**Supplemental Text**

**Description of the FKX transgenic construct**

The full nucleotide sequence of the piggyBac construct inserted in the Ngousso strain of *A. gambiae* is shown below in annotated Genbank format, along with a stretch of the genomic sequences flanking the insertion site on the X chromosome.

LOCUS FK annotated 10481 bp DNA linear

FEATURES Location/Qualifiers

misc\_feature 9924..10481

/note="flanking chromosomal sequence, 3' side"

misc\_feature complement(9641..9673)

/note="loxP"

misc\_feature 9674..9923

/note="piggyBac vector, 3' sequence"

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/note="gypsy insulator from D. melanogaster"

misc\_feature complement(9132..9153)

/note="attB1"

misc\_feature 8315..9102

/note="drosomycin terminator from D. melanogaster"

misc\_feature 6867..8295

/note="dTomato"

misc\_feature 5352..6847

/note="AGAP002620 promoter region"

misc\_feature 5324..5350

/note="attB4"

gene 4341..5057

/note="EYFP (Clontech)"

misc\_feature 5064..5320

/note="SV40 term sequences"

misc\_feature 2636..4337

/note="Vitellogenin (AGAP004203) promoter"

misc\_feature complement(2612..2634)

/note="attB3"

misc\_feature complement(2371..2576)

/note="3xPax3-hsp70 promoter"

misc\_feature complement(1632..2351)

/note="GFP"

misc\_feature complement(1393..1614)

/note="SV40 term sequences"

misc\_feature complement(889..1319)

/note="gypsy insulator from D. melanogaster"

misc\_feature 1330..1350

/note="attB2"

misc\_feature complement(594..814)

/note="phage PhiC31 attP'"

misc\_feature complement(825..858)

/note="loxP"

misc\_feature 284..593

/note="piggyBac vector, 5' sequence"

misc\_feature 1..283

/note="flanking chromosomal sequence, 5' side"

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61 GTAAATATAT AAAAGCCGTT TCAAAAAGGG TGCCGTAGAC TTCTTATTCT TAGTGTTGGA

121 AACTCGTGAG TGCCCAACAG TCTGTCAGGT GACAACGCTA GAGAAGAGAG TGAGAGGGAG

181 GATAAAAACG GTAAATTAGG AGATAAGGAG AAGGGTTGGT CCGCTCCTAA CCAGTTAGTT

241 GAAATTCGAC AATCGGTACA AGTGGACTAA TTTTTGGATT TAAccctaga aagatagtct

301 gcgtaaaatt gacgcatgca ttcttgaaat attgctctct ctttctaaat agcgcgaatc

361 cgtcgctgtg catttaggac atctcagtcg ccgcttggag ctcccgtgag gcgtgcttgt

421 caatgcggta agtgtcactg attttgaact ataacgaccg cgtgagtcaa aatgacgcat

481 gattatcttt tacgtgactt ttaagattta actcatacga taattatatt gttatttcat

541 gttctactta cgtgataact tattatatat atattttctt gttatagatt agatcgcgct

601 cgcgcgactg acggtcgtaa gcacccgcgt acgtgtccac cccggtcaca accccttgtg

661 tcatgtcggc gaccctacgc ccccaactga gagaactcaa aggttacccc agttggggca

721 ctactcccga aaaccgcttc tgacctggga aaacgtgaag ccccggggca tccgctgagg

781 gttgccgccg gggcttcggt gtgtccgtca gtactgcagg taccataact tcgtatagca

841 tacattatac gaagttatac ctcccaacgc gttggatgca gcactagagt tgttggttgg

901 cacaccacaa atatactgtt gccgagcaca attgatcggc taaatggtat ggcaagaaaa

961 ggtatgcaat ataataatct tttattgggt atgcaacgaa aatttgtttc gtcaacgtat

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1561 gaggtttttt aaagcaagta aaacctctac aaatgtggta tggctgatta tgatctagag

1621 tcgcggccgc tttacttgta cagctcgtcc atgccgagag tgatcccggc ggcggtcacg

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8581 cgcaggaatt ccctaatgtt cccgacctac atgtacttct gatagttgcc gaggtcaaat

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9181 acaaatatac tgttgccgag cacaattgat cggctaaatg gtatggcaag aaaaggtatg

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9901 acaatatgat tatctttcta gggTTAACCT CATACCACAG TAAATAAAGT GTTTTCTCTA

