

LONDON
SCHOOL of
HYGIENE
& TROPICAL
MEDICINE



LSHTM Research Online

Glover, L; Jun, J; Horn, D; (2010) Microhomology-mediated deletion and gene conversion in African trypanosomes. Nucleic acids research. ISSN 0305-1048 DOI: <https://doi.org/10.1093/nar/gkq981>

Downloaded from: <http://researchonline.lshtm.ac.uk/2465/>

DOI: <https://doi.org/10.1093/nar/gkq981>

Usage Guidelines:

Please refer to usage guidelines at <https://researchonline.lshtm.ac.uk/policies.html> or alternatively contact researchonline@lshtm.ac.uk.

Available under license: <http://creativecommons.org/licenses/by-nc-nd/2.5/>

<https://researchonline.lshtm.ac.uk>

Supplementary data for:

Microhomology mediated deletion and gene conversion in African trypanosomes

Lucy Glover, Junho Jun & David Horn*

Contents:

Table S1: MMEJ-junctions in 11 P_{ES} survivors.

Figure S1: Putative MMEJ-'scars' within VSG expression site sequences.

Table S1: MMEJ-junctions in 11 P_{ES} survivors.

Microhomology (MH) class	Junction type	Sum Survivors	<i>RFP</i> Δ	<i>PAC</i> Δ	Total Δ
1	X	7	52	20	81
4	X	1	231	47	291
	xa	1	227	57	291
10	x	1	58	454	522
15 ^a	x	1	700	24	732

^a The novel junction is illustrated below.
See Table 1 for other details.

Junction 15:

```
R GAATTCGATATCAAGCTTATGGTGCCTCCTC  
GAATTCGATATCAAGCCACGGTGCCTCGC  
P CGCACCGAGTACAAGCCACGGTGCCTCGC
```

```

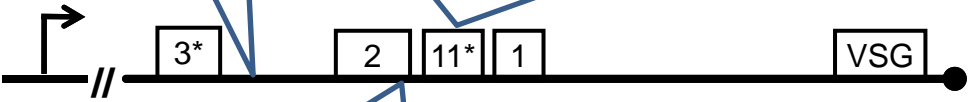
BES1  TCTGCAGTATAAAAAGGTAATTCAGCTGCTAGAAGGAAAAAATTCCTGAAGACCC
BES2  TCTGCAGTATAAAAAGGTAATTCAGCTGCTAGAAGGAAAAAATTCCTGAAGACCC
BES3  TCTGCAGTATAAAAAGGTAATTCAGCTGCTAGAAGGAAAAAATTCCTGAAGACCC
BES4  TCTGCAGTATAAAAAGGTAA-----AAAATTCCTGAAGACCC
BES5  TCTGCAGTATAAAAAGGTAATTCAGCTGCTAGAAGGAAAAAATTCCTGAAGACCC
BES7  TCTGCAGTATAAAAAGGTAATTCAGCTGCTAGAAGGAAAAAATTCCTGAAGACCC
BES12 TCTGCAGTATAAAAAGGTAA-----AAAATTCCTGAAGACCC
BES13 TCTGCAGTATAAAAAGGTAATTCAGCTTCTGGAAGGCAAAA-TTCCTGAAGACCC
BES14 TCTGCAGTATAAAAAGGTAATTCAGCTGCTAGAAGGAAAAAATTCCTGAAGACCC
BES15 TCTGCAGTATAAAAAGGTAATTCAGCTGCTAGAAGGCAAAA-TTCCTGAAGACCC
BES17 TCTGCAGTATAAAAAGGTAATTCAGCTGCTAGAAGGAAAAAATTCCTGAAGACCC
*****
5' TCTGCAGTATAAAAAGGTAATTCAGCTGCTAGAAGGAAAAAATTCCTGAAGACCC 3'
AGCGTCATATTTCCATTAAGTCGACGATCTTCCTTTTAAAGACTTCTGGG

```

```

BES1  TGGATGTGGAAGTG-----ATGGTAAACACGAGTTGG
BES3  TGGATGTAGAAGTG-----ATGGTAAACACGAAGTTG
BES4  TGGATGTGGAAGTGGTGGTGGACATGATGGTAAACACGAGTTGG
BES5  TGGATGTGGAAGTG-----ATGGTAAACACGAGTTGG
BES7  TGGATGTGGAAGTG-----ATGGTAAACACGAGTTGG
BES13 TGGATGTGGAAGTG-----ATGGTAAACACGAGTTGG
BES15 TGGATGTGGAAGTGGTGGTGGACATGATGGTAAACACGAGTTGG
*****
5' TGGATGTGGAAGTGGTGGTGGACATGATGGTAAACACGAGTTGG 3'
ACCTACACCTTACCACCCACCTGTACTACCATTTGTGCTCAACC

```



```

BES1  CCAAGGTAAGGGTGAT-----GATGCTAGGGTAGATAA
BES2  CCAAGGTAAGGGTGATGGTGAGGGTGATAATACAGTGGTAGATAA
BES5  CCAAGGTAAGGGTGAT-----GATGCTAGGGTAGATAA
BES7  CCAAGGTAAGGGTGAT-----GATGCTAGGGTAGATAA
BES13 CCAAGGTAAGGGTGAT-----GATGCTAGGGTAGATAA
BES14 CCAAGGTAAGGGTGAT-----GATGCTAGGGTAGATAA
BES15 CCAAGGTAAGGGTGAT-----GATGCTAGGGTAGATAA
*****
5' CCAAGGTAAGGGTGATGGTGAGGGTGATAATACAGTGGTAGATAA 3'
GGTTCCATTCCTACTACCACATCCACTATTATGTCACCATCTATT

```

Figure S1: Putative MMEJ-'scars' within VSG expression site (ES) sequences. The putative parental and deleted sequences are aligned. Microhomologies are on a grey background and are also illustrated on both DNA strands below each alignment (red lettering). * ESAG pseudogene in some or all ESs. ESs are polycistronic and telomeric; the arrow indicates the promoter. These deletions may have arisen following DSB or during DNA replication.