

## Supplementary Figure 8A

### Insertion #2 donor element: chr19:28149495-28156131

Black = Chr19 flanking sequence

Red = donor TSDs

Yellow = L1 sequence

Blue = 3' transduced sequence

Grey = original poly-A

5' junction

```
TTCAAAGAGGTTTTAAAAAGTGTATTTAACTCTCTAATTCTCATCAAAGCTAAAGGTGTTTTTTTCATCTGAAGTAGC
CCTCCTCTAAATGTATTGTGAgttggtccgagacccgccgaacttaggaaattagtctgaacaggtgagaggggtgc
gccagagaacctgacagcttctggaa
```

3' junction

```
aatgagctaaatacctaataaaaaaaaaaatgaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaataaaatGTATTGTGAATATT
ATGGAATGAATTATCTTGTGTATCTTTGAGGAACAAGATAATAAGATATATGTTTTTAATGCTG
```

### Insertion #2

Black = Chr2 flanking sequence

Purple = Insertion #2 TSDs

Yellow = L1 sequence

Blue = 3' transduction

Grey = original poly-A

Green = new poly-A

5' junction

```
ACCTCTGATGTTTCTCTCATCAGCATAGAAGCATTATGCTAAAGTCCATACCTAATAGGAGGAGCGGGAGCAGGCC
TTGATGTAGTTTGAAATTCTATTAAAAATTTTTTCTCTcggtctggggaggcgacctaaagccacagcagcagcggtc
gccatcttggtccgggacccgccgaa
```

3' junction

```
gtgggtaagggggacttttggtatagcattggaaatgtaaagagctaaatacctaataaaaaaaaaaatgaaaaaaa
aaaaaaaaaaaaaaaaaaaaaaaaaaTAAATGTATTGTGAAATAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAATTTTTTCTCTATTCTTCACTATATTTTCATTGAGCAATGGGCAGGGAATGCATGCATAT
GTGTGTC
```

## Supplementary Figure 8B

### Insertion #5 donor element: chr1:7328682-7335740

Black = Chr1 flanking sequence

Red = donor TSDs

Yellow = L1 sequence

Blue = transduced sequence

Grey = original poly-A

5' junction

TAGTAGACACATGAGTAAATGAATAAAATAAATAATTCTCCAAATCTTAGAATCAAGATTGGCCATATCAGTCCAAT  
ATTTATCAGGACATAACTATTCAACTTCTAAGGATT**AGAACTTTTTATCAG**atcttggtccgggaccgcccgaactt  
aggaaaTtagtctgaacaggtgagag

3' junction

ttggtatagcattggaaatgtaaatgagctaaatacctaataaaaaatggaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa  
a**AGAACTTTTTATCAG**GTCAAATAAAGTGCAAGATGGGTTGCATCAATATTCTGTTTTGCCAATAAGTCTGTCAGA  
TATTCTGAGCCAGAAGTCCAAAGATGGATACTTCAACATTGCAAAGGAACCTTGAGTGATTATCTATGTATCTAGCA  
ATCTCTGTCATGTCTTTGATTAGGATGG

### Insertion #5:

Black = Chr10 flanking sequence

Purple = Insertion #5 TSDs

Yellow = L1 sequence

Blue = 3' transduction

Grey = original poly-A

Green = new poly-A

5' junction

TGCCACACAGATTTTGTACTATAGGAAAACAAAGAAAAATACTTCAAGATATAAGCATATGGCAGATTTTTGTAAAG  
ATATCTTAGTAGAC**AAGAAAATAACAGC**ggggacagccggccaccttccggaccagaggacaggtgccaccggct  
ggggaggcggcctaagccacagcagcagcggtcgccatcttggtccgggatccgcccgaactt

3' junction

ggccaaagggggggagtgggtaggggagtgggggtaggggtaaggggacttttggtatagcattggaaat  
gtaaatgagctaaatacctaataaaaaatggaaGAACT  
TTTTTTCAGGTCAAATAAAGTGCAAGATGGGTTGCATCAATAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA  
AAA**AAGAAAATAACAGC**CAATAATTTATAAATGGAATCGTATGGCATGAAAAAGTGCCAGGATGGGAAAGGCAGTCAT  
TCAGAGTGAAACAGAA

## Supplementary Figure 8C

### Insertion #7 donor element: Chr6:95658065-95664762

Black = Chr6 flanking sequence

Red = Donor TSDs

Yellow = L1 sequence

Blue = transduced sequence

Grey = original poly-A

5' junction

```
GAATCTCTTCTTAATTTTAGTTTCTAGTGGTGCCTAGATAGGTGTTTTGAATGATGAGATCTCACTCACGTGCCAATACT
GAGCACTCTTACCTGAGAGTGCTCATTACCACACTACCATTACAGCCGAGTCGGATATTATGTCAGCTTGCTTAAGATGC
CAATACAAGgccccggtggggaggcggcctaagccacagcagcagcggtcgccatcttgggtccgagacccgcccgaactta
ggaaattagtctgaacaggtgagaggggtgcccagagaacctgacagcttctggaacagggcagagggcacagagggcgctga
```

