Supplement Table 2. Kyoto encyclopedia of genes and genome pathways of unigenes obtained from antenna transcriptome of *Rhizopertha dominica.*

|  |  |  |
| --- | --- | --- |
| Pathway | Count (18159) | Pathway ID |
| [Metabolic pathways](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene1) | 2431 | ko01100 |
| [Focal adhesion](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene2) | 714 | ko04510 |
| [Regulation of actin cytoskeleton](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene3) | 698 | ko04810 |
| [Pathways in cancer](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene4) | 646 | ko05200 |
| [Purine metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene5) | 564 | ko00230 |
| [Vascular smooth muscle contraction](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene6) | 530 | ko04270 |
| [RNA transport](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene7) | 521 | ko03013 |
| [Endocytosis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene8) | 504 | ko04144 |
| [Neuroactive ligand-receptor interaction](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene9) | 490 | ko04080 |
| [Spliceosome](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene10) | 475 | ko03040 |
| [MAPK signaling pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene11) | 475 | ko04010 |
| [HTLV-I infection](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene12) | 456 | ko05166 |
| [Tight junction](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene13) | 450 | ko04530 |
| [Epstein-Barr virus infection](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene14) | 441 | ko05169 |
| [Amoebiasis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene15) | 421 | ko05146 |
| [Pyrimidine metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene16) | 398 | ko00240 |
| [Ubiquitin mediated proteolysis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene17) | 398 | ko04120 |
| [Huntington's disease](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene18) | 388 | ko05016 |
| [Calcium signaling pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene19) | 382 | ko04020 |
| [Bile secretion](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene20) | 366 | ko04976 |
| [Transcriptional misregulation in cancer](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene21) | 350 | ko05202 |
| [Cell cycle](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene22) | 347 | ko04110 |
| [Chemokine signaling pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene23) | 331 | ko04062 |
| [Pancreatic secretion](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene24) | 328 | ko04972 |
| [mRNA surveillance pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene25) | 324 | ko03015 |
| [Insulin signaling pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene26) | 322 | ko04910 |
| [Influenza A](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene27) | 322 | ko05164 |
| [ECM-receptor interaction](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene28) | 319 | ko04512 |
| [Dilated cardiomyopathy](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene29) | 317 | ko05414 |
| [Herpes simplex infection](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene30) | 313 | ko05168 |
| [Vibrio cholerae infection](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene31) | 307 | ko05110 |
| [Phagosome](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene32) | 300 | ko04145 |
| [Wnt signaling pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene33) | 295 | ko04310 |
| [Lysosome](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene34) | 293 | ko04142 |
| [Protein processing in endoplasmic reticulum](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene35) | 290 | ko04141 |
| [Salmonella infection](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene36) | 288 | ko05132 |
| [Gastric acid secretion](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene37) | 285 | ko04971 |
| [Salivary secretion](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene38) | 284 | ko04970 |
| [Progesterone-mediated oocyte maturation](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene39) | 283 | ko04914 |
| [Hypertrophic cardiomyopathy (HCM)](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene40) | 283 | ko05410 |
| [Leukocyte transendothelial migration](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene41) | 270 | ko04670 |
| [Fc gamma R-mediated phagocytosis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene42) | 270 | ko04666 |
| [Adherens junction](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene43) | 262 | ko04520 |
| [Protein digestion and absorption](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene44) | 257 | ko04974 |
| [Tuberculosis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene45) | 254 | ko05152 |
| [Alzheimer's disease](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene46) | 254 | ko05010 |
| [RNA polymerase](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene47) | 253 | ko03020 |
| [Axon guidance](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene48) | 252 | ko04360 |
| [Glutamatergic synapse](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene49) | 252 | ko04724 |
| [Ribosome biogenesis in eukaryotes](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene50) | 247 | ko03008 |
| [Glycerophospholipid metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene51) | 244 | ko00564 |
