

**A**

Repbse HelitronN-1\_DPe (*D. persimilis*)

ISX

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10 AAAACGAGGGGGAACGTTGTGAGTTGCTGCGGAGACCCAACTCTACAGTTATACCCGATACTAAGTCAG 79
1153 AAAACGAGGGGGAACTGTTGTGAGTTGCTGCGGACACCGAACTCTACGGTTATACCCGATACTAAGTCAG 1084

80 TATGSCCTCTCCGGCAGACGCCCTAAATATTAACGACACGACAAAGAG-----AGAGACAGA 139
1083 TATGSCCTCTCCGGCAGACGCCCTAAATATTAACGACACGACAAAGAGTCCGTCGAGAGAGACAGA 1014

140 AAATCASTCTGAGCGTGACGTCGGGTGCTGCGTACGCACTGCAAAATGATTTGTCCTTTTGGCTATAAAA 209
1013 AAATCASTCTGAGCGTGACGTCGGGCGCTGCGTACGCACTGCAAAATGATTTGTCCTTTTGGCTATAAAA 944

210 AATGATCTGATCTGATCCAGATTTCAGCAATCTGATATATATGATCATTATCTATGATTTTCGCTTTTATG 279
943 AATGATCTGATCTGATCCAGATTTCAGCAATCTGATAGATATGGTCAATATCTATGATTTTCGCTTTTATG 874

280 TTTTCTCGTATCCTCAATATTTGGGATGCAACAGATTTTCGTCCTTTTGGGGGGCGGAAGGGGTGGGGC 349
873 TTTTCTCAAACTGCAATATTTGGGATGCAACAGATTTTCGTCCTTTTGGGGGGCGGATGGGGGTGGGGC 804

350 GAAATTTGAGATATACGTTTTATAGTGAGATCTAACAGGAGTGGGATACTCTACT-GTTACTCTAGC 418
803 GAAATTTGAGATATACGTTTTATAGTGACATCTTAAAGGAGTGTGTACCAAAATTTGGTTACTCTAGC 734

419 CTTAATAGTCTCTGAGATTTTGAATATCCCAGATTTTCATCCTTTGCGGGGGCGGAAGGGGTGTGGC 488
733 CTTAATAGTCTCTGAGATTTTGGTTG-CCTCAGATTTTCGTCCTTTGCGGGGGCGGAAGGGGTGTGGC 665

489 GAAATTTGAAAACAACTCGTCTCGGTCGATATATAGGAGTGTGGATACCAAAATTTGGTTCGCTAGC 558
664 GAAATTTGCAAGGAAACGGTCAAGGTCGATATACAGGAGTGTGGATACCAAAATTTGGTTCGCTAGC 595

559 TTTTGTAGTCTCTGAGATCTAGGCCTAATGTTTACTCTAAGCAAGCCGGCTATGCTACGTGTGTGTT 628
594 TTTTATAGTCTCTGAGATCCTTGAACCTAATATTTGCAATTTGGAAAACCGACCATGAAACCTGTGTGTT 525

629 AGAGAGACAGAGGGCGAGAAAAATGAAATTTTTCCTGATCTGGCTATAAATAATATACGATCTGGT 698
524 AGAGTGAACAGAGCGAGAAAGATGAAATTTTTCGATTTCTGGCTGTAAATAATATACGATCTGGT 455

699 TCAGATTTTGCACCTCAAGAAGATATAGTCATCTTCTACGATTTTCGCTTTTGTAGTTTTCCTGATCTG 768
454 TCAGATTTTGCACCTAGAGAATATAGTCATCTTCTACGATTTTCGCTTTTGTAGTTTTCCTGATCTG 385

769 AAATTTGGGATGCCACAGATTTTCGCCCTTTTGGGGACGGATGTGGCGGGGCAAGTTTGAATAAT 838
384 AAATTTGGGATGCCACAGATTTTCGCCCTTTTGGGGGCGGAAGTGGCGGGGCAAGTTTGAATAAT 315

839 CTGTAGCAGTGACATATCACAGAAGCTGGATCCAAAACATCGTTGCTCTAGCTCTTATAGTCTTTTGG 908
314 TTTGAGCAGTGACATATCACAGAAGCTGGATCCAAAACATCGTTGCTCTAGCTCTTATAGTCTTTTGG 245

909 CACTAGGCCTGAAGGGGACGGACAGACGGAC----- 940
244 CATTAGGCCTGAAGGGGACGGACAGACGGACAGACGGACAGACGGACAGACGGACAGACGG 175

941 --GGACGGACAGACGGACAGACAGATGGCTCAATCGACTCGGCTATTGATGCTGATCAAGAATATATG 1008
174 ACGGACGGACAGACGGACAGACAGATGGCTCAATCGACTCGGCTATTGATGCTGATCAAGAATATAT- 106

1009 TATATACTTTATGGGGTCGGAACAGATTCCTTTTGGACGTTACACACATCCACTTTTACCACAAATCTAA 1078
105 ---ATACTTTATGGGGTCGGAACAGATTCCTTTTGGACGTTACACACATCCACTTTTACCACAAATCTAA 39
1079 TATACCCAAATACTCATTTTGGATATCGGGTATAA 1113
38 TATACCCCAATACTCATTTTGGATATCGGGTATAA 4

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**B**

Region of homology between ISX and *D. melanogaster* DINE-1 helitron

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1110 1100 1090 1080 1070 1060
ISX TTATACCCGATACTCAAATGAGTATTTGGGTATATAGATTGTGGTAAAAAGTGGATGT
DINE-1 TTATACCCGTTACTCGTATA--GAGTAAAAAGGATATACTAGATTTCGTTGAAAA-----GT
10 20 30 40 50

1050 1040 1030 1020 1010
ISX GTGTAACGTCCAAAGGAAATCGTTTCCGACCCCAATAAAGTATAT-----ACATAT
DINE-1 ATGTAACAGGCAGAAAGGAGCGTTTCCGACCATATAAAGTATATTTATATATATATATAT
60 70 80 90 100 110

1000 990 980 970 960 950
ISX ATTCTTGATCAGCATCAATAGCCGAGTCGATTTGAGCCATGCTGTCTGTCCGCTGTGTCG
DINE-1 ATTCTTGATCAGCATCAATAGCCGAGTCGATTTGCCATGTCCTGCTGTCCGATGAAC
120 130 140 150 160 170

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**C**

ISX subTIRs

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1110 1100 1090
ISX TTATACCCGATACTCAAATGAGTATTTGG
DINE-1 TTATACCCGATACTCAAATGAGTATTTGG
30 40 50 60 70 80
ISX TGAGTTGCTGCGGAGACCCGAACTCTACAGTATACCCGATACT--AAGTCAGTATGGCT
30 40 50 60 70 80

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