

Table S2. Glycerol metabolic genes. Blastp search (protein-protein BLAST) for the identification of *Y. lipolytica* glycerol metabolic genes using orthologs of *S. cerevisiae*.

| Pathway | Function | <i>S. cerevisiae</i> Standard Name | <i>S. cerevisiae</i> Systematic Name | EC number | % identity | E value | YALI1 ID | YALIO ID |
|----------------------------|--|---------------------------------------|---|-----------|------------|-----------|---------------|---------------|
| G3P pathway | Glycerol Kinase | GUT1 | YHL032C | 2.7.1.30 | 43 | 4.76E-139 | YALI1_F00654g | YALIO_F00484g |
| | G-3-P dehydrogenase (FAD ⁺) | GUT2 | YIL155C | 1.1.5.3 | 46 | 0.0 | YALI1_B18499g | YALIO_B13970g |
| | G-3-P dehydrogenase (NAD ⁺) | GPD1 / GPD2 | YDL022W / YOL059W | 1.1.1.8 | 58 | 1.85E-156 | YALI1_B04433g | YALIO_B02948g |
| | Glycerol-3-phosphatase | GPP1 / GPP2 | YIL053W / YER062C | 3.1.3.21 | | | NA | NA |
| DHA pathway | Dihydroxyacetone kinase | DAK1 / DAK2 | YML070W / YFL053W | 2.7.1.29 | 42 | 3.72E-139 | YALI1_F12917g | YALIO_F09273g |
| | | | | | 41 | 2.00E-135 | YALI1_E24532g | YALIO_E20691g |
| | | | | | 37 | 2.49E-126 | YALI1_F02508g | YALIO_F01606g |
| | | | | | 50 | 2.16E-91 | YALI1_B09211g | YALIO_B07117g |
| | Glycerol Dehydrogenase (NADP ⁺) | GCY1/YPR1 | YOR120W/YDR368W | 1.1.1.156 | 49 | 1.56E-90 | YALI1_B28394g | YALIO_B21780g |
| | | | | | 49 | 6.50E-90 | YALI1_D05111g | YALIO_D04092g |
| | | | | | 49 | 6.93E-90 | YALI1_E22041g | YALIO_E18348g |
| | | | | | 49 | 2.70E-89 | YALI1_A15863g | YALIO_A15906g |
| | | | | | 45 | 7.92E-73 | YALI1_F24773g | YALIO_F18590g |
| | Arabinose dehydrogenase (NADP ⁺) | ARA1 | YBR149W | 1.1.1.117 | 44 | 1.71E-73 | YALI1_C18771g | YALIO_C13508g |
| | | | | | 41 | 1.95E-65 | YALI1_C12619g | YALIO_C09119g |
| | | | | | 43 | 4.79E-65 | YALI1_F10224g | YALIO_F06974g |
| | Aldose reductase (NAD(P) ⁺) | GRE3 | YHR104W | 1.1.1.21 | 31 | 1.56E-33 | YALI1_D09870g | YALIO_D07634g |
| Glycerol uptake | Aquaglyceroporin | FPS1 | YLL043W | | 34 | 0.00 | YALI1_F00616g | YALIO_F00462g |
| | | | | | 35 | 0.00 | YALI1_E06664g | YALIO_E05665g |