**Supplementary Table S1.** 8 KEGG pathways included in CGP.

|  |  |  |
| --- | --- | --- |
| ID | Name | update |
| hsa05200 | Pathways in cancer | 10/23/15 |
| hsa04115 | p53 signaling pathway | 12/24/15 |
| hsa04210 | Apoptosis | 3/3/16 |
| hsa04110 | Cell cycle | 4/5/16 |
| hsa04350 | TGF-beta signaling pathway | 3/29/16 |
| hsa04010 | MAPK signaling pathway | 1/18/16 |
| hsa04064 | NF-kappa B signaling pathway | 10/23/15 |
| hsa00970 | Aminoacyl-tRNA biosynthesis | 2/4/16 |

**Supplementary Table S2.** 32 KEGG pathways included in GP.

|  |  |  |
| --- | --- | --- |
| ID | Name | update |
| hsa00970 | Aminoacyl-tRNA biosynthesis | 2/4/16 |
| hsa02010 | ABC transporters | 3/16/16 |
| hsa04010 | MAPK signaling pathway | 1/18/16 |
| hsa04012 | ErbB signaling pathway | 2/24/16 |
| hsa04020 | Calcium signaling pathway | 10/23/15 |
| hsa04060 | Cytokine-cytokine receptor interaction | 3/29/16 |
| hsa04064 | NF-kappa B signaling pathway | 10/23/15 |
| hsa04070 | Phosphatidylinositol signaling system | 10/23/15 |
| hsa04080 | Neuroactive ligand-receptor interaction | 8/28/15 |
| hsa04110 | Cell cycle | 4/5/16 |
| hsa04114 | Oocyte meiosis | 1/18/16 |
| hsa04115 | p53 signaling pathway | 12/24/15 |
| hsa04140 | Regulation of autophagy | 1/22/14 |
| hsa04144 | Endocytosis | 7/22/15 |
| hsa04145 | Phagosome | 5/14/14 |
| hsa04146 | Peroxisome | 5/14/14 |
| hsa04150 | mTOR signaling pathway | 10/23/15 |
| hsa04210 | Apoptosis | 3/3/16 |
| hsa04310 | Wnt signaling pathway | 3/4/16 |
| hsa04330 | Notch signaling pathway | 3/31/09 |
| hsa04340 | Hedgehog signaling pathway | 4/5/16 |
| hsa04350 | TGF-beta signaling pathway | 3/29/16 |
| hsa04370 | VEGF signaling pathway | 10/23/15 |
| hsa04510 | Focal adhesion | 11/25/15 |
| hsa04512 | ECM-receptor interaction | 11/25/15 |
| hsa04514 | Cell adhesion molecules | 12/19/12 |
| hsa04520 | Adherens junction | 3/1/13 |
| hsa04530 | Tight junction | 10/23/15 |
| hsa04540 | Gap junction | 10/23/15 |
| hsa04630 | Jak-STAT signaling pathway | 9/29/15 |
| hsa04810 | Regulation of actin cytoskeleton | 8/29/14 |
| hsa05200 | Pathways in cancer | 10/23/15 |