| [Dopaminergic synapse](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene52) | 244 | ko04728 |
| [Starch and sucrose metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene53) | 243 | ko00500 |
| [Neurotrophin signaling pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene54) | 241 | ko04722 |
| [Vasopressin-regulated water reabsorption](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene55) | 240 | ko04962 |
| [Oocyte meiosis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene56) | 239 | ko04114 |
| [Phosphatidylinositol signaling system](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene57) | 237 | ko04070 |
| [Bacterial invasion of epithelial cells](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene58) | 226 | ko05100 |
| [Cardiac muscle contraction](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene59) | 224 | ko04260 |
| [Peroxisome](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene60) | 220 | ko04146 |
| [Carbohydrate digestion and absorption](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene61) | 219 | ko04973 |
| [GnRH signaling pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene62) | 215 | ko04912 |
| [RNA degradation](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene63) | 214 | ko03018 |
| [Pathogenic *Escherichia coli* infection](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene64) | 205 | ko05130 |
| [T cell receptor signaling pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene65) | 203 | ko04660 |
| [Melanogenesis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene66) | 202 | ko04916 |
| [Retrograde endocannabinoid signaling](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene67) | 202 | ko04723 |
| [Viral myocarditis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene68) | 202 | ko05416 |
| [Toxoplasmosis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene69) | 201 | ko05145 |
| [Gap junction](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene70) | 200 | ko04540 |
| [Cholinergic synapse](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene71) | 197 | ko04725 |
| [Glycerolipid metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene72) | 197 | ko00561 |
| [Dorso-ventral axis formation](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene73) | 195 | ko04320 |
| [GABAergic synapse](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene74) | 189 | ko04727 |
| [Morphine addiction](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene75) | 189 | ko05032 |
| [Lysine degradation](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene76) | 188 | ko00310 |
| [Alcoholism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene77) | 186 | ko05034 |
| [Galactose metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene78) | 185 | ko00052 |
| [Prostate cancer](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene79) | 185 | ko05215 |
| [Shigellosis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene80) | 183 | ko05131 |
| [Cell adhesion molecules (CAMs)](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene81) | 182 | ko04514 |
| [ABC transporters](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene82) | 182 | ko02010 |
| [Renal cell carcinoma](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene83) | 178 | ko05211 |
| [Long-term potentiation](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene84) | 177 | ko04720 |
| [Measles](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene85) | 176 | ko05162 |
| [Amino sugar and nucleotide sugar metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene86) | 169 | ko00520 |
| [Amphetamine addiction](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene87) | 165 | ko05031 |
| [Synaptic vesicle cycle](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene88) | 164 | ko04721 |
| [Hepatitis C](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene89) | 163 | ko05160 |
| [Mineral absorption](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene90) | 162 | ko04978 |
| [VEGF signaling pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene91) | 162 | ko04370 |
| [Pentose and glucuronate interconversions](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene92) | 161 | ko00040 |
| [Serotonergic synapse](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene93) | 161 | ko04726 |
| [Adipocytokine signaling pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene94) | 158 | ko04920 |
| [Fanconi anemia pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene95) | 157 | ko03460 |
| [Phototransduction - fly](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene96) | 155 | ko04745 |
| [ErbB signaling pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene97) | 155 | ko04012 |
| [Oxidative phosphorylation](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene98) | 154 | ko00190 |
| [Cytosolic DNA-sensing pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene99) | 152 | ko04623 |
| [Amyotrophic lateral sclerosis (ALS)](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene100) | 151 | ko05014 |
| [Parkinson's disease](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene101) | 150 | ko05012 |
| [B cell receptor signaling pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene102) | 150 | ko04662 |
| [Inositol phosphate metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene103) | 145 | ko00562 |
| [Glioma](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene104) | 145 | ko05214 |
