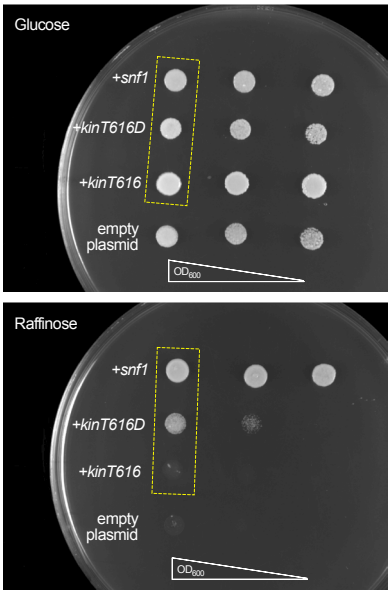
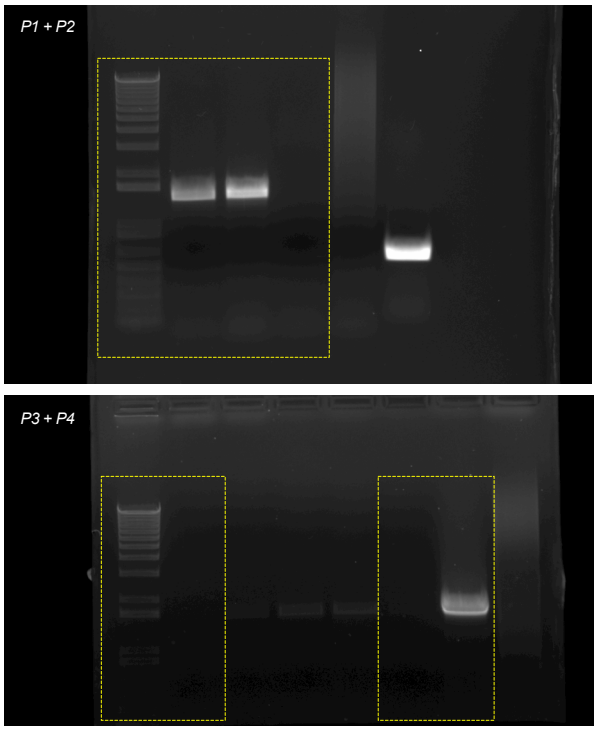
SUPPLEMENTARY INFORMATION

doi:10.1038/nature23009

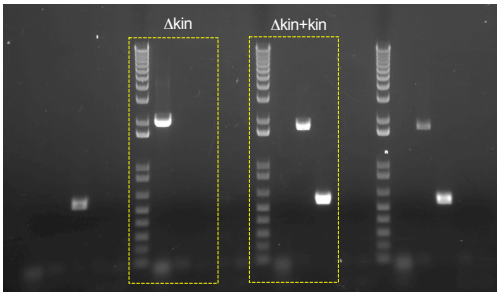
Figure 2g.



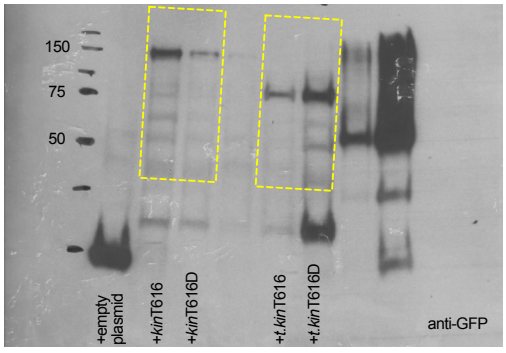
Extended Data Figure 5d.



Extended Data Figure 4c.



Extended Data Figure 5g.



