F55A12.9 gene product \* \* CG1383 43E12-43E13 ID:73D4
- + Gfat enzyme \* glucosamine--fructose-6-phosphate aminotransferase(aa) \* 1e-155 GFA1\_YEAST GLUCOSAMINE--FRUCTOSE-6-PHOSPHATE AMINOTRANSFERASE (ISOMERIZING) (HEX \* g [GATase\_2 // SIS] CG12449 GH21229 cyto\_unknown dup:2/2 CG12449 ID:73F3
- + ligand\_binding\_or\_carrier \* MAP-kinase activating death domain(aa) \* Rab3 GDP/GTP exchange protein(aa) \* regulator of presynaptic activity(aa) \* 3e-12 CRAG protein [DENN\_DOMAIN // PRO\_RICH // ATP\_GTP\_A] CG5627 GH21304 13A12-13B1 CG5627 ID:73F8
- + transporter \* 5e-27 HXT0\_YEAST HEXOSE TRANSPORTER HXT10 hexose transport pro \* 9e-42 GTRL\_DROME GLUCOSE TRANSPORTER-LIKE PROTEIN glucose transpo \* 4e-22 predicted [SUGRTRNSPORT // SUGAR\_TRANSPORT\_1 // SU] CG6484 CG6484 GH21490 54D2-54D2 ID:73G7
- + Acp1 structural\_protein \* Acp1 \* ADULT CUTICLE PROTEIN PRECURSOR (DACP-1)(aa) \* cuticle protein=Dacp-1 melanogaster, CG7216 Peptide, \* CG7216 GH21504 28C3-28C3 dup:1/2 ID:73G8
- + unknown \* 1e-23 hypothetical protein YDL219w yeast (Saccharomyces cerevisiae) \* 3e-32 predicted using Genefinder \* 5e-CG5270 27 SPAC8C9.05, len:149aa; similarity: [FYVE\_DOMAIN // FYVE] CG5270 GH21817 86E5-86E5 ID:74B5
- + metabolism \* 3601, 14-kDa protein subunit of reductase complex(aa) \* ubiquinol-cytochrome c reductase binding protein(aa) \* CG3560 UBIQUINOL-CYTOCHROME C REDUCTASE COMP CG3560 GH21854 14B12-14B12 ID:74B9
- CG10947+ \* hypothetical protein(aa) \* 3e-07 hypothetical protein \* \* CG10947 38C9-38C9 dup:2/2 ID:74C6
- CG2457 + inaF ion\_channel \* INAF protein(aa) \* 1e-115 INAF protein \* \* CG2457 GH21930 10D5-10D6 dup:1/2 ID:74C7
- + enzyme \* 7e-97 ALAM\_YEAST PUTATIVE ALANINE AMINOTRANSFERASE, MITOCHONDRIAL PRECURSOR (GLUTAMIC CG1640 \* 1e-159 Similar to alanine aminotransferase; coded for by C. [aminotran 1 // ACCSYNTHASE] CG1640 GH21936 11E9-11E10

dup:2/3 ID:74C8

- + receptor \* 3e-10 tolloid related-1 \* 5e-17 similar to CUB domain (2 domains), Low-density lipoprotein recepto \* 8e-15 BMP1\_MOUSE BONE MORPHOGENETIC PROTEIN PRE [LDLRA\_2 // CUB // Idl\_recept\_a // PRO\_R] CG5449 GH21941 94A3-CG5449 94A3 ID:74C9
- + transcription\_factor \* TRANSCRIPTION FACTOR ADF-1 (ADH DISTAL FACTOR 1)(aa) \* DMADF1A\_2 Adf1 \* 3e-07 cDNA CG10949 EST comes from this gene; cDNA EST yk319a3.5 come [NLS\_BP // ATP\_GTP\_A] CG10949 GH22016 38C9-38C9 ID:74D3 CG10693 + CG10693 GH22026 ID:74D5
- + kls unknown \* klarsicht protein(aa) \* 8e-06 protein \* hypothetical protein \* protein [NLS\_BP // SUGAR\_TRANSPORT\_1] CG17046 CG17046 GH22034 61C3-61C7 dup:5/6 ID:74D8
- + cell\_adhesion \* Down syndrome cell adhesion molecule(aa) \* 3e-66 neuroglian \* 1e-58 predicted protein contains a large CG17800 number of Ig superfamily repeat \* 2e-39 PTPT9 [ig // PRO\_RICH // fn3] CG17800 GH22207 43B1-43B2 dup:3/4 ID:74F3
  - + enzyme \* 3-hydroxy-3-methylglutaryl-CoA-synthase(aa) \* Similar to hydroxymethlglutaryl-CoA synthase; coded for by C. elegans cDNA cm01e7(aa) \* 3-hydroxy-3- [HMG\_CoA\_synt // HMG\_COA\_SYNTHASE] CG4311 GH22436 53A5-53B1 dup:2/4
- CG4311 ID:74G8
  - + Cyp4d8 cytochrome\_P450 \* DMLCYP6A9 Cyp6a9 \* DMCYTO\_2 Cyp4d1 \* DMCYP4D2\_12 Cyp4d2 \* cytochrome P450(aa)
- CG4321 [EP450II // p450 // P450 // MITP450 // B] CG4321 GH22459 66A1-66A1 ID:74H1
- CG9336 + unknown \* CG9336 GH22472 38F1-38F1 ID:74H4
- + enzyme \* histidyl tRNA synthetase Caenorhabditis elegans(aa) \* HISTIDYL-TRNA SYNTHETASE HOMOLOG (HISTIDINE--TRNA LIGASE HOMOLOG) (HISRS)(aa) \* HISTIDYL-TRN [WHEP-TRS // tRNA-synt\_2b // AA\_TRNA\_LIG] CG6335 GH22474 17B5-CG6335 17B5 ID:74H5
- + acyl-CoA\_dehydrogenase \* Similar to acyl-CoA dehydrogenase; coded for by C. elegans cDNA yk122b9.5(aa) \* acyl-Coenzyme A dehydrogenase, short/branched chain prec[Acyl-CoA\_dh // ACYL\_COA\_DH\_1 // ACYL\_CO] CG3902 GH22479 75E2-CG3902 75E2 dup:2/2 ID:74H6
