



(a)

| Function ID | MIPS ID | Function name |
|-------------|-----------------|--|
| 1 | 10.01.09.05 | DNA conformation modification (e.g. chromatin) |
| 2 | 10.03.01 | mitotic cell cycle and cell cycle control |
| 3 | 11.02.01 | rRNA synthesis |
| 4 | 11.02.02 | tRNA synthesis |
| 5 | 11.02.03.01 | general transcription activities |
| 6 | 12.01.01 | ribosomal proteins |
| 7 | 16.03.01 | sugar binding |
| 8 | 16.03.03 | fatty acid binding (e.g. acyl-carrier protein) |
| 9 | 42.10.07 | nucleolus |
| 99 | 99 | Unknown |

(b)

Fig. 3: Topological shape and functional annotations of Cluster 21 in Additional file 1. (a) sub graph of Cluster 21 extracted from DIP PPI network. Each protein is annotated by MIPS functional category. (b) MIPS functional IDs and their corresponding literal names. The best assigned functional term is boldfaced.