

TABLE S1. Bacterial strains and plasmids used in this study

Strains or plasmids	Characteristics	Reference or source
Strains		
<i>K. pneumoniae</i> M5a1	3-hydroxybenzoate utilizer, Wild type	(3)
<i>P. putida</i> PaW340	Trp ⁻ Str ^r ; plasmid-free derivative of <i>P. putida</i> mt-2, grown on catechol through <i>ortho</i> -cleavage pathway, 3-hydroxybenzoate ⁻	(5, 9)
<i>E. coli</i> DH5 α	<i>supE44</i> Δ <i>lacY169</i> (ϕ 80 <i>lacZ</i> Δ M15) <i>hsdR17</i> <i>recA1</i> <i>endA1</i> <i>gyrA96</i> <i>thi-1</i> <i>relA1</i>	Gibco, BRL
<i>E. coli</i> HB101	<i>supE44</i> <i>hsdS20</i> ($r_B^- m_B^-$ T <i>recA13</i> <i>ara-14</i> <i>proA2</i> <i>lacY1</i> <i>galK2</i> <i>rpsL20</i> <i>xyl-5mtl-1</i>	(1)
<i>E. coli</i> Rosetta (DE3) pLysS	F ⁻ <i>ompT</i> <i>hsdS_B</i> (r_B m_B) <i>gal</i> <i>dcm</i> <i>lacY1</i> (DE3) pLysSRARE ² (Cm ^r)	Novagen, USA
<i>E. coli</i> BL21 (DE3)	<i>hsdS</i> <i>gal</i> (XcIts857 ind-1 Sam7 <i>nin-5</i> <i>lacUV5-T7</i> gene 1)	Novagen, USA
Plasmids		
pUC18	Ap ^r ; cloning vector	Takara
pET5a	Expression vector: Ap ^r ; NdeI site overlapping the initiating start codon downstream of T7 promoter and multicloning site	Novagen
pRK415	Tc ^r ; mobilizable broad-host-range vector; origin of replication (<i>oriV</i>) and origin of transfer (<i>oriT</i>) of RK2	(6)
pVLT33	Km ^r , broad-host-range expression vector (IncQ, RSF1010 replicon) Km ^r , <i>Ptac</i> , <i>lacI^q</i> <i>tra⁻</i> <i>mob⁺</i>	(2)
pRK2013	ColE1 replicon, Km ^r , <i>tra⁺</i> , helper plasmid	(4)
pGFPe	Km ^r , ColE1 replicon, derivative of pWaldo digested with XbaI and EcoRI, yielding a 14 amino acid-long linker sequence (SVPGSENL YFQGQF) followed by GFP	(7)
pBSI	An 8-kb SphI fragment from pNDR20 (8) inserted into pUC18	R.A. Cooper
pZWGM18	PCR fragment containing <i>mhbM</i> inserted into pUC18 at the EcoRI restriction site	This study
pZWGD18	PCR fragment containing <i>mhbD</i> inserted into pUC18 at the EcoRI restriction site	This study
pZWGH18	PCR fragment containing <i>mhbH</i> inserted into pUC18 at the EcoRI restriction site	This study
pZWGI18	PCR fragment containing <i>mhbI</i> inserted into pUC18 at the EcoRI restriction site	This study
pZWGM5	<i>mhbM</i> from pZWGM18 inserted into pET5a at the NdeI and EcoRI restriction sites	This study
pZWGD5	<i>mhbD</i> from pZWGD18 inserted into pET5a at the NdeI and EcoRI restriction sites	This study

pZWGH5	<i>mhbH</i> from pZWGH18 inserted into pET5a at the NdeI and EcoRI restriction sites	This study
pZWGI5	<i>mhbI</i> from pZWGI18 inserted into pET5a at the NdeI and EcoRI restriction sites	This study
pZWGRT5	A 6.3-kb EcoRI fragment containing the <i>mhb</i> gene cluster from pSBI inserted into pUC18	This study
pZWGT5	pZWGRT5 was digested at EcoNI sites to delete a 639 bp fragment in <i>mhbT</i> and then re-ligated	This study
pZWXY001	PCR fragment containing <i>mhbT</i> inserted into pVLT33 at the EcoRI and HindIII restriction sites	This study
pZWXY002	A 6.3-kb EcoRI fragment carrying the <i>mhb</i> gene cluster inserted into pRK415	This study
pZWXY003	A 5.6-kb EcoRI fragment carrying the <i>mhb</i> gene cluster with a 639 bp EcoNI fragment deletion in <i>mhbT</i> from pZWGT5 inserted into pRK415	This study
pZWXY004	PCR fragment containing <i>mhbT-gfp</i> inserted into pVLT33 at the EcoRI and HindIII restriction sites	This study
pZWXY005	PCR fragment containing <i>gfp</i> inserted into pVLT33 at the EcoRI and HindIII restriction sites	This study
pZWXY006	PCR fragment containing <i>mhbT</i> without a stop codon inserted into pGFPe at the XbaI and EcoRI restriction sites	This study
pZWXY007	PCR fragment containing mutated <i>mhbT</i> (for D82A change) inserted into pVLT33 at the EcoRI and HindIII restriction sites	This study
pZWXY008	PCR fragment containing mutated <i>mhbT</i> (for V311W change) inserted into pVLT33 at the EcoRI and HindIII restriction sites	This study
pZWXY009	PCR fragment containing mutated <i>mhbT</i> (for D314A change) inserted into pVLT33 at the EcoRI and HindIII restriction sites	This study

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