- + msl-2 DNA\_binding \* male-specific lethal-2(aa) \* DMDNAMEL2\_2 msl-2 \* MSL2\_DROME MALE-SPECIFIC LETHAL-2 PROTEIN RING finger prote \* 3e-38 male-specific lethal-2 [ZINC\_FINGER\_C3HC4 // PRO\_RICH // NLS\_BP] CG3241 GH22488 25A3-25A3 CG3241 ID:74H7
- + transcription\_factor \* eyg \* 9e-46 Eyegone \* 1e-38 similar to 'Paired box' domain, homeobox protein (paired subfamily \* 2e-41 PAX3\_MOUSE PAIRED BOX PROTEIN PAX-3 pax-3 p[PAX // HOMEOBOX\_1 // homeobox // HOMEOB] CG10704 GH22493 69B3-CG10704 69B4 ID:74H8
- + \* DnaJ-1 \* heat shock protein dnaJ homolog human(aa) \* similar to DNAJ protein; cDNA EST comes from this gene; cDNA CG5001 EST comes from this gene; cDNA E CG5001 ID:75A5
- + prd transcription\_factor \* SEGMENTATION PROTEIN PAIRED(aa) \* DMPRD\_5 prd \* 3e-58 similar to 'Paired box' domain, homeobox protein (paired subfamily \* 2e-87 PAX3\_MOUSE PAIRE[PAX // HOMEOBOX\_1 // homeobox // HOMEOB] CG6716 CG6716 GH22686 33B14-33B14 ID:75B4
- + enzyme \* 6e-06 YD40\_YEAST HYPOTHETICAL 42.3 KD PROTEIN IN YTA2-DIT1 INTERGENIC REGION \* 4e-33 predicted CG12177 using Genefinder; similar to Inosine-uridine preferri [IU\_nuc\_hydro] CG12177 GH22706 12B1-12B1 ID:75B7
- CG1479 + bt protein\_kinase \* projectin fruit fly (Drosophila melanogaster)(aa) \* bt \* similar to Fibronectin type III domain (31 domains), IG

- (immunoglobulin) superfami[ig // PROTEIN\_KINASE\_ST // FNTYPEIII //] CG1479 GH22863 102D6-102E1 dup:1/2 ID:75D11
- + enzyme \* probable membrane protein YPR184w yeast (Saccharomyces cerevisiae) \* similar to Alpha amylase; cDNA EST
- CG9485 yk217a9.5 comes from this gene; \* amylo-1, [ISOCITRATE\_LYASE] CG9485 GH22856 57D4-57D5 dup:3/4 ID:75D8
- + electron\_transfer \* GEC-3(aa) \* 3e-43 coded for by C. elegans cDNA yk51h9.5; coded for by C. elegans cDNA yk117c2.5; c \* CG178431e-64 quiescin Q6 quiescin \* 2e-66 GEC-3 [THIOREDOXIN\_2] CG17843 GH22889 96B6-96B6 dup:2/2 ID:75E2
- + transporter \* 3e-69 predicted using Genefinder; cDNA EST comes from this g \* 3e-07 tetracycline resistance protein \* similar to CG8054 translocase \* contains similarity [PRO\_RICH // NLS\_BP] CG8054 GH23453 45B1-45B1 ID:76C6
  - + protein\_kinase \* bt \* hep \* 8e-21 SPK1\_YEAST PROTEIN KINASE SPK1 (SERINE-PROTEIN KINASE 1) \* 2e-20 p90
- CG1760 ribosomal S6 kinase [PROTEIN\_KINASE\_ST // PROTEIN\_KINASE\_DOM] CG1760 GH23573 10C3-10C3 ID:76D10
  - + Ark unknown \* 1e-05 apoptotic protease activating factor \* 3e-06 apoptotic protease activating factor \* 2e-34 inserted at base
- CG6829 Both 5' and 3' ends of P element In [ATP\_GTP\_A] CG6829 GH23583 53F1-53F1 ID:76D11
- endopeptidase \* mas \* DMSER1\_2 Ser99Dc \* 7e-61 serine proteinase (EC 3.4.21.-) precursor fruit fly (Drosophila melanogast \* 2e-29 EL2\_MOUSE ELASTASE PRECURSOR pan [trypsin // CHYMOTRYPSIN // TRYPSIN\_SER ] CG6467 GH23808 CG6467 65A2-65A2 ID:76G10
- + Arr2 unknown \* DMPPP\_2 Arr2 \* ARRB\_DROME PHOSRESTIN I (ARRESTIN B) (ARRESTIN 2) (49 KD ARRESTIN-LIKE PROTEIN) \* 2e-73 ARRB\_CAEEL PROBABLE BETA-ARRESTIN coded for [ARRESTIN // arrestin // ARRESTINS] CG5962 CG5962 GH23741 66D-66D dup:4/5 ID:76G2
- + unknown \* 1e-05 NIPM\_BOVIN NADH-UBIQUINONE OXIDOREDUCTASE KD SUBUNIT (COMPLEX I-15 KD) (CI-15 \* \* CG11455 CG11455 GH23780 21B2-21B2 ID:76G6
- CG9780 + unknown \* [ABC TRANSPORTER] CG9780 GH23891 82A4-82A4 ID:76H12
- + enzyme \* hexaprenyl pyrophosphate synthetase; Coq1p(aa) \* 9e-26 COQ1\_YEAST HEXAPRENYL PYROPHOSPHATE CG10585 SYNTHETASE PRECURSOR (HPS) \* 9e-13 trans-prenyltransferas [ATP\_GTP\_A] CG10585 GH23839 78A6-78A6 ID:76H7 CG3192 + CG3192 ID:76H8
- + enzyme \* 3-hydroxyacyl-CoA dehydrogenase (hbd-8)(aa) \* 9e-14 HCD1\_CAEEL PROBABLE 3-HYDROXYACYL-COA DEHYDROGENASE F54C8.1 \* 1e-54 lambda-crystallin \* 3e-74 C [3HCDH // NAD\_BINDING // NLS\_BP] CG10131 GH23990 51B7-CG1013151B7 dup:2/2 ID:77B1
- CG6043 + unknown \* [PRO\_RICH] CG6043 GH24071 34A11-34B1 ID:77B11
