

**Acetate fluxes in *Escherichia coli* are determined by the
thermodynamic control of the Pta-AckA pathway**

**Brice Enjalbert[†], Pierre Millard[†], Mickael Dinclaux, Jean-Charles Portais*, and Fabien
Letisse**

LISBP, Université de Toulouse, CNRS, INRA, INSA, Toulouse, France

[†]these authors contributed equally to this manuscript

*portais@insa-toulouse.fr

Supplementary Tables

Supplementary Table S1. Primers used in this work and their function.

Name	Sequence (5' to 3')	Function
H1 <i>acs</i>	AACGCTTATGCCACATATTATTAACATCCTA CAAGGAGAACAAAAGCATG	External, 5' of the <i>acs</i> gene
H2 <i>acs</i>	GTTACCGACTCGCATCGGGCAATTGTGGGTT ACGATGGCATCGCGATAGC	External, 3' of the <i>acs</i> gene
100 <i>acs</i> 5'	GGGAAAATTGACTGGCAGGA	Intern, toward 5' of the <i>acs</i> gene
100 <i>acs</i> 3'	GGATCTTCGGCGTTCATCTC	Intern, toward 3' of the <i>acs</i> gene
H1 <i>ackA</i>	TGGCTCCCTGACGTTTTTTAGCCACGTATC AATTATAGGTACTTCCATG	External, 5' of the <i>ackA</i> gene
H2 <i>ackA</i>	GCACCGCCAGCTGAGCTGGCGGTGTGAAAT CAGGCAGTCAGGCGGCTCGC	External, 3' of the <i>ackA</i> gene
100 <i>ackA</i> 5'	TCTTCCACCTGCACGACACC	Intern, toward 5' of the <i>ackA</i> gene
100 <i>ackA</i> 3'	TCGCTGGTCACTTCGGTCAG	Intern, toward 3' of the <i>ackA</i> gene
H1 <i>poxB</i>	GATGAACTAACTTGTTACCGTTATCACAT TCAGGAGATGGAGAACCATG	External, 5' of the <i>poxB</i> gene
H2 <i>poxB</i>	CCTTATTATGACGGGAAATGCCACCCTTTT TACCTTAGCCAGTTTGTITT	External, 3' of the <i>poxB</i> gene
100 <i>poxB</i> 5'	TCGTGTTACCAGGCGACGTG	Intern, toward 5' of the <i>poxB</i> gene
100 <i>poxB</i> 3'	CTTCTTCCGGCGTCACGACT	Intern, toward 3' of the <i>poxB</i> gene
K1	CAGTCATAGCCGAATAGCCT	Intern, toward 5' of the kanamycine gene
K2	CGGTGCCCTGAATGAACTGC	Intern, toward 3' of the kanamycine gene

Supplementary Table S2. Strains used in this work.

Name	Genotype	Origin
MG1655	F- λ - <i>ilvG</i> - <i>rfb</i> -50 <i>rph</i> -1	Blattner <i>et al.</i> , 1997
BW25113 Δ <i>acs</i>	<i>rrnB3</i> Δ <i>lacZ</i> 4787 <i>hsdR</i> 514 Δ (<i>araBAD</i>)567 Δ (<i>rhaBAD</i>)568 <i>rph</i> -1 Δ <i>acs</i> ::kan	Baba <i>et al.</i> , 2006
BW25113 Δ <i>ackA</i>	<i>rrnB3</i> Δ <i>lacZ</i> 4787 <i>hsdR</i> 514 Δ (<i>araBAD</i>)567 Δ (<i>rhaBAD</i>)568 <i>rph</i> -1 Δ <i>ackA</i> ::kan	Baba <i>et al.</i> , 2006
BW25113 Δ <i>poxB</i>	<i>rrnB3</i> Δ <i>lacZ</i> 4787 <i>hsdR</i> 514 Δ (<i>araBAD</i>)567 Δ (<i>rhaBAD</i>)568 <i>rph</i> -1 Δ <i>poxB</i> ::kan	Baba <i>et al.</i> , 2006
MG1655 Δ <i>acs</i>	F- λ - <i>ilvG</i> - <i>rfb</i> -50 <i>rph</i> -1 Δ <i>acs</i> ::kan	This work
MG1655 Δ <i>ackA</i>	F- λ - <i>ilvG</i> - <i>rfb</i> -50 <i>rph</i> -1 Δ <i>ackA</i> ::kan	This work
MG1655 Δ <i>poxB</i>	F- λ - <i>ilvG</i> - <i>rfb</i> -50 <i>rph</i> -1 Δ <i>poxB</i> ::kan	This work