| [Endocrine and other factor-regulated calcium reabsorption](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene105) | 141 | ko04961 |
| [Long-term depression](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene106) | 140 | ko04730 |
| [Fc epsilon RI signaling pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene107) | 138 | ko04664 |
| [Small cell lung cancer](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene108) | 135 | ko05222 |
| [Ribosome](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene109) | 134 | ko03010 |
| [Natural killer cell mediated cytotoxicity](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene110) | 132 | ko04650 |
| [NF-kappa B signaling pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene111) | 128 | ko04064 |
| [Fat digestion and absorption](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene112) | 127 | ko04975 |
| [Chronic myeloid leukemia](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene113) | 127 | ko05220 |
| [Vitamin digestion and absorption](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene114) | 126 | ko04977 |
| [Arrhythmogenic right ventricular cardiomyopathy (ARVC)](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene115) | 126 | ko05412 |
| [Notch signaling pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene116) | 125 | ko04330 |
| [Glutathione metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene117) | 125 | ko00480 |
| [Drug metabolism - other enzymes](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene118) | 124 | ko00983 |
| [Basal transcription factors](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene119) | 123 | ko03022 |
| [PPAR signaling pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene120) | 122 | ko03320 |
| [Chagas disease (American trypanosomiasis)](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene121) | 121 | ko05142 |
| [Drug metabolism - cytochrome P450](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene122) | 121 | ko00982 |
| [Epithelial cell signaling in Helicobacter pylori infection](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene123) | 121 | ko05120 |
| [Arginine and proline metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene124) | 120 | ko00330 |
| [Jak-STAT signaling pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene125) | 120 | ko04630 |
| [Metabolism of xenobiotics by cytochrome P450](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene126) | 119 | ko00980 |
| [Nucleotide excision repair](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene127) | 119 | ko03420 |
| [NOD-like receptor signaling pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene128) | 117 | ko04621 |
| [Cytokine-cytokine receptor interaction](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene129) | 116 | ko04060 |
| [Colorectal cancer](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene130) | 115 | ko05210 |
| [Aminoacyl-tRNA biosynthesis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene131) | 115 | ko00970 |
| [DNA replication](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene132) | 115 | ko03030 |
| [Endometrial cancer](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene133) | 113 | ko05213 |
| [Osteoclast differentiation](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene134) | 112 | ko04380 |
| [p53 signaling pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene135) | 111 | ko04115 |
| [Retinol metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene136) | 111 | ko00830 |
| [Glycine, serine, and threonine metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene137) | 107 | ko00260 |
| [Olfactory transduction](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene138) | 107 | ko04740 |
| [Basal cell carcinoma](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene139) | 106 | ko05217 |
| [Type II diabetes mellitus](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene140) | 104 | ko04930 |
| [Cocaine addiction](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene141) | 104 | ko05030 |
| [Hedgehog signaling pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene142) | 102 | ko04340 |
| [mTOR signaling pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene143) | 101 | ko04150 |
| [Other types of O-glycan biosynthesis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene144) | 101 | ko00514 |
| [Non-small cell lung cancer](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene145) | 100 | ko05223 |
| [Prion diseases](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene146) | 100 | ko05020 |
| [Toll-like receptor signaling pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene147) | 99 | ko04620 |
| [Hematopoietic cell lineage](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene148) | 98 | ko04640 |
| [Tyrosine metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene149) | 96 | ko00350 |
| [Alanine, aspartate, and glutamate metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene150) | 96 | ko00250 |
| [TGF-beta signaling pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene151) | 96 | ko04350 |
| [Porphyrin and chlorophyll metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene152) | 95 | ko00860 |
| [Aldosterone-regulated sodium reabsorption](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene153) | 94 | ko04960 |
| [Ascorbate and aldarate metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene154) | 91 | ko00053 |
| [Phototransduction](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene155) | 90 | ko04744 |