Notes	GeneName/Locus	Forward	Reverse
qPCR	PBANKA_010230	GTTGGCAATGCTACAGAACA	GAGAAAAGGCTAAGGTCATAGG
qPCR	PBANKA_010470	CCAGGATTTTGTGTTTTCTTT	GCAACTTTTTTTTTGGGGC
qPCR	PBANKA_011210	TTGAATGAAGGGGAACATAAAG	CGTCCATAACTTACAAATAAACCG
qPCR	PBANKA_030390	ACCCAAAACAGGAAAGCG	GCTACATTTACTACAGCCAAGG
qPCR	PBANKA_031140	CAGGAGATAAAAATGGGGACGAG	TTGGCTCTGGGTTCATAATAGACG
qPCR	PBANKA_060690	CCGTATTCTCAAAAAAATCCGC	TGTGCCTTCTCTTTCCTTGG
qPCR	PBANKA_070290	ACTTATGCCGATGATTGG	TTCCGTAATGGTATTTCAGG
qPCR	PBANKA_082450	AAAAATAGTTGGAATGGC	CCTCCCCCTGTAAATCTT
qPCR	PBANKA_082720	TTTCTCTAAGCCCGTTTTTA	CATTTCTTTTGAATCATTTCCAG
qPCR	PBANKA_090590	AAATCCCGAAATGTGTGG	TTTGGTCCATCTTTATCTGG
qPCR	PBANKA_093910	CGATGAAGATGACGACACTGC	TGTTATCAACTCCATTATTCCCC
qPCR	PBANKA_111070	CCTCTGAAAAGTCAAGAAAATCCTT	AAAAATACCCAAATCCGTAAGC
qPCR	PBANKA_122810	GGGGAAGAGGTGGAATAAATG	TCGTTTTGCTTTGGGCGGTG
qPCR	PBANKA_123160	GATAGAACATCTTGTCCCCCTC	CTCCTCCCCCATTTTTACC
qPCR	PBANKA_135150	GATAGTTCTGATGATTCGCC	AATAAGGAGTTCCGACAACA
qPCR	PBANKA_135370	TGTGCTCTGTGGTAAAGGAAAC	CCTCGTCAACTTCAACTTCAGC
qPCR	PBANKA_135600	CCTGGTGAGTATGAGCAAATCAG	TTCCTTGTCCTACATCTATGGG
qPCR	PBANKA_144250	CCAAATGAACCGAATCAACCTC	ACCGCCCAATACTAACACTTC
qPCR	PBANKA_144330	GTATCGTGGCATTCCCTTTAC	CTTCTTCAACAGGATTGGTGG
qPCR	PBANKA_145370	GCCAAAAGTTAGAGGAGTATGGT	TTCCGTGCCCCTTCAAATCC
qPCR	PBANKA_061540	ATTGCTCAACCTTATCAAACTG	AGCCACATCTGAACAACCG
qPCR	PBANKA_011140	CGATAACCTTTGTTGTCGC	TCAGTTCTTGCTATTTGACG
qPCR	PBANKA_131800	CCTCCCAAAAATGCTCGTC	TTTCCAAAATCGCCTTGTG
qPCR	PF3D7_0605900	CACCCGCAATAACAAGAAGTCAC	AAAAGAGCCAGCAGCACAAGG
qPCR	PF3D7_0206200	GCAAGTTTTAGAGCGTTAGAAGCC	ACTCCCCATAATGCGGTTCC
qPCR	PF3D7_0511200	GCATCACATTCTTTTGGACATAGAC	TGGCATAACAGTAAGGAAACACA
qPCR	PF3D7_0603500	GGTTATGGGTAGAGTTCGTGC	CCTGCTGGCATTTTGTTATTAC
qPCR	PF3D7_1208400	CGTATTGTATGACCCCAAGG	GAACCGTGAAATGATTACTCTG
qPCR	PF3D7_0926400	AACAATGTGACCTACCGTGATG	CACCAAGCCTTTTCTGAACA
qPCR	PF3D7_1239200	CAAAAGTTAGAGGCGTGTGG	CATCACTATCTTCATTGGCAGG
qPCR	PF3D7_0516800	GAGGATGATAAAATGGATGATGAAC	TTTGAGGTCTTCTAACATAAGTTGC
qPCR	PBANKA_18S rRNA	AAGCATTAAATAAAGCGAATACATCCTTAC	GGAGATTGGTTTTGACGTTTATGTG
qPCR	m hprt	CATTATGCCGAGGATTTGGA	AATCCAGCAGGTCAGCAAAG
Cloning PbKinT616D	T616D PbKin	CAAAAACAATTTCTTACAAGATTCATGTGG TTCCCCT	AGGGGAACCACATGAATCTTGTAA GAAATTGTTTTTG
Cloning PbKinT616D	Pbkin 3'UTR	ATGGTACCATTACACACTTCTTTTTTTGG	ATAAGCTTGAATGGAATATTTTTAG CATTTAC
Cloning PbKinT616D	Pbkin 5'UTR	CTTCAATTTCGATGGGTACCGATGTATTTT ACTGTTATATATTTTATAATAAC	TGTTAATCATTTTTTGGGCCCACAA CTTTCTAAAGTGTGATAATAAAG
Cloning PbKinT616D	Pbkin	ACTTTAGAAAGTTGTGGGCCCAAAAAATG ATTAACATCGGTAAC	TAAGTAAGAAAAACGGCGGCCGCT TATATCTTGTTTATCTTCTTCTTG
Genotyping PbKinT616D	5' integration P1+P2	TAAATTGTAAACAATTATGGC	TTTGGACAATAATATCTTAGCGACT CTTTTCTTTTCCTT
Genotyping PbKinT616D	wt locus P3+P4	ATCATTAACCCTGATAAAGTGC	TGTATAGCCCACACTAAACCC
Cloning yo Pbkin	Pbkin	ATGGATCCAAAAAATGATTAACATCGGTAA C	TAGCGGCCGCTATCTTGTTTATCTT CTTCTTGTC
SDM yo Pbkin	Pbkin	CAAAAACAATTTCTTACAAGATTCATGTGG TTCCCCT	AGGGGAACCACATGAATCTTGTAA GAAATTGTTTTTG
Cloning yo Pbkin	ScSnf1	AAGGATCCAAAAAATGAGCAGTAACAACA ACAC	TATCTAGATCAATTGCTTTGACTGT TAAC
Genotyping PbΔkin+kin	P1+P2	TAAATTGTAAACAATTATGGC	GATGTGTTATGTGATTAATTCATAC AC
Genotyping PbΔkin+kin	P3+P4	AAGGAAAAGAAAAGAGTCGCTAAGATATT ATTGTCCAAA	AGGGGAACCACATGAAGCTTGTAA GAAATTGTTTTTG
Genotyping PbΔkin+kin	hDHFR P5+P6	GGAAGATCTATGGTTGGTTCGCTAAACTG CATCG	GGAAGATCTTTAATCATTCTTCTCA TATACTTC