3' junction

```
gggaaacgccagggccaaagggggggagtggggtgggtaggggagtggggggtgggtaaggggggtcttttggtatagca
ttgaaatgtaaatgagctaaatacctaataaaaaatggaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaATGCCAATACAAGT
GGGGTTTTTTTTTCAAATGCGCTATCAATTACTTTTTAATTTATGTCAAAGAATATAAAGAACAAGATGACAACCCAG
TAAATTACTTTTGTATTTTATCCAGTAATATCAACAGCATATCTACAAAATAAATCTCATTTTCAATGAAAAAGG
AATACATTTGGTTATGTTTACATCCATGAGTCATAATGTAAAGGAAGTTACAAGAGATGATTATCCATTAACACAAATTA
```

### Insertion #7:

Black = chr18 flanking sequence

Purple = Insertion #7 TSDs

Yellow = L1 sequence

Blue = 3' transduction

Grey = original poly-A

Green = new poly-A

5' junction

```
ATTTTTTAGGTGCTTCTCAGCTATTCGGTATTGAAGATGCTCCAACATGTAATAAGGACACATGCTCCATTACGTTCAT
CACAGCCTTGTTTACAATAGCCAGAAGCgatcttgggtccgggaccgcccgaacttaggaaattagtctgaacaggtgaga
gggtgcccagagaacctgacagcctctggaacaggcagagaagcacagaggggctgagggcagcacctgtgtggccgggg
```

3' junction

```
agtgggggtgggtgggtaagggggttttttggtatagcattgaaatgtaaatgagctaaatacctaataaaaaatggaa
aaaaaaaaaaaaaaaaaaaaaaaaaaATGCCAATACAAGTGGGGTTTTTTTTTCAAATGCGCTATCAATTACTTTTTAAT
TTATGCCAAAAGAATATAAAGAACGAGATGAAAAAATAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAACAATAGCCA
GAAGCTGGAAGAACCAGTTGTTTCTCAAAGAGGAATGGATACAGAAAATTTGGTACATTTACACAATGGAGTACTAC
```

## Supplementary Figure 8D

### Poly L1TF 3 donor element: chr16:65055909-65062518

Black = Chr16 flanking sequence

Red = Donor TSDs

Yellow = L1 sequence

Blue = transduced sequence

Grey = original poly-A

5' junction

```
gagtgctcgaagacagctacagtgtacttacatataataaacaacaacaacaataaataaataaataaataaataaatttttaaaaa
gaaatatatTTTTTgaaTCTCTAAACAACAACAAAAAGATTTCAACTTCCAGCAGACCTTACAAATGCAACAGTTGGaggaaatt
agtctgaacaggtgagaggggtgcgcagagaaacctgacagcttctggaacaggcgaagcacagagggcgtgaggcagcacccttt
gtggccggggacagccggccaccttccggaccagaggacaggtgccaccggctggggaggcgcctaagccacagcagcagcg
gtcgcctat
```

3' junction

```
agggccaaaggggggagtggggtggtaggggagtggggggtgggtaagggggacttttggatatagcattggaaatgtaaattg
agctaaatacctaataaaaaatggaaaaaaaaaagaaaaaaaaataaaaaaaaaaaaaaaaaacaaaaaaaaaaaacaaaTGCAACAG
TGTCAATGTTTATCCTTTCAGGACCGAGTTAGGCAATGTTCTTCCTATCATAAAAGACTAAATACCGTGTTTAAATTGAACATGA
ATT
```

### Poly L1TF 3:

Black = chr6 flanking sequence

Purple = Poly\_L1TF\_3 TSDs

Yellow = L1 sequence

Blue = 3'transduction

Grey = original poly-A

Green = new poly-A

5' junction

```
AATACATGAGCCTTTGAGGGACATTTGTATTTCAGAACACCTTTGAGCTTGGTGCTTCTGTAATCTTGAAGGATACTTGGCAGAAAG
AGATGGTTTATGAGTAATGTCATAATAAGATGACAGACTCGacagcagcagcggctcgcctatcttggctccgggaccgccgaactta
ggaaattagtctgaacaggtgagaggggtgcgccagagaaacctga
```