- + enzyme \* cDNA EST yk478b4.5 comes from this gene; cDNA EST comes from this gene; cDNA EST yk456b12.5 comes from CG17446this gene; cDNA EST comes from this gene(aa) [PHD] CG17446 GH24056 8D7-8D7 ID:77B9
- + unknown \* 5e-11 HST2\_YEAST HST2 PROTEIN (HOMOLOGOUS TO SIR2 PROTEIN 2) \* 1e-09 SIR2 \* 1e-48 similar to SIR; CG3187 cDNA EST yk300f10.3 comes from this gene \* 3e-49 u CG3187 GH24142 5A12-5A12 ID:77C5
  - + transporter \* DMWHITER\_2 w \* WHITE PROTEIN HOMOLOG(aa) \* hypothetical protein \* 3e-39 ORF YOL075c
- CG9663 [ATP\_GTP\_A2 // ABC\_TRANSPORTER // ABC\_tr] CG9663 GH24286 25A1-25A1 ID:77D10
  - + signal\_transduction \* EPHRIN-B1 PRECURSOR (EPH-RELATED RECEPTOR TYROSINE KINASE LIGAND 2) (LERK-2)
- CG1862 (ELK LIGAND PRECURSOR) (ELK-L) (XLERK)(aa) \* 4e-13 cek5 receptor ligand [Ephrin] CG1862 GH24276 102C5-102C5 ID:77D9
- + enzyme \* DMC103B4 \* 1e-05 LYS2\_YEAST AMINOADIPATE-SEMIALDEHYDE DEHYDROGENASE LARGE SUBUNIT CG12268 (ALPHA-AMINOADI \* 2e-53 /match=(desc:: /ma \* 4e-75 similar to Arab [HELIX LOOP HELIX] CG12268 GH24480 95C13-95C13

## ID:77F5

- CG14989 + unknown \* 1E-128\* \* CG14989 64A7-64A7 dup:2/2 ID:77F9
- + Cyp6d4 cytochrome\_P450 \* THROMBOXANE-A SYNTHASE (TXA SYNTHASE) (TXS)(aa) \* Similar to cytochrome P450(aa) \* cytochrome P450(aa) \* CYTOCHROME P450 4A11 PRECURSOR (CYPIVA11) [EP450II // p450 // P450 // MITP450 // B] CG12800 CG12800 GH24669 94C4-94C4 ID:77G11
- + endopeptidase \* 2e-11 similar to Zinc-binding metalloprotease; cDNA EST come \* 3e-14 NEP\_MOUSE NEPRILYSIN (NEUTRAL ENDOPEPTIDASE) (NEP) (ENKEPHALINASE) (CD10) \* 2e[NEPRILYSIN // PRENYLATION // ZINC\_PROTE] CG3239 CG3239 GH24674 5A1-5A1 dup:1/3 ID:77G12
- + inaC protein\_kinase \* protein kinase C (EC 2.7.1.-) beta-II rat(aa) \* DMPKCR\_2 Pkc53E \* DMPKC53E\_2 inaC \* 5e-78 KPC1\_YEAST PROTEIN KINASE C-LIKE (PKC 1) serine/threoni [DAG\_PE\_BINDING\_DOMAIN // PROTEIN\_KINASE] CG6518 GH24781 53E1-53E2 ID:77H9
- + transporter \* 3e-11 aquaporin \* 4e-15 BIB\_DROME NEUROGENIC PROTEIN BIG BRAIN bib protein frui \* 6e-15 similar to CG4019 MIP protein \* 1e-28 MIP\_MOUSE LENS FIBER MAJOR [MINTRINSICP // MIP] CG4019 GH25142 59F1-59F2 ID:78C12 + chif cell\_cycle\_regulator \* activator of S phase kinase(aa) \* map\_position:35F11-36A2 \* BLASTX 8.0E-09 Lytechinus variegtus Endo16 homolog (LvEndo16) mRNA, partial cds.(dna) \* [GRAM\_POS\_ANCHORING // NLS\_BP] CG5813 GH25089 35F9-35F10 CG5813 dup:1/2 ID:78C4
- + unknown \* 6e-32 antigen 5-related \* 1e-19 antigen 5-related protein \* 6e-34 Ag5r2 \* VA3\_SOLIN VENOM ALLERGEN III CG17210 (ALLERGEN SOL I 3) (SOL I III) CG17210 GH25284 86D8-86D8 dup:2/2 ID:78E5
- + enzyme \* 8e-11 YGA1\_YEAST PUTATIVE BETA-HYDROXYSTEROID DEHYDROGENASE/DELTA 5-->4-ISOMERASE ( \*
- CG7724 2e-12 weakly similar to dihydrokaempferol 4-reductase \* 2e-21 [3Beta\_HSD] CG7724 GH25466 73E5-73E5 dup:2/2 ID:78F12 + Pu enzyme \* 4e-52 GCH1\_YEAST GTP CYCLOHYDROLASE I (GTP-CH-I) GTP cyclohyd \* 1e-133 GCH1\_DROME GTP CYCLOHYDROLASE I (GTP-CH-I) (PUNCH PROTEIN) \* 2e-67 GCH1\_CAEEL [GTP\_cyclohydrol // GTP\_CYCLOHYDROL\_1\_1 ] CG9441 GH25630 57C5-57C6 dup:3/3 ID:78H12
- CG14653 + unknown \* 1E-59\* \* CG14653 GH25780 82D5-82D5 ID:79B5
- + unknown \* hypothetical 43.2 kDa protein(aa) \* predicted using Genefinder; Similarity to Yeast hypothetical protein YAE2 CG7011 (SW:YAE2 YEAST); cDNA EST comes from t CG7011 GH25868 71B3-71B3 dup:2/2 ID:79C6
- + enzyme \* 1e-09 BACR37P7.d \* 8e-25 strong similarity to the insect-type alcohol/ribitol dehydrogenase family \* 2e-27 cis-retinol CG8888 androgen dehydrogenase \* 2e-3 [adh\_short] CG8888 GH26015 48E4-48E6 ID:79D8
- + motor\_protein \* homeotic most like HMPB\_DROME: homeotic proboscipedia protein(aa) \* 1e-05 neurofilament triplet H1 CG12105 protein rabbit (fragment) neuro \* \* [GRAM POS ANCHORING // NLS BP] CG12105 GH26183 62A-62A dup:2/2 ID:79F12
