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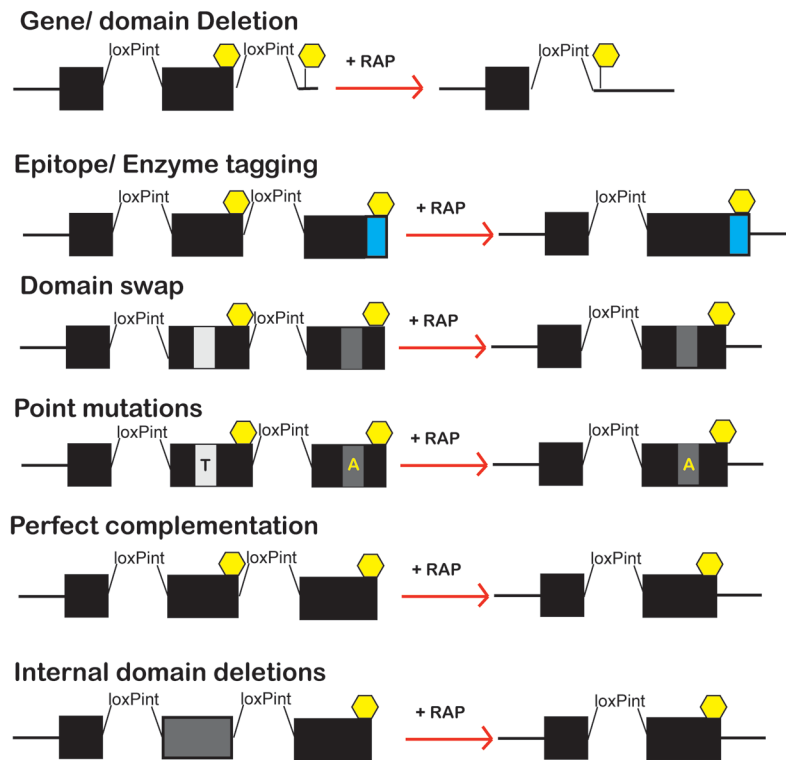
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# A versatile strategy for rapid conditional genome engineering using loxP sites in a small synthetic intron in *Plasmodium falciparum*

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## Supplementary Figure 1



### Supplemental Figure 1:

Possible strategies for conditional genome engineering using the loxPint module.

The reconstitution of the loxPint module after RAP treatment allows the conditional fusion or deletion of domains. This opens new avenues for conditional epitope or enzyme tagging (for example with biotin ligase A (BirA)), conditional domain swaps, introduction of point mutations or perfect complementation, that is, replacing a genetic element with an identical copy. Using CRISPR the introduction of two loxPint modules into an open reading frame to delete only parts of a gene will be feasible. Yellow hexagons represent stop codons.

Used For:	Primer Name:	Primer Sequence:
<i>pRex2:loxPint:gfp</i>	Rex2.POP.F	GTTTTTTTTAATTTCTTACATATAACTCGACCCCGGGATGGTACCTTTATGAAAATGTATTTAGCTG
	Rex2.POP.R	GAAAAACGAACATTAAGCTGCCATATCCCCGCGGCTGCAGTTACAGATCCTCTTCTGAG
<i>pfikk10.1:loxPint:HA</i>	FK10.1HRF	GCCAAGCTATTTAGGTGACACTATAGAATACTCGCGGCCGCATGACTCTTATTAATAGAAGTTATGTTTTATTGG
	FK10.1HRR	GCTATACGAAGTTATTGTATATTATTTTTTTTATTTACCTTTATTATAACCATGTGTAGGTATAGAAGTTAATTC
	FK10.1RCF	GAAATTAACCTTCTATACCTACACATGGTTATAATAAAGGTAAATAAAAAAAAAATAATATAACAATAACTTCGTATAGC
	FK10.1RCR	CTACTAAGATCTCCTCCTAAGTCTGTTACGTTAGCGGCCGCTTAGACCGCATAATCCGGTACATCGTATGGATACG
<i>pMSP1_loxPint</i>	syn3D7-MSP1-F	GTGGTAGTTCAGGATCCACAAAAGAAGAAACCC
	syn3D7-MSP1+PstI-R	GCATGTCCTGCAGCTTGCCCTCTATGAGCTTTGATATGATGG
	endo3D7-MSP1-BglII-targ-F	CCAACAAAGATCTGCATCCTCTACCAATACCC
	syn3D7-MSP1+PstI-R	GCATGTCCTGCAGCTTGCCCTCTATGAGCTTTGATATGATGG
<i>pfikk10.1:loxPint:HA integration confirmation</i>	Int1	GTCCTTCATTAATTTGATGGTCA
	Int2	CACATAGTTTTCTCCGCACAGCACGTATTCGC
	Int3	CAACATACACATTTTTACAGTTATAAATAACAATCAATTG
	Int4	CCCCAGGCTTTACACTTTATGCTTCCGGCTC
	Int5	CTTAATAAATAATCCTACTCTATCACTACCATCTC
<i>pMSP1_loxPint integration confirmation</i>	MSP1-UOT-FOR	GGAACATCATCTACATCCAGTCCTGG
	REV3	GTAGAGATCCTGATGTGGGGATC
	FOR1	CCATTTCTACAACAGAGATGG
	REV4	GCATTTTGTCTTGGCCAAGTTC
	P2 FOR	GTAATAAAAAAAAAATAATATAACAATAACTTCGTATAGCATAACATTATACGAAGTTAT

Supplemental Table 1:

Contains all primer sequences used in this study.

loxPint sequence  
Used For:

gtaataaaaaaaaaataatacaATAACTTCGTATAGCATACATTATACGAAGTTATtatatatgtatatatatatttatatatttatattcttttag

**Synthesized Sequence**

cccgggatggtacctttatgaaaaatgtatctagctgaaattttagttctggttaaagagtctttgttatctttaaaggatacttttaggatctagtaatttttccactgaaacctgtgaaaggccttgagtgttaccacaagtattttttgacgttatat  
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*pfikk10.1:loxPint:HA*

gtaataaaaaaaaaataatacaataactctgtatagcatacattatacgaagttattatatgtatatatatatttatattttatattcttttagagggtgctgtgagcaaatgttcaagaccttctcatcaaaagaaggcgtggc  
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*pMSP1\_loxPint*

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ctctgtcagtgaggatattctgctcctcagcaacttttag

Supplemental table 2:

Contains the full sequences of synthetic genes used in this study.