Polymorphic L1 vs Control Integration site Threshold 100 DNase hypersensitive sites 100 RNA Pol2 CTCF 100 100 H3K4me2 H3K9ac 100 100 H3K4me3 100 H3K79me2 H3K27ac 100 100 H4K20me1 H3K4me1 100 H3K36me3 100 100 H3K9me3 H3K27me3 H2AFZ hESC gene expression 100 Sperm hypomethylation CPG Methylation 100 5-hydroxymethylcytosine 100 CHH Methylation CHG Methylation Features 100 100 G Quadruplexes A-phased repeats 100 Direct repeats Inverted repeats Mirror repeats Z DNA motifs 100 Mononucleotides Microsatellites di- tri- tetra-nucleotide GC content 100 L1 target motifs Alu 100 MIR 100 L2 and L3 DNA transposons 100 100 LTR elements 100 Replication origin Sex-averaged recombination hotspots 100 Most conserved element CpG islands 100 Exons

-log10(p-value)

2

Introns

 $\frac{1}{0} \frac{1}{8} \frac{1}{4} \frac{1}$ kb

100