

Elucidating the contributions of multiple aldehyde/alcohol dehydrogenases to butanol and ethanol production in *Clostridium acetobutylicum*

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Table S1 Primers used in this study

Primers	Sequence (5'-3')	Source
EBS Universal	CGAAATTAGAACTTGC GTTCAGTAAAC	This study
007-R1	AGGGTATCCCAGTTAGTGTTAAGTCTTGG	This study
<i>adhE1</i> -807/808s-IBS	AAAAAAGCTTATAATTATCCTTAGAAAG AGGAGCTGTGCGCCAGATAGGGTG	This study
<i>adhE1</i> -807/808s-EBS1d	CAGATTGTACA AATGTGGTGATAACAGATA AGTCGGAGCTTATAACTTACCTTTCTTTGT	This study
<i>adhE1</i> -807/808s-EBS2	TGAACGCAAGTTTCTAATTCGGTT CTTTCTCGATAGAGGAAAGTGTCT	This study
<i>adhE1</i> -intron check	ATAATTATCCTTAATACTTGATGCA	This study
<i>adhE1</i> -1	ATGAAAGTCACAACAGTAAAGGAAT	This study
<i>adhE1</i> -2	TTAAGGTTGTTTTTAAAACAATTT	This study
<i>adhE2</i> -846/847s-IBS	AAAAAAGCTTATAATTATCCTTAAAAAT AAAAGAAGTGCGCCAGATAGGGTG	This study
<i>adhE2</i> -846/847s-EBS1d	CAGATTGTACA AATGTGGTGATAACAGATA AGTCAAAGAACTA ACTTACCTTTCTTTGT	This study
<i>adhE2</i> -846/847s-EBS2	TGAACGCAAGTTTCTAATTCGGTTA TTTTTCGATAGAGGAAAGTGTCT	This study
<i>adhE2</i> -intron check	TGTGGTGATAACAGATAAGTCAAAGAAAC	This study
<i>adhE2</i> -1	CGCGGATCCATGAAAGTTACAAATCAAAAAGAAC	This study
<i>adhE2</i> -2	CGCGGCGCCTTAAAATGATTTTATATAGATATCC	This study
<i>bdhA</i> -133/134s-IBS	AAAAAAGCTTATAATTATCCTTAGTATA AAAAGGAGTGCGCCAGATAGGGTG	This study
<i>bdhA</i> -133/134s-EBS1d	CAGATTGTACA AATGTGGTGATAACAGATA AGTCAAAGGAACTA ACTTACCTTTCTTTG	This study
<i>bdhA</i> -133/134s-EBS2	TGAACGCAAGTTTCTAATTCGGTTA TACTCGATAGAGGAAAGTGTCT	This study

<i>bdhA</i> -intron check	GTGATAACAGATAAGTCAAAGGAAC	This study
<i>bdhA</i> -1	GAGTGCTTATAGTTTATGGCGGAGG	This study
<i>bdhA</i> -2	CATGTCCCATGTATCGCCATCATAA	This study
<i>bdhB</i> -669/670s-IBS	AAAAA <u>AGCTT</u> TATAATTATCCTTATTA TTAAGAACTGTGCGCCCAGATAGGGTG	This study
<i>bdhB</i> -669/670s-EBS1d	CAGATT <u>GTACA</u> AATGTGGTGATAACAGAT AAGTCGAACTTGTAACCTTACCTTTCTTTG	This study
<i>bdhB</i> -669/670s-EBS2	TGAACGCAAGTTTCTAATTTTCGGTTAA TAATCGATAGAGGAAAGTGTCT	This study
<i>bdhB</i> -intron check	GTGATAACAGATAAGTCAGAACTTG	This study
<i>bdhB</i> -1	GCAGCAGGAACAGCTGATATTATGA	This study
<i>bdhB</i> -2	CTACGCCGTGTGTTATGTCGTAATA	This study
cac3392-405/406s-IBS	AAAAA <u>AGCTT</u> TATAATTATCCTTAGTGCC ACTTGGAGTGCGCCCAGATAGGGTG	This study
cac3392-405/406s-EBS1d	CAGATT <u>GTACA</u> AATGTGGTGATAACAGATA AGTCCTTGGAACCTAACTTACCTTTCTTTG	This study
cac3392-405/406s-EBS2	TGAACGCAAGTTTCTAATTTTCGGTTG GCACTCGATAGAGGAAAGTGTCT	This study
cac3392-intron check	GTGATAACAGATAAGTCCTTGGAAC	This study
cac3392-1	GAATTTGGAGGAATTGAACCTAATC	This study
cac3392-2	CTCAAGCACATGAACAAATGTATCT	This study
cap0059-150/151s-IBS	AAAAA <u>AGCTT</u> TATAATTATCCTTAAAAA AGGTCTTAGTGCGCCCAGATAGGGTG	This study
cap0059-150/151s-EBS1d	CAGATT <u>GTACA</u> AATGTGGTGATAACAGA TAAGTCGTCTTAGTTAACTTACCTTTCTTTG	This study
cap0059-150/151s-EBS2	TGAACGCAAGTTTCTAATTTTCGGTTT TTTTTCGATAGAGGAAAGTGTCT	This study
cap0059-intron check	GTGATAACAGATAAGTCGTCTTAGT	This study

