

**Table S1:** Cloning primers, name and sequence for the deletion of adh1 in *Mucor circinelloides* WJ11.

Gene name	Primer name	sequence (5' to 3')
Up	PY199FT (primer F)	CCAGTGCCAAGCTTGCATGCTGCAGCTCGAGTGA CACCATATTCTTGACGTCTGAATG
	PY199R1 (primer R)	GTATATGAATATGAATAAGCCCAAGATTACCATCTG CTTAACTG
pyrF	PY199F1 (primer F)	GGTAATCTTGGGCTTATTCATATTCATATACTAGTCC CTTTG
	PY199R2 (primer R)	GTATATTTTATAAATTTCTGCTAAATCCAGATTTTAC ATGG
Down	PY199F3 (primer F)	ATTTAGCAGAAATTTATAAAATATACATAGCACCCC CTTTTGTAGC
	PY199RT (primer R)	GATTACGAATTCGAGCTCGGTACCCGGGCTTAGCT GGCCAGCAGCTATTTC

List of primer names and sequences for RT-PCR

RT-PCR for acI

GGAAAAGAAATCAAGATTGAAAGAACGACTG (F)

AGCCTTGGCATCAACATCACC (R)

RT-PCR for accA

GATATGCATTCCCGTGTTTCCG (F)

ACCGAGTAATTCATCAGCTGGG (R)

RT-PCR for fasB

GGTCTTCGTTTCATTGACCCCACTG (F)

GACATCAGCCTTGTCACCTTGTTGG (R)

RT-PCR for g6pdhA

ATTGTTTCACAGAGGAAGAGACTTTCC

TGTTATCAATGTTGGAACGGTTCCAG

RT-PCR for 6pgdhA

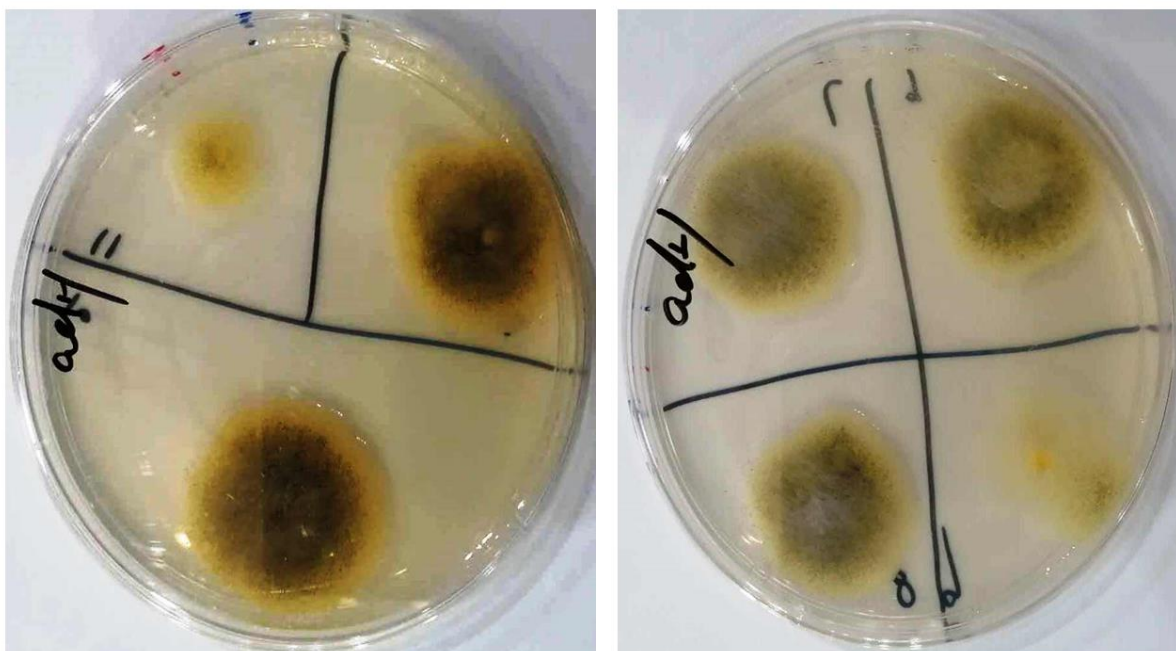
GATGGTTCACAACGGTATTGAATACGGA

CGATCAAGAAAGAATCCAATTCACCCTTG

RT-PCR for actin

GATGAAGCCCAATCCAAGAGAGGT

TCTTCTCCGGTTGGACTTGGG



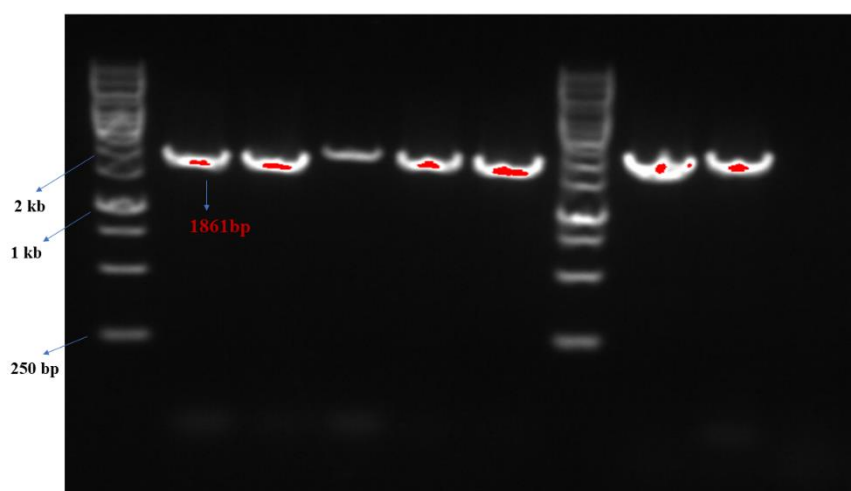
**Figure S1:** Adh 1 mutants that were picked after transformation on selective media.

PY199FT (primer F Forward primer of Up DNA as shown Supplementary table 1)

5'CCAGTGCCAAGCTTGCATGCCTGCAGCTCGAGTGACACCATATTCTTGACGTCTGAATG  
5'

Md PYR (primer R designed from the mid of pyrF gene)

5' GTGAGAGGCAGAGAACTCTTTGTAGT 3'



**Figure S2:** Mutants were selected by integration of DNA fragments (carries marker *pyrF* gene to replace *adh1* gene) onto the genome of uracil auxotrophic *M. circinelloides* was verified through PCR. Primer pairs forward primer of Up DNA (PY199F) and Reverse primer of mid of pyrF (Md PYR) generating 1.86 kb band size that confirmed *pyrF* gene integration into genome.