- + enzyme \* PROBABLE ISOCITRATE DEHYDROGENASE (NAD), MITOCHONDRIAL SUBUNIT BETA PRECURSOR (ISOCITRIC DEHYDROGENASE) (NAD+-SPECIFIC ICDH)(aa) \* NAD+-specific iso [isodh] CG6439 GH26270 93F14-93F14 CG6439 ID:79G10
- CG6836 + unknown \* CG6836 GH26215 75E6-75E6 ID:79G4
- + unknown \* 5e-07 hypothetical protein YOL114c yeast (Saccharomyces cerevisiae) \* 2e-17 R02F2.2 gene product \* 3e-23 CG6094 immature colon carcinoma transcript prote [NLS BP] CG6094 GH26345 31E5-31E5 ID:79H6
- CG4722 + bib transporter \* pore-forming protein MIP family(aa) \* NEUROGENIC PROTEIN BIG BRAIN(aa) \* 1e-07 YFF4\_YEAST

HYPOTHETICAL 70.5 KD PROTEIN IN AGP3-DAK3 INTERGENIC REG[MINTRINSICP // MIP // PRO\_RICH] CG4722 big brain 30F4-30F5 dup:2/3 ID:8-31 cntrlBB5

- CG1374 + tsh transcription factor CG1374 tsh dup:3/3 ID:8-31 cntrlBD3
- CG6845 + \* 2e-12 cDNA EST yk452h4.3 comes from this gene; cDNA EST yk452h4.5 comes \* \* CG6845 61A-61A dup:1/2 ID:80A8
- CG18253+ unknown \* CG18253 GH26442 82D5-82D5 ID:80A9
- + unknown \* DMANO66DB\_2 anon-66Db \* ANON-66Db protein \* 5e-08 similar to PDZ domain (Also known as DHR or GLGF). \* CG5989 5e-10 hypothetical protein CG5989 GH26459 68C1-68C1 ID:80B2
- + motor\_protein \* BACR37P7.j(aa) \* MICRONUCLEAR LINKER HISTONE POLYPROTEIN (MIC LH) LINKER HISTONE
- CG9392 PROTEINS ALPHA, BETA, DELTA AND \* \* CG9392 GH26462 76C1-76C1 ID:80B3
- CG8154 + unknown \* [NLS\_BP] CG8154 GH26521 67C2-67C2 ID:80B9
- + unknown \* polytropic murine leukamia virus receptor SYG1(aa) \* 3e-32 SYG1\_YEAST SYG1 PROTEIN SYG1 protein yeast CG10483 (Saccharomy \* 1e-150 predicted using Genefin [CRYSTALLIN BETAGAMMA] CG10483 GH26628 64F5-64F5 ID:80C8
- + unknown \* HYPOTHETICAL 90.9 KD PROTEIN C08B11.4 IN CHROMOSOME II(aa) \* weak similarity to nodulation protein X CG11353 (probable sugar acetylase) (Swiss Prot accessio CG11353 GH26735 64B13-64B14 dup:3/3 ID:80E2
- + fln cytoskeletal\_structural\_protein \* DMFLIGHT\_2 fln \* FLIGHTIN (MUSCLE PROTEIN 27)(aa) \* 2e-19 CMP-N-acetylneuraminic CG7445 acid synthetase \* myofibrillar protein flightin fruit fly (Drosop CG7445 GH26786 76E2-76E2 dup:3/3 ID:80E9
- + Cyp9f2 cytochrome\_P450 \* CYP9 cytochrome P450(aa) \* 3e-18 CYP6A2 \* 2e-10 similar to cytochrome P450 \* 5e-16 cytochrome CG11466 P450 3A11 mouse cytochrome P-45 [EP450II // p450] CG11466 GH26796 87B14-87B14 ID:80F2
- + enzyme \* CGI-82 protein(aa) \* 1e-16 YM71\_YEAST HYPOTHETICAL OXIDOREDUCTASE IN MRPL44-MTF1 INTERGENIC REGION \* 0.0000000000002\* 6e-42 predicted using Genefinde [GDHRDH // adh\_short] CG7675 GH26851 91A2-91A2 dup:2/4 CG7675 ID:80F8
- + unknown \* 1E-38\* 9e-24 inserted at base Both 5' and 3' ends of P element Inverse PCR \* CG13130 GH26896 30F4-30F4 CG13130 ID:80G1
- CG10965+ unknown \* CG10965 GH26991 7D21-7D21 ID:80H1
- CG8012 + unknown \* CG8012 GH26995 67E7-67E7 ID:80H3
- + cell\_adhesion \* DMDELTA\_4 DI \* DMCRPA\_2 crb \* Wnt inhibitory factor-1(aa) \* cell communication establishment of cell
- CG3135 polarity ) plasma membrane plasma membrane ) ma [EGF\_1 // EGF // EGF\_2] CG3135 GH27042 6C12-6C13 ID:80H7
- + enzyme \* 2e-08 ACH1\_YEAST ACETYL-COA HYDROLASE (ACETYL-COA DEACYLASE) (ACETYL-COA ACYLASE) \* 1e-
- CG7920 136 coded for by C. elegans cDNA yk20f6.3; coded for by C. el [ATP\_GTP\_A] CG7920 GH27164 99D4-99D4 dup:2/2 ID:81A11
- + enzyme \* antennal-specific short-chain dehydrogenase/reductase(aa) \* BLASTX 3.5E-15 YMR226C|Protein with similarity to CG7077 insect-type alcohol dehydrogenase, rib [adh short] CG7077 GH27329 94A14-94A14 dup:2/2 ID:81C8
  - + Cyp305a1cytochrome\_P450 \* CYTOCHROME P450 76C4(aa) \* cytochrome P450 epoxygenase(aa) \* cinnamate 4-
- CG8733 hydroxylase(aa) \* Cytochrome P-450 2A14(aa) [EP450II // p450 // P450 // MITP450 // B] CG8733 GH27419 76D3-76D3 ID:81D5
- + cell\_adhesion \* DMARTAN\_7 trn \* 4e-35 KEK1 \* 3e-06 contains similarity to leucine-rich repeats (LRR) \* 8e-12 neurogenic CG9431 extracellular slit protein [ig // LRR // LRRCT] CG9431 GH27420 34A10-34A10 ID:81D6
