

Supplementary Table S1

Comparison of the number of genes between *P. antarctica* and *S. cerevisiae* on the basis of KOG classification

# Description	<i>S. cerevisiae</i> The number of genes	<i>P. antarctica</i> The number of genes
<u>Metabolism</u>		
E Amino acid transport and metabolism	215	204
G Carbohydrate transport and metabolism	285	172
H Coenzyme transport and metabolism	90	78
P Inorganic ion transport and metabolism	144	91
I Lipid transport and metabolism	140	219
F Nucleotide transport and metabolism	87	63
Q Secondary metabolites biosynthesis, transport and catabolism	67	124
C Energy production and conversion	200	206
<u>Cellular processes and signaling</u>		
D Cell cycle control, cell division, chromosome partitioning	199	139
N Cell motility	1	3
M Cell wall/membrane/envelope biogenesis	69	48
Z Cytoskeleton	104	95
V Defense mechanisms	45	31
W Extracellular structures	18	4
U Intracellular trafficking, secretion, and vesicular transport	351	256
Y Nuclear structure	90	24
O Posttranslational modification, protein turnover, chaperones	471	373
T Signal transduction mechanisms	342	291
<u>Information storage and processing</u>		
B Chromatin structure and dynamics	106	78
A RNA processing and modification	219	203
L Replication, recombination and repair	174	164
K Transcription	312	216
J Translation, ribosomal structure and biogenesis	381	287
<u>Poorly characterized</u>		
S Function unknown	309	244
R General function prediction only	605	588