9961 AAAAATCCAC CGCGTTTTTC AACACTTAGA CTTCACTTCT TATCACATAA AGTTCTCACT

10021 ACTCGTAAAA CACAATCAAG AAAGTGTCCC AAAATTAAGA AAACTCCCGA AATCTCTTGT

10081 ATCTATTCGT GAGGTGCATC ATCAGCGTCG TGCGAGTAGC AGCATAATTC ATGGTGCACT

10141 CAGGAAAAAT CATTCCGTGT AACAAACAAC AAGATACAAA AGTACAGGAA GTCCCTGAGA

10201 TACACGGTAC CTCTAATACG CGGAATAGGA GATTCTAAAT ATGACAGTTC TTTGAGCAAA

10261 TTGTACTGAT TTGACTCATC AATTTTTGTC AAATGCAAAA TAATTACCTT TTTGATCGAA

10321 TGTTTAAAAC CAAATCAACA GGATTAAAAC TGTTAAATTT AATCAGACTC ATATCAAATA

10381 ATAGATTACG TGGCTAAAAC CACCCCCTTG CACAATTAAA CGAAATTAGT GATATTTTGG

10441 CTAAAAATTA AGAGGCTCGA CCTACGCAGA AATTCGAGAT A//

**Sequence of the transgenesis vector used to generate the FKX line**

The full annotated sequence of the empty transgenesis vector used to construct the FK reporter transgene is shown below. This vector is a derivative from pXLBacII ([22]: Li et al., Insect Mol Biol 14:1 (17-30), 2005). The *piggyBac transposase* gene under the control of the Drosophila *hsp70* promoter was inserted into the vector backbone (outside of the piggyBac transposon) to serve as a built-in transgenesis helper. A Gateway cassette, genetic insulators and various recombination sites were cloned into the piggyBac region (annotated in the sequence).

LOCUS piggyBac vector, E. Marois 9628 bp DNA circular 01-AUG-2012

FEATURES Location/Qualifiers

misc\_feature 6853..6988

/note="PiggyBac 5'region"

misc\_feature 3718..3751

/note="loxP"

misc\_feature 6458..6678

/note="attP' docking site"

misc\_feature complement(339..2405)

/note="piggyBac transposase"

misc\_feature complement(2462..3049)

/note="D. melanogaster hsp70 promoter"

misc\_feature complement(2407..2462)

/note="rrnB terminator from E. coli"

misc\_feature 6414..6447

/note="loxP"

misc\_feature 3468..3705

/note="piggyBac 3'region"

misc\_feature 3799..4229

/note="gypsy insulator from Drosophila"

misc\_feature 4235..5947

/note="Gateway cassette RfB (Invitrogen)"

misc\_feature 4239..4363

/note="attR1"

misc\_feature 5953..6383

/note="gypsy insulator from Drosophila"

misc\_feature complement(5819..5942)

/note="attR2"

