

Identification of Putative Essential Protein Domains from High-density Transposon Insertion Sequencing

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Supplemental Tables 3 and 4

Supplemental Table 3. Bacterial strains and plasmids used in this work

Strain or Plasmid	Features	Source
<i>Burkholderia cenocepacia</i> K56-2	Clinical isolate from cystic fibrosis patient; ET12 lineage	¹
K56-2::dCas9	Derived from K56-2; pAH-CTX1-rhadCas9 integrated at <i>attB</i> site; clean deletion of plasmid accessory genes	²
<i>E. coli</i> DH5α	F ⁻ Φ80 <i>lacZ</i> ΔM15 Δ(<i>lacZYA-argF</i>) U169 <i>recA1 endA1 hsdR17</i> (r _H ⁺ , m _K ⁺) <i>phoA supE44 λ⁻ thi-1 gyrA96 relA1</i>	Cardona lab collection
<i>E. coli</i> MM290	F ⁻ , φ 80 <i>lacZ</i> ΔM15 <i>endA1 recA1 hsdR17</i> (r _H ⁻ m _K ⁺) <i>supE44 thi-1 ΔgyrA96 (ΔlacZYA-argF)</i> U169 <i>relA1</i>	Cardona lab collection
pSCB2-sgRNAv2	Derived from pSCB2-sgRNA; modified by inserting a BamHI site downstream of the sgRNA scaffold	This study; modified from ²
pgRNA-nontarget	Derived from pSCB2-sgRNA; random 20nt sequence added as sgRNA binding region by inverse PCR	²
pRK2013	Ori _{colE1} RK2 derivative Kan ^r mob ⁺ tra ⁺	³

Supplemental Table 4. List of the primers used in this study

Primer Number	Sequence	Purpose
848	CCGCCAGGCAAATTCTGTTT	Reverse primer for colony PCR, all sgRNAs
1092	ACTAGTATTATACCTAGGACTGAGCTAGC	Reverse primer, all sgRNAs
1409	GGCTTATGTCAACTGGGTTCG	Forward primer for colony PCR, all sgRNAs
1685	CAGTTGCACAGTGTCTCTCGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS32210 (BCAL1506) in K56-2
1686	AGAGTTCGGGTTTCATGGTTGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS00770 (BCAL3328) in K56-2
1687	GCGGGGGCGGATGGCATCGCGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS03390 (BCAM1545) in K56-2
1688	CGGCGGAATGAAGGTTGTCGGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS07360 (BCAM2338) in K56-2
1689	CTGCCCCCTCTCTTCACAAAGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS07395 (QU43_RS66100) in K56-2
1690	CCGCGTTGCGCGGCGAGCGGGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS16145 (BCAM1066) in K56-2
1691	TCTTGGGTATTTCATGCAGCTGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS32225 (BCAL1503) in K56-2
1692	TCTCCGTGTGTTCTGTGCCGGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS22170 (BCAM2699) in K56-2
1693	CCGCGGGCGCGCGCCTTAGCGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS32210 (BCAL1506) in K56-2

1694	CCCGAACGCTGCCGGCCGTCGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS00770 (BCAL3328) in K56-2
1695	TCGTCTCCTGTCGCGTCGTCGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS03390 (BCAM1545) in K56-2
1696	TAACGATCAGACGATCGTGCGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS07360 (BCAM2338) in K56-2
1697	CAGGAACGCGACCGTCCGGCGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS07395 (QU43_RS66100) in K56-2
1698	TGTTCTGTGCCGGTCTATTCCGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS16145 (BCAM1066) in K56-2
1699	CGGATCAACAAACAGACGAAGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS32225 (BCAL1503) in K56-2
1700	GAAGCCTAGTATCGTCACGAGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS22170 (BCAM2699) in K56-2
1701	GGAACGCCCATCTTCTTACTGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 3 for targeting WQ49_RS32210 (BCAL1506) in K56-2
1702	CCCCGGCAGATCGTCCGTGCGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 3 for targeting WQ49_RS00770 (BCAL3328) in K56-2
1703	TGGTCGGCGCCGCCGTTTGTGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 3 for targeting WQ49_RS03390 (BCAM1545) in K56-2
1704	ATCGGCGACGCGCTCCGCGCGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 3 for targeting WQ49_RS07360 (BCAM2338) in K56-2
1705	CCGGCACGCGTCATGCGCGCGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 3 for targeting