- CG6503 + CG6503 dup:2/2 ID:81E12

- CG15131+ unknown \* CG15131 GH27691 36A10-36A10 ID:81F9
- + protein\_phosphatase \* similar to glycogen-binding subunit protein phosphatase-1(aa) \* smooth muscle protein phosphatase CG9619 type 1-binding subunit(aa) \* protein phosphatase CG9619 GH27769 76A4-76A5 ID:81G10
- \* UDP-GLUCURONOSYLTRANSFERASE 2B13 PRECURSOR, MICROSOMAL (UDPGT)(aa) \* UDP-GLUCURONOSYLTRANSFERASE 2B20 PRECURSOR, MICROSOMAL (UDPGT)(aa) \* similar t [UDPGT] CG17323 37B3-37B3
- CG17323 dup:1/2 ID:81G12
- + Cyp4d20 cytochrome\_P450 \* /motif=(desc:; /match=(desc:; /match=(desc:; /match=(desc:; /match=(desc:; /motif=(desc:(aa) \* 1e-70 similar to cytochrome P450; cDNA EST CEMSH91R comes from this [EP450II // p450 // P450 // MITP450 // B] CG16761 GH27758 62E5-62E5 CG16761 ID:81G8
- + \* caltractin (20kD calcium-binding protein)(aa) \* Calmodulin; Cmd1p(aa) \* 7e-09 CALM\_YEAST CALMODULIN calmodulin CG17272 yeast (Saccharomyces cere \* 1e-09 C [EF\_HAND\_2] CG17272 92F13-92F13 dup:2/2 ID:81H6
- + transcription\_factor \* hepatocyte nuclear factor alpha(aa) \* Contains similarity to Pfam domain: (homeobox), Score=20.5, N=1(aa) \* onecut 2(aa) \* coded for by C. elegans [homeobox // HOMEOBOX\_2 // NLS\_BP] CG1922 GH28062 102C6-102C6 CG1922 ID:82B9
- + unknown \* CGI-05 protein(aa) \* 7e-23 YQT5\_CAEEL HYPOTHETICAL 61.3 KD PROTEIN F25B5.5 IN CHROMOSOME III (U \* CG6550 1e-65 432aa long hypothetical protein \* conserved [UPF0004] CG6550 GH28477 54C1-54C1 ID:82D10
- + AcCoAS enzyme \* DMACOASYN\_2 AcCoAS \* 1e-154 ACS2\_YEAST ACETYL-COENZYME A SYNTHETASE (ACETATE--COA LIGASE 2) (ACYL-ACTIVAT \* acetyl-CoA synthetase fruit fly (Droso [AMP\_BINDING // AMPBINDING // AMP-bindin] CG9390 78C7-CG9390 78C7 ID:82D4
- + Galpha49B signal\_transduction \* 7e-50 GBA2\_YEAST GUANINE NUCLEOTIDE-BINDING PROTEIN ALPHA-2 SUBUNIT (GP2-ALPHA) \* 1e-169 GBQ3\_DROME GUANINE NUCLEOTIDE-BINDING PROTEIN G(Q), ALPH[GPROTEINA // G-alpha // CG17759 GPROTEINAQ // G] CG17759 GH28437 49B3-49B5 ID:82D7
- + transporter \* similar to C. elegans protein and to rat synaptic vesicle protein \* putative integral membrane transport protein(aa)
- CG8654 \* HYPOTHETICAL 84.8 KD PROTEIN [sugar\_tr] CG8654 GH28654 56F-56F dup:2/2 ID:82E12
- CG11347+ unknown \* [NLS\_BP] CG11347 GH28550 64B11-64B11 dup:2/2 ID:82E4
- CG6908 + unknown \* 6e-20 /match=(desc:; /ma \* \* CG6908 GH28576 86F1-86F1 dup:2/2 ID:82E7
- + igl ligand\_binding\_or\_carrier \* ligand binding or carrier calmodulin binding ) map\_position:51E \* 6e-51 growth-associated protein CG18285 GAP-43 homolog=igloo-L melanogas \* 6e-53 igl \* gro [IQ] CG18285 GH28577 51A4-51E7 dup:2/2 ID:82E8
- + Rh5 G\_protein\_linked\_receptor \* Rh5 \* DMNKDTACH\_2 Takr86C \* OPSIN RH4 (INNER R7 PHOTORECEPTOR CELLS OPSIN)(aa) \* short wavelength-sensitive opsin; ultraviolet-sensi[GPCRRHODOPSN // OPSIN // G\_PROTEIN\_RECE] CG5279 GH28578 33B10-33B10 dup:2/2 ID:82E9
- + Lk6 protein\_kinase \* 7e-51 LK6 protein kinase \* 2e-06 similar to serine/threonine kinase; cDNA EST comes fro \* 2e-11 map kinase interacting kinase \* 3e-12 Putative map k [PROTEIN\_KINASE\_ST // PROTEIN\_KINASE\_DOM] CG17342 GH28825 86F7-CG17342 86F7 ID:82G11
- + Hsp27 chaperone \* DMHSP27G\_3 Hsp27 \* 1e-118 HS27\_DROME HEAT SHOCK PROTEIN heat shock protein f \* 3e-13 Contains similarity to Pfam domain: (HSP20), Score=130.7, \* 2 [TONB\_DEPENDENT\_REC\_1 // HSP20 // ACRYST] CG4466 CG4466 GM13686 67B2-67B2 ID:83A12

- + enzyme \* NADH:ubiquinone dehydrogenase kDa subunit(aa) \* similar to NADH-ubiquinone oxidoreductase; cDNA EST comes from this gene; cDNA EST comes from this [COMPLEX1\_51K\_1 // COMPLEX1\_51K\_2] CG9140 GM14163 26B3-26B3
- CG9140 ID:83B12
- CG6544 + fau unknown \* CG6544 HL07933 86C4-86C4 dup:1/2 ID:83C11
  - + unknown \* CUTICLE PROTEIN (BC-NCP1)(aa) \* BLASTX 1.2E-10 Theileria parva schizont/sporozoite surface protein gene,