| [Pertussis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene156) | 89 | ko05133 |
| [Acute myeloid leukemia](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene157) | 86 | ko05221 |
| [Pancreatic cancer](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene158) | 85 | ko05212 |
| [Glycolysis / Gluconeogenesis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene159) | 85 | ko00010 |
| [Legionellosis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene160) | 83 | ko05134 |
| [Leishmaniasis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene161) | 83 | ko05140 |
| [MAPK signaling pathway - fly](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene162) | 82 | ko04013 |
| [Fructose and mannose metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene163) | 81 | ko00051 |
| [Pyruvate metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene164) | 81 | ko00620 |
| [Valine, leucine, and isoleucine degradation](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene165) | 79 | ko00280 |
| [Nicotine addiction](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene166) | 78 | ko05033 |
| [Base excision repair](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene167) | 78 | ko03410 |
| [Homologous recombination](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene168) | 77 | ko03440 |
| [Mismatch repair](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene169) | 77 | ko03430 |
| [Apoptosis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene170) | 77 | ko04210 |
| [Tryptophan metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene171) | 76 | ko00380 |
| [Steroid hormone biosynthesis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene172) | 75 | ko00140 |
| [Complement and coagulation cascades](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene173) | 75 | ko04610 |
| [alpha-Linolenic acid metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene174) | 74 | ko00592 |
| [Fatty acid metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene175) | 74 | ko00071 |
| [N-Glycan biosynthesis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene176) | 71 | ko00510 |
| [Glycosaminoglycan biosynthesis - heparan sulfate](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene177) | 69 | ko00534 |
| [Nicotinate and nicotinamide metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene178) | 69 | ko00760 |
| [Cysteine and methionine metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene179) | 66 | ko00270 |
| [Rheumatoid arthritis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene180) | 65 | ko05323 |
| [Steroid biosynthesis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene181) | 63 | ko00100 |
| [Insect hormone biosynthesis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene182) | 62 | ko00981 |
| [Proximal tubule bicarbonate reclamation](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene183) | 62 | ko04964 |
| [Melanoma](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene184) | 61 | ko05218 |
| [Sphingolipid metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene185) | 59 | ko00600 |
| [Pentose phosphate pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene186) | 59 | ko00030 |
| [Thyroid cancer](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene187) | 56 | ko05216 |
| [Glyoxylate and dicarboxylate metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene188) | 55 | ko00630 |
| [Glycosylphosphatidylinositol(GPI)-anchor biosynthesis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene189) | 54 | ko00563 |
| [Ether lipid metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene190) | 53 | ko00565 |
| [Circadian rhythm - fly](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene191) | 53 | ko04711 |
| [Butanoate metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene192) | 52 | ko00650 |
| [Citrate cycle (TCA cycle)](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene193) | 52 | ko00020 |
| [Malaria](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene194) | 51 | ko05144 |
| [Primary immunodeficiency](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene195) | 51 | ko05340 |
| [beta-Alanine metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene196) | 51 | ko00410 |
| [Phenylalanine metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene197) | 50 | ko00360 |
| [Renin-angiotensin system](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene198) | 49 | ko04614 |
| [Taste transduction](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene199) | 49 | ko04742 |
| [Propanoate metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene200) | 48 | ko00640 |
| [Other glycan degradation](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene201) | 48 | ko00511 |
| [Collecting duct acid secretion](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene202) | 46 | ko04966 |
| [Biosynthesis of unsaturated fatty acids](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene203) | 46 | ko01040 |
| [SNARE interactions in vesicular transport](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene204) | 46 | ko04130 |
| [Antigen processing and presentation](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene205) | 46 | ko04612 |
| [African trypanosomiasis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene206) | 45 | ko05143 |
| [Fatty acid elongation](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene207) | 45 | ko00062 |
| [Proteasome](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene208) | 45 | ko03050 |