		WQ49_RS07395 (QU43_RS66100) in K56-2
1706	CCCGGAGGACGACCAGCTCCGTTTTAGAGCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 3 for targeting WQ49_RS16145 (BCAM1066) in K56-2
1707	ATTCTGATCGGTCATATTGAGTTTTAGAGCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 3 for targeting WQ49_RS32225 (BCAL1503) in K56-2
1708	GAAATTCCGTTCCACATACGGTTTTAGAGCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 3 for targeting WQ49_RS22170 (BCAM2699) in K56-2
1742	CACTTTCGCTCTCCCGTTCGTTTTAGAGCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS00050 (BCAL3469) in K56-2
1743	CTCAATGCTGAGAATTTAGCGTTTTAGAGCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS00050 (BCAL3469) in K56-2
1744	CGGCACGTTGGTCTCTCCGTGTTTTAGAGCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS00885 (BCAL3305) in K56-2
1745	TAAGCCGGTTATTCTACCACGTTTTAGAGCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS00885 (BCAL3305) in K56-2
1746	CGCACGAGTTCGTGGTGCCGGTTTTAGAGCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS01035 (BCAL3270) in K56-2
1747	TGCGCGAAACGCCGCGTTTTGTTTTAGAGCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS01035 (BCAL3270) in K56-2
1748	GGTTTCATTTGAGTTCTCCTGTTTTAGAGCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS02920 (BCAM1451) in K56-2
1749	TGCCAGTCTCGCTGGCAGTGGTTTTAGAGCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS02920 (BCAM1451) in K56-2
1750	AAATTGTCCTTGGACATCGAGTTTTAGAGCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS03160 (BCAM1502) in K56-2
1751	TTAAAGACTAGACAGATACGGTTTTAGAGCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS03160 (BCAM1502) in K56-2
1752	GAATTCCTGTCCATGGCATGTTTTAGAGCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS03550 (QU43_RS62245) in K56-2

1753	GCGCAACCGGTACGCGGCCGGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS03550 (QU43_RS62245) in K56-2
1754	CGCACGGACATCGATCATGTGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS03805 (BCAM1624) in K56-2
1755	AAAGGATTCTGGCCGGTCGGGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS03805 (BCAM1624) in K56-2
1756	AGGCAGGCGCGCGATGAGGCGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS04450 (BCAM1749) in K56-2
1757	GGCTGCGCGGAATGCGTGGGGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS04450 (BCAM1749) in K56-2
1758	CGGTCATGGTCGAACGCGTGGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS09185 (BCAS0417) in K56-2
1759	AAACGATCATTCTCGGCAACGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS09185 (BCAS0417) in K56-2
1760	GAAACGAGCGTTTTTCATCATGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS10495 (BCAS0158) in K56-2
1761	GTTGCGCGTGCAGCCAATATGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS10495 (BCAS0158) in K56-2
1762	TCCTCAACCACGCCGCGTCGGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS11915 (BCAL0324) in K56-2
1763	GCCGGCTTCGACTATCGATGGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS11915 (BCAL0324) in K56-2
1764	TTCATCGCGCGCCCTCCGCGGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS12045 (BCAL0298) in K56-2
1765	CATGCGAACGCACGCGACATGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS12045 (BCAL0298) in K56-2
1766	CCGAGATTCCGGTCTGGATCAGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS12280 (BCAL0250) and WQ49_RS12305 (BCAL0245) in K56-2
1767	ATGCACCACCATGATGCATTGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS12280