3' junction

```
GGTACTGTGCATGCTCCGGCCGCCATGGCGGCCCGGGGAATTCGATTGACTTTGTGTGCCCCGGTACAGGGGAACGCCAGGGCCAA
AGGGGGGAGTGGGTGGGTAGGGGAGTGGGGGTGGGTGGGTAAGGGGACTTTTGGTATATCATTGGAAATGTAAATGAGCTAAAT
ACCTAATAAAAAATTGAAAAAAAAAAGAAAAAAAAATAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAACAAATGCAACAGTTGTC
AATGTTTATCCTTTCAGGACCGAGTTAGGCAATGTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAGATGTCAGACTCTGTTCTTACTGTGTGTGTGTTGGTTGAGTGTGACATGAC
AAGTGGTGACTGAGTCACAGTGAGCCTGG
```

## Supplementary Figure 8E

**PolyL1TF\_4 Donor element: Chr7:58421728-58428359**

Black = Chr7 flanking sequence

Red = Donor TSDs

Yellow = L1 sequence

Blue = transduced sequence

Grey = original poly-A

5' junction

CAAGCCAACATAAAAGCAGATCTTTCAGCATGATTTACAAGGACAGAGATTTATTGTCATAGCTCAGGCAGAAGTAC  
AAGCTGTACTTAAAAATATCTGGAACCTTGTGTAAAATAAAAATGTCGaggtgagaggggtgcgccagagaacctga  
cagtctctggaacaggcagagaagcacagaggggctgagggcagcacc

3' junction

gggggacttttgggtatagcattggaaatgtaaagagctaaatacctaataaaaaatggaaaaataaaaaataaaat  
aaaaataaaaaaaaaaaaaaaaaaagaaaaaaaaTGTCGAAATGAACCTTTAAGGATAATGTACAGAATATAAAGAAAA  
TAAGGGCACCCCTCATGGACAGAGCTGCAAGGCACAAGGCATAGGGATTTTTAGGACAAAATAGCAGGTGTTACCA  
AAACACACAAAATGGAGAGGGTGGCTGAAGATGTGACCAATAAAAGAACTGGGAAATGGATGAATCAT

**Poly L1TF 4:**

Black = chr17 flanking sequence

Purple = Poly L1TF 4 TSDs

Yellow = L1 sequence

Blue = 3' transduction

Grey = original poly-A

Green = new poly-A

5' junction

CAAACATATTTTGCAGTCAAATTTTAAATTAATGGGGATATAGTTGAAAAAGAAAATACAGATCTTGGTCCGGGAC  
CCGCCGAACCTTAGGAAATTAGTCTGAACAGGTGAGAGGGTGC GCCAGAGAACCTGACAGCTTCTGGAACAGGCGGAA  
GCACAGAGGCGCTGAGGCAGCACCCCTTGTGGGTGCGGGACAGCCAGCCACCGTCCGGACCGGAGGACAGGTGCCCG  
CCCGGCTGGGGAGGCGGCCTAAGCCAC

3' junction

GGGGGGGAGTGGGTGGGTAGGGGAGTGGGGGTGGGTGGGTAAGGGGGACTTTTGGTATATCATTGGAAATGTAAATG  
AGCTAAATACCTAATAAAAAATGGAAAAATAAAAAATAAAATAAAATAAAAAAAAAAAAAAAAAAGAAAAAAAAATGTC  
TGAAATGAACCTTTAAGGATAATGTACAGAATATAAAGAAAATAAAGGCACCCCTCATGCACATATCTGCAAGGCA  
CAAAGCATACGGATTTTTAAGACAAAATATCATGTGTTACCAAAACACACAAAATAAAAAAAAAAAAAAAAAAAAA  
AAA  
AAA  
GAAAAAGAA  
AATACAGCAAGTTGGTAATCTATAAATGAAATAGTGTAAATATAAGCAAAATGCTTTATATAATAAGGAACAGGTTAA  
ACATTAGGGAATATTGGTATTGTATAGAGGAATAGCAGTAGTACTGAATCAGAAAATAACACTGGGGTTAA

### **Supplemental Figure S8. Analysis of 3' transduction-bearing insertions**

A. Characterization of the 3' transduction carried by insertion #2 and identification of the donor element. Above, the 5' and 3' termini of the donor element are shown. Genomic DNA is shown in black text, TSDs belonging to the donor element in red, L1 sequence in yellow, the donor poly(A) tract in green and the transduced sequence in blue. A putative poly(A)denylation signal is underlined. Below, the 5' and 3' termini of insertion #2 are shown. Genomic DNA is shown in black text, TSDs flanking insertion #2 in purple, L1 sequence in yellow, the donor poly(A) tract in green, the 3' transduction in blue, and the poly(A) tract of insertion #2 in grey. Poly(A) tract lengths were determined by capillary sequencing and should be regarded as estimates.

B. Characterization of the 3' transduction carried by insertion #5 and identification of the donor element.

C. Characterization of the 3' transduction carried by insertion #7 and identification of the donor element.

D. Characterization of the 3' transduction carried by Poly\_L1TF\_3 and identification of the donor element.

E. Characterization of the 3' transduction carried by Poly\_L1TF\_4 and identification of the donor element.