cap0059-1	GGCTCAAAGACTTCTTCCTTGGCGT	This study
cap0059-2	CTTAGCGCAGTCCATTACAGAACCA	This study
Intron-Probe-1	GTTATCACCACATTTGTACAA	This study
Intron-Probe-2	ACGCGTCGCCACGTAATAAATATC	This study

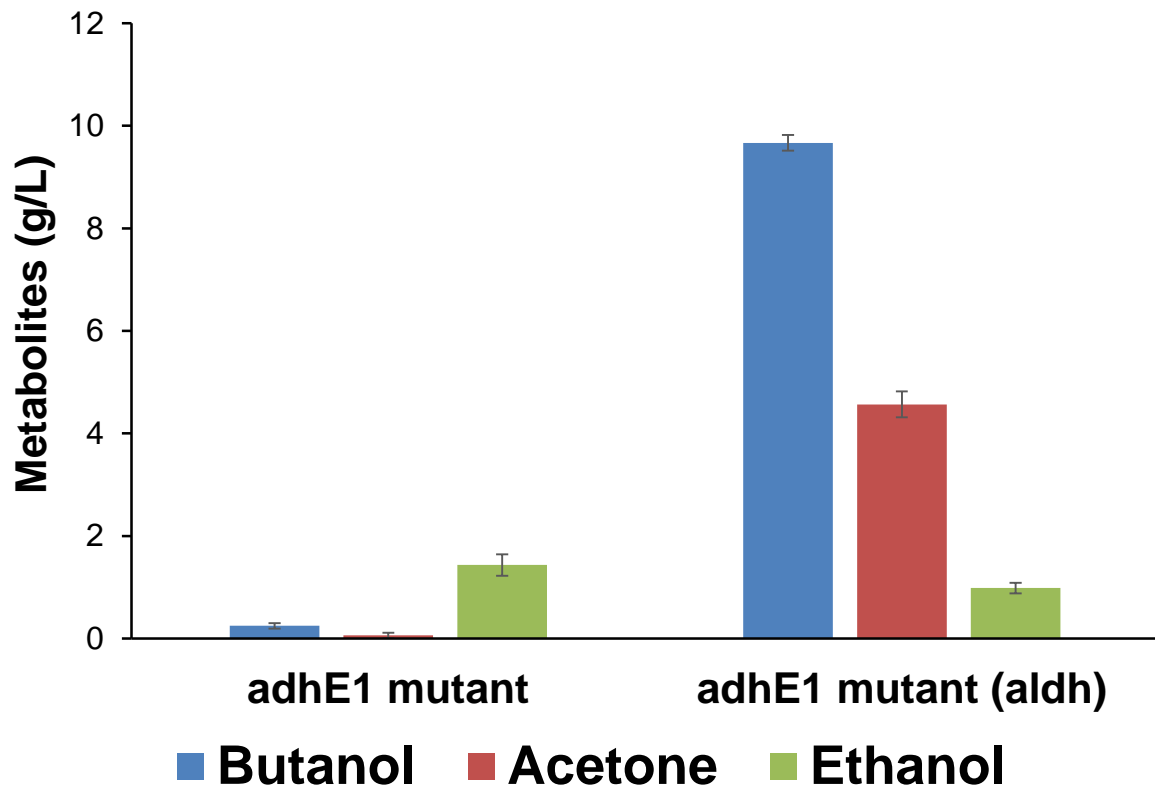
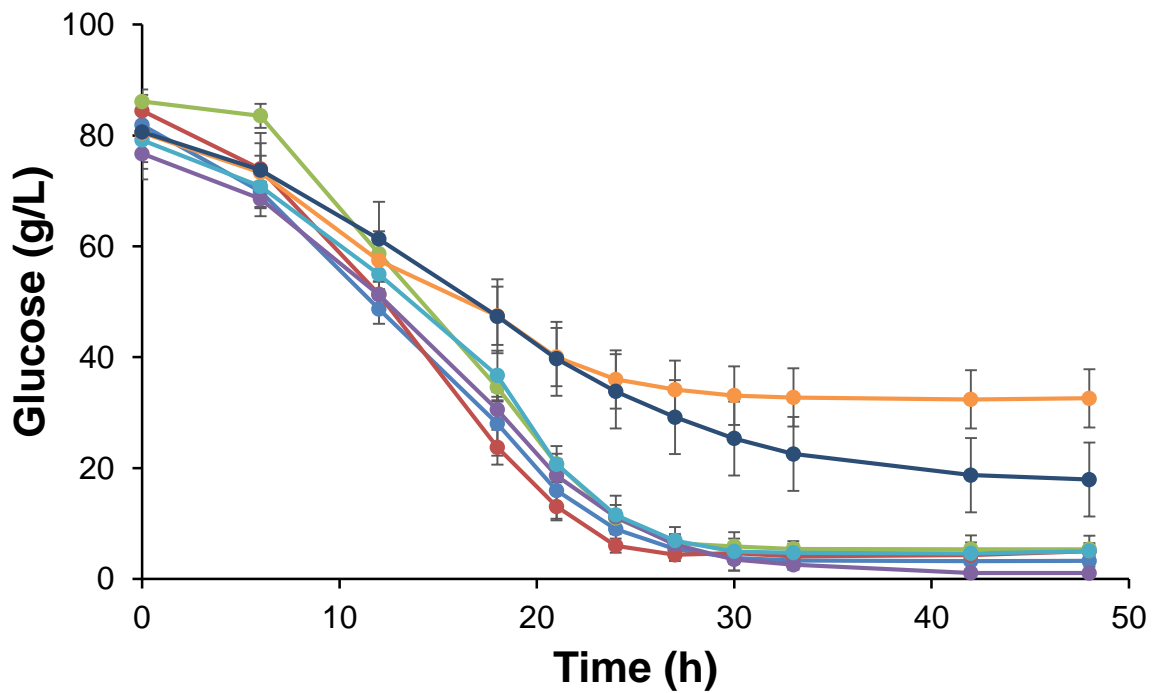
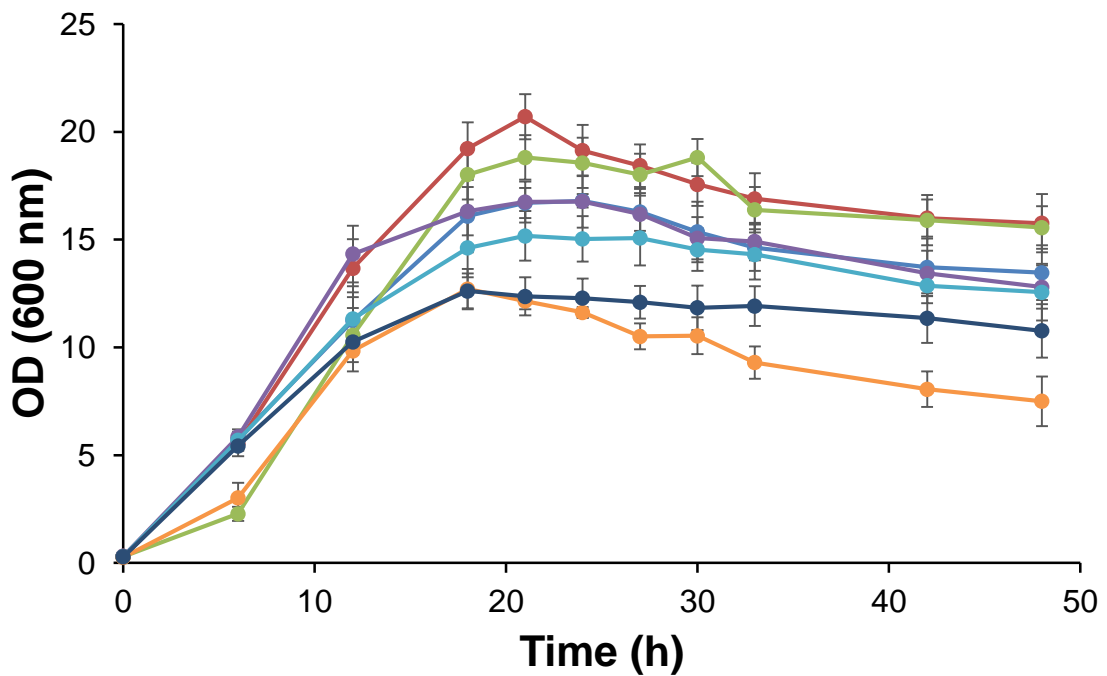