- CG8736 partial cds.(dna) \* CG8736 HL08183 44D-44D ID:83D10
  - + hk ion\_channel \* 3e-38 Hk protein \* 4e-09 potassium channel beta subunit \* 8e-09 potassium channel beta subunit \* 4e-09
- CG2287 alpha-dendrotoxin-sensitive potassium channel CG2287 HL08167 9B7-9B8 ID:83D9
  - + chaperone \* HYPOTHETICAL 39.9 KD PROTEIN T15H9.1 IN CHROMOSOME II PRECURSOR(aa) \* DNAJ PROTEIN HOMOLOG (DROJ1)(aa) \* 1e-06 SCJ1\_YEAST SCJ1 PROTEIN SCJ1 protein [DnaJ // DNAJ\_2] CG9089 LD21896 15B4-15B4
- CG9089 dup:2/2 ID:83E11
- CG1800 + RNA\_binding double-stranded binding protein DSRBD CG1800 LD23072 dup:3/4 ID:83H11 + zf30C transcription\_factor \* leukemia/lymohoma related factor cLRF(aa) \* zf30C \* 4e-17 YJF6\_YEAST HYPOTHETICAL 98.9 KD ZINC FINGER PROTEIN IN BTN1-PEP8 INTERGENIC REG \* zinc f[zf-C2H2 // ZINC\_FINGER\_C2H2 // ZINC\_FIN] CG3998 LD23102
- CG3998 30D1-30D1 ID:83H12
- + cell\_adhesion \* DMFAT\_2 ft \* 7e-55 adherin \* 3e-43 Similarity to Drosophila Cadherin-related tumor suppressor precurs \* 1e-
- CG7805 58 seven-pass transmembrane receptor prec [CADHERIN // cadherin // CADHERIN\_2] CG7805 LD23052 99C6-99C6 ID:83H9
  - + enzyme \* 1e-82 Similar to NADH-ubiquinone oxidoreductase kd subunit; coded for by C. elegans \* 4e-88 NADH
- CG12079 dehydrogenase (ubiquinone) Fe-S protein (30kD) (NAD [complex1\_30Kd] CG12079 63B11-63B11 dup:2/2 ID:84H8
- + enzyme \* glucose dehydrogenase (acceptor) (EC 1.1.99.10) fruit fly (Drosophila melanogaster) (fragment)(aa) \* DMGLDY01\_11 Gld \* putative benzyl alcohol deh [GMC\_OXRED\_1 // GMC\_oxred // GMC\_OXRED\_2] CG9509 LD25803 13A1-13A1 CG9509 ID:85A6
  - + enzyme \* Similar to carbonic anhydrase; coded for by C. elegans cDNA yk72d10.3; coded for by C. elegans cDNA yk119b1.3;
- CG6906 coded for by C. elegans cDNA cm18b8; [carb\_anhydrase] CG6906 LD26647 68F7-68F7 dup:2/2 ID:85G2
  - + enzyme \* ACONITATE HYDRATASE, MITOCHONDRIAL PRECURSOR (CITRATE HYDRO-LYASE) (ACONITASE)(aa) \* ACON\_YEAST ACONITATE HYDRATASE, MITOCHONDRIAL PRECURSOR (CITRA [ACONITASE\_2 // Aconitase\_C //
- CG9244 THIOLASE\_] CG9244 LD26837 39B3-39B3 dup:3/3 ID:85H6
- + RNA\_binding \* 2e-14 predicted using Genefinder; Similarity to Arabidopsis DNA-damage-r \* 8e-43 splicing factor (45kD); SPF CG17540 45kDa splicing factor; SPF \* 2e-17 D111 [D111\_DOMAIN] CG17540 LD27025 cyto\_unknown ID:86A12
- CG9304 + unknown \* 8e-42 cDNA EST comes from this gene \* 2e-20 antigen \* C15A7.2 \* CG9304 LD26991 58B5-58B5 ID:86A7
  - + transporter \* 2e-14 aquaporin \* 5e-22 BIB\_DROME NEUROGENIC PROTEIN BIG BRAIN bib protein frui \* 6e-22 similar to
- CG7777 MIP transmembrane protein; cDNA EST yk459g7.3 c [MINTRINSICP // MIP] CG7777 LD27313 47F13-47F13 ID:86D9
- CG5868 + CG5868 dup:2/2 ID:86E9
- CG12030+ enzyme GALACTOWALDENASE) (UDP-GALACTOSE 4-EPIMERAS Epimerase CG12030 LD27852 dup:2/2 ID:86H11
- + BG:DS01219.1 unknown \* 1e-20 YKQ3\_CAEEL HYPOTHETICAL 42.1 KD PROTEIN C06E1.3 IN CHROMOSOME III (L1 \* \*
- CG4482 CG4482 LD27791 35B9-35B9 ID:86H4

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CG4710 +
              unknown * CG4710 21E-21E dup:2/2 ID:86H5
CG5809 + CaBP1 chaperone protein disulfide isomerase ER TARGET, THIOREDOXIN CG5809 LD28038 dup:2/2 ID:87B5
              cell adhesion CG15427 LD28224 dup:1/2 ID:87D1
CG15427+
               actin binding * singed protein - fruit fly (Drosophila melanogaster)(aa) * DMSING2 2 sn * SING DROME SINGED PROTEIN
CG1536 singed * 2e-96 FASC MOUSE FASCIN fascin - mouse CG1536 LD28250 7D2-7D2 ID:87D3
        + Cht2 enzyme * chitinase(aa) * 4e-66 chitinase * 3e-53 CHIT CAEEL PUTATIVE ENDOCHITINASE coded for by C. elegans * 8e-
CG2054 60 BRP39 protein - mouse BRP39 protein m [CHITINASE 18 // Glyco hydro 18] CG2054 LD28264 62B1-62B1 ID:87D4
        + Scsalphaenzyme * succinyl-CoA synthetase alpha subunit(aa) * 7e-75 SUCA YEAST PROBABLE SUCCINYL-COA LIGASE (GDP-
