

**A**

Sequence of Linker Oligonucleotides		
Number	Sequence	Description
HL1870	GTAATACGACTCACTATAGGGCTCCGCTTAAGGGAC	Linker oligonucleotide
HL1871	5' P- TAGTCCCTTAAGCGGAG-NH <sub>3</sub> 3'	Amino tailed linker oligonucleotide

**B**

Sequence of Illumina Sequence Primers		
Number	Sequence	Description
HL3498	AATGATACGGCGACCACCGAGATCTACACTCTTTCCCTACACGACGCTCT TCCGATCT <b>ACGT</b> CTCACCGCAGTTGATGCATAGGAAGC	Tf1-LTR primers with barcodes ( <i>sap1</i> <sup>+</sup> (25°C) #1)
HL3512	AATGATACGGCGACCACCGAGATCTACACTCTTTCCCTACACGACGCTCT TCCGATCT <b>TGCA</b> CTCACCGCAGTTGATGCATAGGAAGC	Tf1-LTR primers with barcodes ( <i>sap1</i> <sup>+</sup> (25°C) #2)
HL3513	AATGATACGGCGACCACCGAGATCTACACTCTTTCCCTACACGACGCTCT TCCGATCT <b>GTAC</b> CTCACCGCAGTTGATGCATAGGAAGC	Tf1-LTR primers with barcodes ( <i>sap1</i> <sup>+</sup> (25°C) #3)
HL3514	AATGATACGGCGACCACCGAGATCTACACTCTTTCCCTACACGACGCTCT TCCGATCT <b>CATG</b> CTCACCGCAGTTGATGCATAGGAAGC	Tf1-LTR primers with barcodes ( <i>sap1-1</i> (25°C) #1)
HL3520	AATGATACGGCGACCACCGAGATCTACACTCTTTCCCTACACGACGCTCT TCCGATCT <b>AGTC</b> CTCACCGCAGTTGATGCATAGGAAGC	Tf1-LTR primers with barcodes ( <i>sap1-1</i> (25°C) #2)
HL3521	AATGATACGGCGACCACCGAGATCTACACTCTTTCCCTACACGACGCTCT TCCGATCT <b>GACT</b> CTCACCGCAGTTGATGCATAGGAAGC	Tf1-LTR primers with barcodes ( <i>sap1-1</i> (25°C) #3)

**C**

Sequence of PCR Primer		
Number	Sequence	Description
HL2216	CAAGCAGAAGACGGCATACGAGCTCTTCCGATCTGTAATACGACTCACTA TAGGGC	PCR primer that anneals to linker end

Figure S1. Sequences of primers/oligonucleotides used in the generation of Tf1 serial number data in *sap1*<sup>+</sup> and *sap1-1* cells. A. The sequence of amplification primers that annealed to the LTR upstream of the serial numbers are shown. The nucleotides highlighted in red signify six different barcodes: *sap1*<sup>+</sup> (25°C) #1: AGCT, *sap1*<sup>+</sup> (25°C) #2: TGCA, *sap1*<sup>+</sup> (25°C) #3: GTAC, *sap1-1* (25°C) #1: CATG, *sap1-1* (25°C) #2: AGTC, and *sap1-1* (25°C) #3: GACT. B and C. The sequences of (B) the oligonucleotides that comprised the ligation linker (HL1870 and HL1871) and of (C) the amplification primer (HL2216) are shown. Serial numbers were created and amplified using methods previously described (Chatterjee *et al.* 2014).