| [Staphylococcus aureus infection](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene209) | 43 | ko05150 |
| [RIG-I-like receptor signaling pathway](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene210) | 41 | ko04622 |
| [Glycosaminoglycan degradation](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene211) | 40 | ko00531 |
| [Fatty acid biosynthesis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene212) | 40 | ko00061 |
| [Protein export](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene213) | 39 | ko03060 |
| [Bladder cancer](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene214) | 39 | ko05219 |
| [Systemic lupus erythematosus](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene215) | 38 | ko05322 |
| [Arachidonic acid metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene216) | 38 | ko00590 |
| [Non-homologous end-joining](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene217) | 38 | ko03450 |
| [Type I diabetes mellitus](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene218) | 37 | ko04940 |
| [Terpenoid backbone biosynthesis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene219) | 36 | ko00900 |
| [Folate biosynthesis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene220) | 34 | ko00790 |
| [Histidine metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene221) | 34 | ko00340 |
| [Circadian rhythm - mammal](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene222) | 31 | ko04710 |
| [Ubiquinone and other terpenoid-quinone biosynthesis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene223) | 29 | ko00130 |
| [Linoleic acid metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene224) | 29 | ko00591 |
| [Regulation of autophagy](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene225) | 29 | ko04140 |
| [Riboflavin metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene226) | 26 | ko00740 |
| [Mucin type O-Glycan biosynthesis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene227) | 26 | ko00512 |
| [Glycosaminoglycan biosynthesis - chondroitin sulfate](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene228) | 26 | ko00532 |
| [Pantothenate and CoA biosynthesis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene229) | 24 | ko00770 |
| [One carbon pool by folate](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene230) | 24 | ko00670 |
| [Autoimmune thyroid disease](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene231) | 23 | ko05320 |
| [Maturity onset diabetes of the young](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene232) | 22 | ko04950 |
| [Cyanoamino acid metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene233) | 21 | ko00460 |
| [Sulfur relay system](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene234) | 21 | ko04122 |
| [Sulfur metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene235) | 19 | ko00920 |
| [Selenocompound metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene236) | 18 | ko00450 |
| [D-Glutamine and D-glutamate metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene237) | 18 | ko00471 |
| [Glycosphingolipid biosynthesis - lacto and neolacto series](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene238) | 18 | ko00601 |
| [D-Arginine and D-ornithine metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene239) | 18 | ko00472 |
| [Glycosphingolipid biosynthesis - ganglio series](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene240) | 17 | ko00604 |
| [Glycosphingolipid biosynthesis - globo series](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene241) | 16 | ko00603 |
| [Taurine and hypotaurine metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene242) | 16 | ko00430 |
| [Glycosaminoglycan biosynthesis - keratan sulfate](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene243) | 15 | ko00533 |
| [Caffeine metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene244) | 13 | ko00232 |
| [Biotin metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene245) | 12 | ko00780 |
| [Synthesis and degradation of ketone bodies](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene246) | 10 | ko00072 |
| [Butirosin and neomycin biosynthesis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene247) | 9 | ko00524 |
| [Vitamin B6 metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene248) | 9 | ko00750 |
| [Lipoic acid metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene249) | 8 | ko00785 |
| [Primary bile acid biosynthesis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene250) | 7 | ko00120 |
| [Valine, leucine and isoleucine biosynthesis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene251) | 7 | ko00290 |
| [Phenylalanine, tyrosine and tryptophan biosynthesis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene252) | 5 | ko00400 |
| [Thiamine metabolism](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene253) | 4 | ko00730 |
| [Lysine biosynthesis](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene254) | 2 | ko00300 |
| [Asthma](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene255) | 2 | ko05310 |
| [Intestinal immune network for IgA production](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene256) | 2 | ko04672 |
| [Allograft rejection](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene257) | 1 | ko05330 |
| [Graft-versus-host disease](file:///E%3A%5Cwj%5CMDN20140702%5CSupplemental%20Table%202.xls#RANGE!gene258) | 1 | ko05332 |