

Supporting information

Role of pentose phosphate pathway in lipid accumulation of oleaginous fungus

Mucor circinelloides

RSC advances

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Table S1 Primers used in this study.

Primer name	Primer sequence(5'-3')
<i>g6pd1</i> -F	<u>CTTTTATATACAAAATAACTAAATCTCGAG</u> ATGAAGGGCGGTGTCACCAT
<i>g6pd1</i> -R	<u>GTACTACTAGTCGCAATTGCCGCGGCTCGAG</u> CTAATCTTCGAGTCGCTGCAGAGG
<i>g6pd2</i> -F	<u>CTTTTATATACAAAATAACTAAATCTCGAG</u> ATGTCTTCTGCTGTTCAATT
<i>g6pd2</i> -R	<u>GTACTACTAGTCGCAATTGCCGCGGCTCGAG</u> CTAGAGCTTGTTGGCAGAGG
<i>g6pd3</i> -F	<u>CTTTTATATACAAAATAACTAAATCTCGAG</u> ATGGATCCTATCGAACAAATGC
<i>g6pd3</i> -R	<u>GTACTACTAGTCGCAATTGCCGCGGCTCGAG</u> TTACTCATGCTTCCAGGAGCAA
<i>6pgd1</i> -F	<u>CTTTTATATACAAAATAACTAAATCTCGAG</u> ATGGTTGAAGCTGTGTAAGT
<i>6pgd1</i> -R	<u>GTACTACTAGTCGCAATTGCCGCGGCTCGAG</u> TTAAGCATCATAGGTGGAGG
<i>6pgd2</i> -F	<u>CTTTTATATACAAAATAACTAAATCTCGAG</u> ATGACAGTTGCTGATATTGG
<i>6pgd2</i> -R	<u>GTACTACTAGTCGCAATTGCCGCGGCTCGAG</u> TTAAGCATCATAGGTAGAAGC
1552-F	GAAGGCTTTACTGTTTCCTATCA
1552-R	TCTCATTTTTCCCTGTCTGC
<i>g6pd1-q</i> F	ACCGCATCGACCACTACTTG
<i>g6pd1-q</i> R	CCAAACGGCTCCTTGAGTGT
<i>6pgd2-q</i> F	TGCCGGTATTGCCTTGATGT
<i>6pgd2-q</i> R	GAAGGGGTCAAACAGCAGGT

* Underlined 30 bp nucleotides were homologous sequences of the both sides of *Xho*I restriction sites in pMAT1552.

Table S2 The fatty acid composition in the overexpressing strains Mc-G6PD-1 and Mc-6PGD-2, strain Mc-1552 (as a control).

Strains	Fatty acid composition (relative %,w/w) ^a						
	14:0	16:0	16:1	18:0	18:1	18:2	18:3
Mc-G6PD-1	2.57±0.15	19.84±0.37	3.12±0.18	2.46±0.23	28.68±0.61	17.71±0.83	20.12±0.57
Mc-6PGD-2	2.40±0.08	18.39±0.26	3.27±0.37	2.85±0.19	28.98±0.59	18.40±0.52	21.42±0.15
Mc-1552	3.15±0.17	18.86±0.29	4.31±0.13	2.12±0.52	30.71±0.27	18.43±0.42	20.58±0.53

^aStrains were cultured in 1 L baffled flasks with 200 mL modified K & R medium at 72 h. The fatty acid composition was similar at different point times, so only the lipid composition at stationary growth (72 h) is shown. The values are means ± standard deviations of two independent experiments.