Figure S1. Solvent production profiles of *adhE1* mutant strain and *adhE1* mutant strain with aldehyde dehydrogenase (*aldh*)



- DSM 1731
- adhe2 mutant
- SMB_P058 mutant
- yqhD mutant
- bdhA mutant
- adhe1 mutant
- bdhB mutant



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- adhe2 mutant
- SMB_P058 mutant
- yqhD mutant
- bdhA mutant
- adhe1 mutant
- bdhB mutant

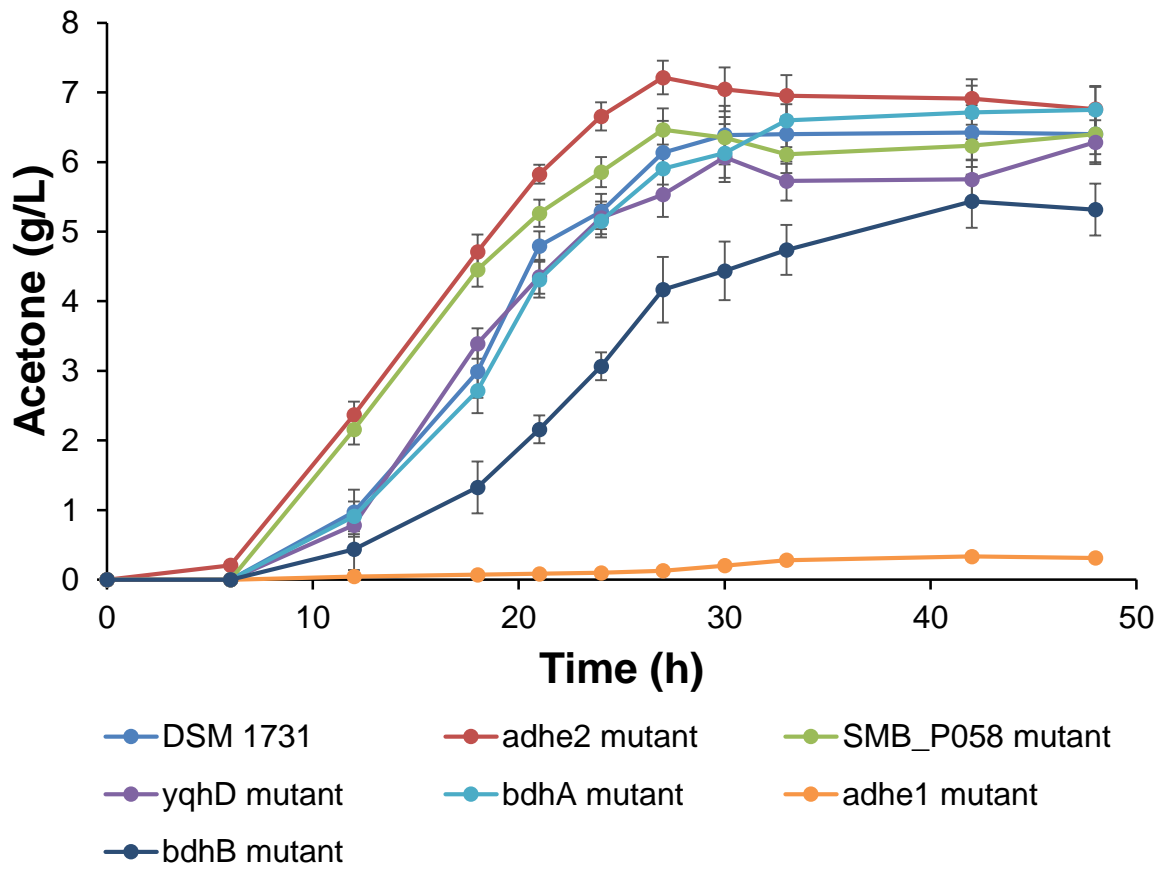


Figure S2. Glucose consumption, cell growth and acetone production of control strain and different mutant strains.