CG1065 FORMING), ALPHA-CHAIN PRECURSOR (S * 8e-41 succinyl c CG1065 64C4-64C4 dup:2/4 ID:87F1
CG6988 +
                CG6988 dup:1/3 ID:87F2
              RNA binding * dJ222E13.3.2 (PUTATIVE partial isoform 2)(aa) * DMBNBR 2 bnb * CG6961 LD28479 17D5-17D5 dup:3/4
CG6961 ID:87F6
CG10627+
                CG10627 ID:87F7
CG17870+
              unknown CG17870 dup:3/4 ID:87H7
        + wal electron transfer * 2e-61 ETFA YEAST PROBABLE ELECTRON TRANSFER FLAVOPROTEIN ALPHA-SUBUNIT
        PRECURSOR (ALP * 1e-106 ETFA_CAEEL PROBABLE ELECTRON TRANSFER FLAVOPROTEIN AL [ETF_alpha // ETF_ALPHA]
CG8996 CG8996 48B6-48B6 dup:1/3 ID:88A12
              chaperone * 1e-14 embryonal lethal (2)13-1 (el(2)13-1) - fruit fly (Drosophila melanogaster) * 4e-41 similar to small heat shock
CG14207 protein HSP20 family * 1e-12 CR [HSP20 // ACRYSTALLIN] CG14207 18D8-18D8 dup:3/4 ID:88B12
CG17927 + Mhc
                  motor protein Myosin heavy chain CG17927 ID:88B3
              unknown * contains similarity to a BR-C/TTK domain(aa) * 5e-10 kelch protein, long form - fruit fly (Drosophila melanogaster) *
CG1826 7e-12 Kelch motif containing [BTB // PROTEIN SPLICING // NLS BP] CG1826 9E2-9E2 dup:2/2 ID:88B4
CG9216 +
              unknown * [NLS BP] CG9216 14A6-14A8 ID:88B5
CG3661
CG10217+
              unknown * 4e-08 cDNA EST CEMSE83F comes from this gene; cDNA EST comes * * CG10217 95B7-95B8 dup:2/4 ID:88D6
                CG18858 ID:88F6
CG18858+
CG17138+
                CG17138 dup:2/2 ID:88G10
               CG1596|unknown|CT3517 ID:88G5
CG1596 +
              enzyme CG7471 ID:88H1
CG7471 +
        + EG:EG0007.12 unknown * by content; by motif; 2-match_description=ATP/GTP-binding site motif A (P-I...(aa) * by content; 1-meth *
CG4857 by content: 1-meth * CG4857 4B1-4B2 dup:3/3 ID:88H5
              transcription factor * 4e-30 alternatively spliced form * 4e-07 BAC1 MOUSE TRANSCRIPTION REGULATOR PROTEIN
CG8924 BACH1 (BTB AND CNC HOMOLOG 1) * 2e-07 actin binding protein MAYV [BTB] CG8924 LD29820 13F14-13F14 ID:89C4
              unknown * 1e-52 NUC1 YEAST MITOCHONDRIAL NUCLEASE nuclease NUC1 (EC 3.1.30 * 5e-77 YJ05 CAEEL
        HYPOTHETICAL 85.1 KD NUCLEASE C41D11.5 simila * 2e-68 NUCG MOUSE [NUCLEASE NON SPEC // Endonuclease]
CG8862 CG8862 LD35517 48F1-48F1 ID:95B2
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- + Arp66B cytoskeletal\_structural\_protein \* DMACTR66B\_2 Arp66B \* 1e-126 ARP3\_YEAST ACTIN-LIKE PROTEIN ARP3 actin homolog YJR065 \* ARP3\_DROME ACTIN-LIKE PROTEIN (ACTIN-LIKE PROTEIN 66B) (ACTIN [ACTINS\_ACT\_LIKE // actin]
- CG7558 CG7558 LD35711 66B8-66B8 ID:95C9
  - + Bub1 enzyme \* Bub1 \* 4e-75 hypothetical protein YLR419w yeast (Saccharomyces cerevisiae) (U \* DDX9\_CAEEL PROBABLE ATP-DEPENDENT RNA HELICASE A (NUCLEAR DNA HEL [PROTEIN\_KINASE\_ST // pkinase // PROTEIN] CG7838 LD35813
- CG7838 42A1-42A1 ID:95D5
- CG6398 + unknown \* 8e-16 coded for by C. elegans cDNA yk81c2.5 \* \* CG6398 LD36024 16D4-16D4 dup:2/2 ID:95F3
- CG5175 + CG5175 ID:95H10
- + unknown \* 2e-10 transmembrane protein \* 6e-12 weak similarity to plasminogens \* 2e-12 DMDUSKY\_1 dy \* similar to cuticlin CG7802 INLS BPI CG7802 LD36439 99C5-99C5 ID:96A7
- + unknown \* 2e-08 YHC6 CAEEL HYPOTHETICAL 81.4 KD PROTEIN ZC434.6 IN CHROMOSOME I PRECURSOR \* 3e-53
- CG7012 Y253 HUMAN HYPOTHETICAL PROTEIN KIA \* \* CG7012 LD36812 96B2-96B3 ID:96C4
- + \* similar to Arabidopsis thaliana male sterility protein \* 4e-47 /match=(desc:; /ma \* 6e-30 male sterility 2-like protein \* 4e-49 CG2858 DMC103B4 CG2858 60E5-60E5 dup:1/2 ID:96C7
- + transporter \* cationic amino acid transporter-1(aa) \* solute carrier family (cationic amino acid transporter, y+ system), member 1(aa) \* LOW-AFFINITY CATIONIC AMI [aa\_permeases // AMINO\_ACID\_PERMEASE\_2] CG11128 LD37241 79F5-79F6 dup:2/2 CG11128 ID:96F8
- + ion\_channel \* outer membrane protein(aa) \* The gene product is related to adenylyl cyclase.(aa) \* 1e-18 DLG1\_DROME