		(BCAL0250) and WQ49_RS12305 (BCAL0245) in K56-2
1768	TCTCCATTCCCGACTGCGATGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS12315 (BCAL0243) in K56-2
1769	TACAAAATGCCGGGCACGCAGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS12315 (BCAL0243) in K56-2
1770	ACAATTCCTTGAAAAGAGCGGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS12365 (BCAL0233) in K56-2
1771	ACGTGAAACATGACACCAGCGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS12365 (BCAL0233) in K56-2
1772	CGCGATCGTGCAAGGGGCGTGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS18705 (BCAM0549) in K56-2
1773	AGTGCTGACGAGTATAAAAAGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS18705 (BCAM0549) in K56-2
1774	CAATGACGAGCTTCATGACGGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS23945 (BCAL0558) in K56-2
1775	CGAAAAAGGAAAAGAAGCGCGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS23945 (BCAL0558) in K56-2
1776	CGATTTACCCACGACGTTCTGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS24070 (BCAL0585) in K56-2
1777	CGGACCGTGTTTGTTCATCGCGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS24070 (BCAL0585) in K56-2
1778	TTTCCCGCAGAACTGGAAAGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS25525 (BCAL0878) in K56-2
1779	TTGAATTATAGCCGAAACCGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS25525 (BCAL0878) in K56-2
1780	GGAGGATTTTCATGACGCGTGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS25680 (BCAL0909) in K56-2
1781	CGGCCGATCGCGCCCGAATTGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS25680 (BCAL0909) in K56-2

1782	CTCCTAATACGCTAAATTCGGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS26625 (BCAL2715) in K56-2
1783	TCGCACCGCCACGTGATCCAGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS26625 (BCAL2715) in K56-2
1784	ACGCTCGATCGATTTTCCTTCGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS27920 (BCAL2334) in K56-2
1785	ACGAACAACCTGCCGCACACGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS27920 (BCAL2334) in K56-2
1786	TGGTGAGTCTCATGGTGTCTGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS28635 (BCAL2199) in K56-2
1787	AAGTATCCATGTCTTTGAAAGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS28635 (BCAL2199) in K56-2
1788	TGTAAATTCTCCACGAGGGTGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS29230 (BCAL2091) in K56-2
1789	GCCGCGCGAACCCGCCACGAGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS29230 (BCAL2091) in K56-2
1790	CAACAGGCTTGCCGCCAGCGGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS30770 (BCAL1788) in K56-2
1791	CAAGCCGGTTTTACCGGTCGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS30770 (BCAL1788) in K56-2
1792	TCGTTATCCATCAACAGAAAGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS31735 in K56-2
1793	CGCCACAAAACCGCGCTGCCGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS31735 in K56-2
1794	TTCGCGCAGCTTGCGCTTGAGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS31805 (BCAL1585) in K56-2
1795	GCACAATAGCAAACAAACGTGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS31805 (BCAL1585) in K56-2
1796	GATGAGAATCTGGCGAGCGCGTTTTAGA GCTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS32625 (BCAL1424) in K56-2

1797	CGGCTGCCCCGCGCACCCGCTGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS32625 (BCAL1424) in K56-2
1798	TTATGCCATCGTGTCGGCGTGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS34895 (BCAL2925) in K56-2
1799	TCCAGGCCTGGCCCCGATAGGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS34895 (BCAL2925) in K56-2
1800	CTCGAAATTGAGATTACCGCGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 1 for targeting WQ49_RS35060 (BCAL2958) in K56-2
1801	CATTGCTCGAAGTATAACATGTTTTAGAG CTAGAAATAGCAAGTTAAAATAAGGC	Forward primer, sgRNA 2 for targeting WQ49_RS35060 (BCAL2958) in K56-2