|  |  |  |  |
| --- | --- | --- | --- |
| **Phase** |  **GO term description** | **Population frequency** | **Sample frequency** |
| **Genes up-regulated in saprobic phase** |  Inner kinetochore of condensed  chromosome | 10/3857 | 6/610 |
|  |  Spindle pole body | 51/3857 | 23/610 |
|  |  Cytokinesis | 64/3857 | 22/610 |
|  |  Mitotic sister chromatid segregation | 35/3857 | 16/610 |
|  |  Attachment of spindle microtubules to  kinetochore | 11/3857 | 7/610 |
|  |  Mitotic chromosome condensation | 10/3857 | 8/610 |
|  |  Regulation of exit from mitosis | 14/3857 | 9/610 |
|  |  Regulation of mitotic cell cycle | 50/3857 | 17/610 |
|  |  Nuclear pore organization and biogenesis | 13/3857 | 7/610 |
|  |  Nuclear nucleosome | 7/3857 | 5/610 |
|  |  rRNA-nucleus export | 13/3857 | 7/610 |
|  |  Nucleocytoplasmic transport | 33/3857 | 14/610 |
|  |  Bud neck | 50/3857 | 19/610 |
|  |  Septin complex | 4/3857 | 4/610 |
|  |  Septin ring (sensu Saccharomyces) | 6/3857 | 5/610 |
|  |  Cytoplasmic microtubule | 10/3857 | 6/610 |
|  |  Structural constituent of cytoskeleton | 23/3857 | 10/610 |
|  |  Microtubule cytoskeleton | 17/3857 | 9/610 |
|  |  Establishment of cell polarity (sensu  Fungi) | 35/3857 | 15/610 |
|  |  Conjugation with cellular fusion | 35/3857 | 13/610 |
|  |  Calmodulin binding | 7/3857 | 5/610 |
|  |  Isoprenoid biosynthesis | 7/3857 | 5/610 |
|  |  Ergosterol biosynthesis | 28/3857 | 12/610 |
|  |  Peroxisomal membrane | 11/3857 | 7/610 |
| **Genes up-regulated in parasitic phase** |  Response to light | 190/3857 | 53/551 |
|  |  Lipid particle | 20/3857 | 11/551 |
|  |  Oxidoreductase activity | 36/3857 | 15/551 |

**Table S3**. GO terms significantly enriched (*p*-value < 0.05) in saprobic-phase and parasitic-phase up-regulated gene sets.