

Table S1. EMSA oligonucleotides

Primers to amplify DNA fragments overlapping SVA- D repeat for EMSA	
CCCTCC- repeat (EMSA_Probe1)	5'CCATTCTCAGGCAGGCTTTCTTCCAC
	5'CAGGCAGGGAGGTTGCAGTGAGCCGAGATGG
AluSz (EMSA_Probe2)	5'CGAGCCGAAGCTGGACTGTACTGCTGCCATCTC
	5'GAACCAGACTCCGTCTGCAATCCCGGCACCTCGG
AluS (EMSA_Probe3)	5'CACCAGCCTCGGCCTCCCGAGGTGCCGGGATTG
	5'CAGAGGGGCTCCTCACGTCCAGACGATGGGTGGC
HERVK (EMSA_Probe7)	5'CTCTGCCCGGCCAGCCGCCAGTCCGGGAGGGAG
	5'CAATCTTTTCCCCACCTTTCCCCTCCTTCTATTC
HERVK (EMSA_Probe8)	5'GCTCATTGAGAGCGGGCCATGATGACAATGGCG
	5'CCATTTAACCCTGAGTGGACACAGCACATGTTTCAG
LTR5 (EMSA_Probe9)	5'CAACCCTGTGCTCTCTGAAACATGTGCTGTGTC
	5'GCAGTGGGGGATTTGGCAGGGTCATAGGACAATAGTG
Synthesized oligonucleotide probes for EMSA overlapping SVA- D repeat	
VNTR (EMSA_Probe4)	5'GCCACCCATCGTCTGGGACGTGAGGAGCCCCTCTGCCTGGCTGCCCAG-TCTGGAAAGTGAGGAGCGCTTCTTCCCGGCCGCCATCCCATCTAGGAA-GTGAGGAGTGCTCTTCCCGGCCACCATCCCATCTAGGAAGTGAGGAG-CGTCTCTGCCCCGCCGCCATTGTCTGAGATGTGGGGAGCGCC
VNTR (EMSA_Probe5)	5'TCTGCCCCGCCGCCATTGTCTGAGATGTGGGGAGCGCCTCTGCCCCGC-CGCCCCGTCTGGGATGTGAGGAGCGCCTCTGCCCCGCCGCGACCCCGTCTG-GGAGGTGAGGAGACCTCCGCCCGGCAACCGCCCCGTCTGAGAAGTGA-GGAGCCCCCTCCGCCCGGCAGCCGCCCGTCTGAGAAGTGAAGAGCCCCCTCC-GCCCCGCAGCCACCCCGTTTGGGAGGTGAGGAGCGTCTCCGCCCTGCAGCC-ACCCCGTTCGGGAGGGAGGTGGGGGGGTCAGCCCCCCCCCGCCGGCCGGCCG-CCC
VNTR (EMSA_Probe6)	5'GGGGGGTCAAGCCCCCCCCCGCCGGCCGCCGCCAGTCCGGGAGGGAGG-TGGGGTGTCAAGCCCCCGCCGGCCAGCCGCCCGTCCGGGAGGTGAGGGG-CGCCTCTGCCCCGCCGCCCTACTGGGAGGTGAGGAGCCCCTCTGCCCCGC-CAGCCGCCAGTCCGGGAGGGAGGTGG
rDNA probe 3 (22421-22480, putative BORIS only site)	5'CTCTCTCTCTGTGTCTGTCTGTCTCTCTCTCTCTCTCTGTGC-CTATCTTCTGTC
rDNA probe 2 (29759- 29820, putative BORIS only site)	5'CTCTCTCTCTCTCTCTCTCTCTGTCTTTGTCTTTCTTTCTGTCTCT-GTCTCTCTCTCTCT
rDNA probe 1 (42075-42134, both CTCF and BORIS bind)	5'TGACGTCCGCGGCGGTTGTGCGGGCTCCATCTGGCGGCCGCTTTGAGAT-CGTGCTCTCGGC