- CG5462 LETHAL(1)DISCS LARGE-1 TUMOR SUPPRESSOR PROTEIN [PDZ] CG5462 LD37377 100B1-97B9 dup:1/3 ID:96G9
- + B52 RNA\_binding \* transcription, DNA-dependent mRNA splicing ) RNA binding RNA binding ) nucleic acid binding pre-mRNA CG10851 splicing factor ) \* DMB52\_2 B52 \* 52K active ch [RBD // rrm // NLS\_BP] CG10851 LD37428 87F7-87F7 ID:96H1
- + enzyme \* protein(aa) \* 3e-37 PAN2\_YEAST PAB-DEPENDENT POLY(A)-SPECIFIC RIBONUCLEASE SUBUNIT PAN2 (PAB1P-DEPE \* 4e-59 YPO4\_CAEEL HYPOTHETICAL 127.2 KD PROTEIN [UCH\_2\_3 // Exonuclease] CG8232 LD37466 44F9-CG8232 44F11 dup:1/4 ID:96H2
- + unknown \* 6e-10 MLN \* 1e-41 I(3)rL203 I(3)rL203 inserted at base 5' end of P element Inverse PCR \* CG12878 LD37788 CG1287898A8-98A8 dup:2/2 ID:97B3
- + ribosomal\_protein \* 4e-06 RM32\_YEAST MITOCHONDRIAL 60S RIBOSOMAL PROTEIN L32 PRECURSOR (YML32) \* 2e-12 YLA1\_CAEEL HYPOTHETICAL 19.1 KD PROTEIN C30C11.1 IN CHROMOSOME II [NLS\_BP] CG12220 LD37925 100C-100C CG12220 ID:97C1
- + enzyme \* BLASTX 1.1E-34 Rattus sp. mRNA for hemC gene.(dna) \* BLASTX 1.1E-34 Rattus sp. mRNA for hemC gene.(dna) \* 7e-54 HEM3\_YEAST PORPHOBILINOGEN DEAMINASE [PORPHBDMNASE // Porphobil\_deam] CG9165 LD38107 61F7-61F7 CG9165 dup:2/2 ID:97D8
- + unknown \* weak similarity to ATP/GTP-binding site motif A \* 2e-40 weak similarity to ATP/GTP-binding site motif A elega \* 1e-CG5924 63 POM1 chabaudi \* [ATP\_GTP\_A] CG5924 LD38710 33A1-33A1 dup:1/2 ID:97H9
- unknown \* HYPOTHETICAL 35.0 KD PROTEIN F48E8.1 IN CHROMOSOME III(aa) \* Similar to plant PR-1 class of pathogen related proteins; Pry3p(aa) \* sol i antigen(aa [SCP\_AG5\_PR1\_SC7\_2 // V5TPXLIKE // V5ALL] CG8483 LD39025 87E2-87E3
   CG8483 ID:98C2

- + unknown \* 3e-21 hypothetical protein YOR289w yeast (Saccharomyces cerevisiae) \* 1e-43 R166.3 \* 3e-45 unknown protein \*
- CG5902 Y810\_METJA HYPOTHETICAL PROTEIN hypo CG5902 97F1-97F1 dup:1/6 ID:98G6
  - + enzyme \* putative serine protease-like protein(aa) \* weakly similar to human placental protein precursor
- CG3303 (SP:PP11\_HUMAN)(aa) \* placental protein (serine pro CG3303 LD39912 89A13-89B1 ID:99A3
  - + Ama cell\_adhesion \* DMAMA\_5 Ama \* Immunoglobulin-C2-type-domain protein \* 1e-15 hemicentin precursor \* 3e-19 cell
- CG2198 adhesion molecule (AA 681) is 1st base in codon) [ig] CG2198 LD39923 84D1-84D1 ID:99A4
  - + unknown \* 4e-31 SRYA\_DROME SERENDIPITY LOCUS ALPHA PROTEIN serendipity (sr \* 4e-32 Drosophila simulans
- CG8247 serendipity \* 4e-33 DMSRYG1\_16 Sry-&agr; CG8247 LD39926 44F9-44F9 ID:99A5
  - + endopeptidase \* 6e-15 UBPA\_YEAST UBIQUITIN CARBOXYL-TERMINAL HYDROLASE (UBIQUITIN THIOLESTERASE \* 2e-12 FAF\_DROME PROBABLE UBIQUITIN CARBOXYL-TERMINAL HYDROLASE FAF [UCH\_2\_1 // UCH\_2\_2 // UCH\_2\_3 // UCH\_2\_3
- CG5505 1 ] CG5505 LD40339 66A5-66A5 ID:99D11
  - + unknown \* DIMETHYLADENOSINE TRANSFERASE (S-ADENOSYLMETHIONINE-6-N', N'-ADENOSYL(RRNA)
    DIMETHYLTRANSFERASE) (16S RRNA DIMETHYLASE) (HIGH LEVEL KASUGAMYCIN RESI [RrnaAD] CG7319 LD40326 71C2-
- CG7319 71C2 dup:2/2 ID:99D9
- + unknown \* Loc7p(aa) \* 13S condensin XCAP-D2 subunit(aa) \* gene product is related to yeast protein \* 8e-38 hypothetical CG1911 protein YLR272c yeast (Saccharomyce [NLS BP] CG1911 LD40412 99B-99B dup:2/2 ID:99E3
- + unknown \* 2e-49 kraken \* 1e-19 dJ222E13.1 (N-terminal part of novel protein with some similarit \* 6e-12 TPES\_PSEPU TROPINESTERASE (ATROPINESTERASE) (ATROPINE [ESTERASE // EF\_HAND // abhydrolase] CG11309 LD40450 78C8-78C9 CG11309 dup:4/4 ID:99E7
  - + BcDNA:LD24639 enzyme \* F17F8.28(aa) \* sperm associated antigen 2(aa) \* UDP-N-acetylglucosamine pyrophosphorylase; Qri1p(aa) \* 3e-88 QRI1\_YEAST HYPOTHETICAL 53.5 KD PROTEIN [ATP\_GTP\_A] CG9535 LD24639 26D5-26D5 dup:2/3
- CG9535 ID:Farhad's BB11
- CG9432 + CG9432 G041 dup:1/4 ID:Farhad's BC7
- CG1124 + unknown CG1124 ck00336 dup:2/2 ID:Farhad's BD9
- CG15288 + CG15288 ck01592 ID:Farhad's BE4