ORIGIN

1 CTAAATTGTA AGCGTTAATA TTTTGTTAAA ATTCGCGTTA AATTTTTGTT AAATCAGCTC

61 ATTTTTTAAC CAATAGGCCG AAATCGGCAA AATCCCTTAT AAATCAAAAG AATAGACCGA

121 GATAGGGTTG AGTGTTGTTC CAGTTTGGAA CAAGAGTCCA CTATTAAAGA ACGTGGACTC

181 CAACGTCAAA GGGCGAAAAA CCGTCTATCA GGGCGATGGC CCACTACGTG AACCATCACC

241 CTAATCAAGT TTTTTGGGGT CGAGGTGCCG TAAAGCACTA AATCGGAACC CTAAAGGGAG

301 CCCCCGATTT AGAGCTTGAC GGGGAAAGCC TCGACGGATC CAAATTCAAC AAACAATTTA

361 TGTTTATTTA TTTATTAAAA AAAAACAAAA ACTCAAAATT TCTTCTATAA AGTAACAAAA

421 CTTTTAAACA TTCTCTCCTT TACAAAAATA AACTTATTTT GTACTTTAAA AACAGTCATG

481 TTGTATTATA AAATAAGTAA TTAGTTTAAC TTATACATAA TAGAAACAAA TTATACTTAT

541 TAGTCAGTCA GAAACAACTT TGGCACATAT CAATATTATG CTCTCGACAA ATAACTTTTT

601 TGCATTTTTT GCACGATGCA TTTGCCTTTC GCCTTATTTT AGAGGGGCAG TAAGTACAGT

661 AAGTACGTTT TTTCATTACT GGCTCTTCAG TACTGTCATC TGATGTACCA GGCACTTCAT

721 TTGGCAAAAT ATTAGAGATA TTATCGCGCA AATATCTCTT CAAAGTAGGA GCTTCTAAAC

781 GCTTACGCAT AAACGATGAC GTCAGGCTCA TGTAAAGGTT TCTCATAAAT TTTTTGCGAC

841 TTTGAACCTT TTCTCCCTTG CTACTGACAT TATGGCTGTA TATAATAAAA GAATTTATGC

901 AGGCAATGTT TATCATTCCG TACAATAATG CCATAGGCCA CCTATTCGTC TTCCTACTGC

961 AGGTCATCAC AGAACACATT TGGTCTAGCG TGTCCACTCC GCCTTTAGTT TGATTATAAT

1021 ACATAACCAT TTGCGGTTTA CCGGTACTTT CGTTGATAGA AGCATCCTCA TCACAAGATG

1081 ATAATAAGTA TACCATCTTA GCTGGCTTCG GTTTATATGA GACGAGAGTA AGGGGTCCGT

1141 CAAAACAAAA CATCGATGTT CCCACTGGCC TGGAGCGACT GTTTTTCAGT ACTTCCGGTA

1201 TCTCGCGTTT GTTTGATCGC ACGGTTCCCA CAATGGTTAA CTTATACGGT TCTTGTAGTA

1261 AGTTTTTTGC CAAAGGGATT GAGGTGAACC AATTGTCACA CGTAATATTA CGACAACTAC

1321 CGTGCACAGG CTTTGATAAC TCCTTCACGT AGTATTCACC GAGTGGTACT CCGTTGGTCT

1381 GTGTTCCTCT TCCCAAATAA GGCATTCCAT TTATCATATA CTTCGTACCA CTGTCACACA

1441 TCATGAGGAT TTTTATTCCA TACTTACTTG GCTTGTTTGG GATATACATC CTAAACGGAC

1501 ACCGTCCTCT AAAACCAAGT AACTGTTCAT CTATGGTCAA ATGAGCCCCT GGAGTGTAAT

1561 TTTGTATGCA CTGATGGATA AAGAGATCCC ATATTTTTCT AACAGGAGTA AATACATCGT

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1681 CAAAACGATC ACGACTCATT ACAGAGACGT ACACCATTGA CAAAGATCGA TCAAAGAGGT

1741 CATCTGTGGA CATGTGGTTA TCTTTTCTCA CTGCTGTCAT TACCAGAATA CCAAAGAAAG

1801 CATAGATTTC ATCTTCATTC GTGTCACGAA ATGTAGCACC TGTCATAGAT TCCCGACGTT

1861 TCAATGATAT CTCAGCATTT GTCCATTTTA CAATTTCCGA AATTATCTCA TCAGTAAAAA

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1981 GAGATCTGAC AATGTTCAGT GCAGAGACTC GGCTACGCCT CGTGGACTTT GAAGTTGACC

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2101 CCAATGAAGA ACCTGGTTGT TCAATAACAT TTTGTTCGTC TAATATTTCA CTACCGCTTG

2161 ACGTTGGCTG CACTTCATGT ACCTCATCTA TAAACGCTTC TTCTGTATCG CTCTGGACGT

2221 CATCTTCACT TACGTGATCT GATATTTCAC TGTCAGAATC CTCACCAACA AGCTCGTCAT

2281 CGCTTTGCAG AAGAGCAGAG AGGATATGCT CATCGTCTAA AGAACTACCC ATTTTATTAT

2341 ATAGGATCCC CGACACCAGA CCAACTGGTA ATGGTAGCGA CCGGCGCTCA GCTGGAATTA

2401 GGCCTTCTAG acagataaaa cgaaaggccc agtctttcga ctgagccttt cgttttattt

2461 gAAATTCCCA ATTCCCTATT CAGAGTTCTC TTCTTGTATT CAATAATTAC TTCTTGGCAG

2521 ATTTCAGTAG TTGCAGTTGA TTTACTTGGT TGCTGGTTAC TTTTAATTGA TTCACTTTAA

2581 CTTGCACTTT ACTGCAGATT GTTTAGCTTG TTCAGCTGCG CTTGTTTATT TGCTTAGCTT

2641 TCGCTTAGCG ACGTGTTCAC TTTGCTTGTT TGAATTGAAT TGTCGCTCCG TAGACGAAGC

2701 GCCTCTATTT ATACTCCGGC GCTCTTTTCG CGAACATTCG AGGCGCGCTC TCTCGAACCA

2761 ACGAGAGCAG TATGCCGTTT ACTGTGTGAC AGAGTGAGAG AGCATTAGTG CAGAGAGGGA

2821 GAGACCCAAA AAGAAAAGAG AGAATAACGA ATAACGGCCA GAGAAATTTC TCGAGTTTTC

2881 TTTCTGCCAA ACAAATGACC TACCACAATA ACCAGTTTGT TTTGGGATTC TAGGGGGATC

2941 GGGGATCAAT TCTAGTATGT ATGTAAGTTA ATAAAACCCA TTTTTGCGGA AAGTAGATAA

3001 AAAAAACATT TTTTTTTTTT ACTGCACTGG ATATCATTGA ACTTATCTGA TCGGCGAACG

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3121 CGGTCACGCT GCGCGTAACC ACCACACCCG CCGCGCTTAA TGCGCCGCTA CAGGGCGCGT

3181 CCCATTCGCC ATTCAGGCTG CGCAACTGTT GGGAAGGGCG ATCGGTGCGG GCCTCTTCGC

3241 TATTACGCCA GCTGGCGAAA GGGGGATGTG CTGCAAGGCG ATTAAGTTGG GTAACGCCAG

3301 GGTTTTCCCA GTCACGACGT TGTAAAACGA CGGCCAGTGA GCGCGCCTCG TTCATTCACG

3361 TTTTTGAACC CGTGGAGGAC GGGCAGACTC GCGGTGCAAA TGTGTTTTAC AGCGTGATGG

3421 AGCAGATGAA GATGCTCGAC ACGCTGCAGA ACACGCAGCT AGATTAACCC TAGAAAGATA

3481 ATCATATTGT GACGTACGTT AAAGATAATC ATGCGTAAAA TTGACGCATG TGTTTTATCG

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6661 TCAGTCGCGC GAGCGCGATC TAATCTATAA CAAGAAAATA TATATATAAT AAGTTATCAC

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