Human specific L1 vs Polymorphic L1 Integration site Threshold 10 DNase hypersensitive sites RNA Pol2 CTCF H3K4me2 H3K9ac H3K4me3 H3K79me2 10 H3K27ac 30 H4K20me1 100 H3K4me1 H3K36me3 H3K9me3 H3K27me3 10 24 H2AFZ hESC gene expression Sperm hypomethylation CPG Methylation 100 5-hydroxymethylcytosine CHH Methylation 100 CHG Methylation Features 100 G Quadruplexes 100 100 A-phased repeats 2 Direct repeats Inverted repeats Mirror repeats Z DNA motifs 100 100 Mononucleotides Microsatellites di- tri- tetra-nucleotide 100 100 GC content 100 L1 target motifs Alu MIR L2 and L3 100 100 DNA transposons 100 LTR elements 20 Replication origin Sex-averaged recombination hotspots Most conserved element 2 CpG islands Exons 100 Introns $\frac{1}{0} \frac{1}{8} \frac{1}{4} \frac{1}$

-log10(p-value)

2

kb