

SUPPLEMENTARY TABLE 1. Genome coordinates used in multi-species sequence alignments.

AK043754	
<i>Anolis carolinensis</i>	scaffold_58:590628-829740
<i>Bos taurus</i>	chrUn.003.143:277972-425644
<i>Bos taurus</i>	chr5:91556797-91853326
<i>Callithrix jacchus</i>	Contig7336:5198-130368
<i>Callithrix jacchus</i>	Contig8225:1004-83231
<i>Callithrix jacchus</i>	Contig5278:2641-177019
<i>Callithrix jacchus</i>	Contig1369:409419-473544
<i>Canis familiaris</i>	chr27:35728746-36099775
<i>Cavia porcellus</i>	scaffold_28:7416736-7792077
<i>Equus caballus</i>	chr6:41254868-41610450
<i>Gallus gallus</i>	chr1:50271934-50460406
<i>Homo sapiens</i>	chr12:13381429-13791551
<i>Macaca mulatta</i>	chr11:13703033-14114271
<i>Monodelphis domestica</i>	chr8:106039041-106678870
<i>Mus musculus</i>	chr6:135,563,251-135,764,980
<i>Ornithorhynchus anatinus</i>	Contig21725:3636-15415
<i>Ornithorhynchus anatinus</i>	chr2:30880789-30889071
<i>Ornithorhynchus anatinus</i>	Contig3513:1070-37416
<i>Pan troglodytes</i>	chr12:13753246-14167631
<i>Pongo abelii</i>	chr12:13760066-14181822
<i>Rattus norvegicus</i>	chr4:172484680-172906812
<i>Taeniopygia guttata</i>	chr1A:47793773-47979659
<i>Xenopus tropicalis</i>	scaffold_19:1479362-1536038
AK082072	
<i>Anolis carolinensis</i>	scaffold_184:1120998-1313616
<i>Bos taurus</i>	chr7:79533137-79880172
<i>Callithrix jacchus</i>	Contig5:1817246-1931334
<i>Callithrix jacchus</i>	Contig2424:3807-239138
<i>Canis familiaris</i>	chr3:22948477-23256091
<i>Cavia porcellus</i>	scaffold_1:16394909-16745650
<i>Equus caballus</i>	chr14:78202142-78493067
<i>Gallus gallus</i>	chrZ:59316385-59426058
<i>Homo sapiens</i>	chr5:87555757-87914940
<i>Macaca mulatta</i>	chr6:84505587-84872043
<i>Monodelphis domestica</i>	chr3:215805845-216276949
<i>Mus musculus</i>	chr13:84,064,908-84,304,377
<i>Ornithorhynchus anatinus</i>	chr1:6655271-6905052
<i>Ornithorhynchus anatinus</i>	Contig3118:10349-26603
<i>Pan troglodytes</i>	chr5:27068971-27433822
<i>Pongo abelii</i>	chr5:88759990-89125222
<i>Rattus norvegicus</i>	chr2:13493134-13570930
<i>Taeniopygia guttata</i>	chrZ:12037011-12069084
<i>Xenopus tropicalis</i>	scaffold_76:2413961-2548898
AK082467/RMST	
<i>Anolis carolinensis</i>	scaffold_58:3429997-3719782
<i>Bos taurus</i>	chr5:59961661-60479913
<i>Callithrix jacchus</i>	Contig4279:493-142733
<i>Callithrix jacchus</i>	Contig1650:32836-400728
<i>Canis familiaris</i>	chr15:39888313-40359167
<i>Cavia porcellus</i>	scaffold_9:4326673-4796732
<i>Equus caballus</i>	chr28:21845027-22294927
<i>Gallus gallus</i>	chr1:48039282-48262518
<i>Homo sapiens</i>	chr12:96165244-96723184
<i>Macaca mulatta</i>	chr11:98474751-98994694
<i>Monodelphis domestica</i>	chr8:70392459-71105419
<i>Mus musculus</i>	chr10:91,444,491-91,727,923
<i>Ornithorhynchus anatinus</i>	Ultra443:6716447-7010969
<i>Ornithorhynchus anatinus</i>	chr2:51132131-51161181
<i>Pan troglodytes</i>	chr12:98260913-98837145
<i>Pongo abelii</i>	chr12:98468956-99042606
<i>Rattus norvegicus</i>	chr7:28872383-29380125
<i>Taeniopygia guttata</i>	chr1A:45502853-45716086
<i>Xenopus tropicalis</i>	scaffold_5:305355-521924

SUPPLEMENTARY TABLE 2. List of PCR primers used for amplification of *in situ* hybridization probes and 3' and 5' IncRNA ortholog RACE

Primers for mouse <i>in situ</i> probes (FIGURE 5)			
IncRNA	species	forward	reverse
AK043754	mouse	cttctctgatggctctctca	ctccccacttgacacagat
AK082072	mouse	tgctgattaagggtgcttg	ctagaattggcatggcatca
AK082467	mouse	gcaggcagcactaactca	caggcacaagattccgaac

Primers for amniote <i>in situ</i> probes (FIGURE 6) and IncRNA ortholog amplification (FIGURES 2-4)			
IncRNA	species	forward	reverse
AK043754	mouse, chicken	caggatcmaytgagattctg	cctatktacarstttrtacatcacaaa
AK043754	opossum	tgtaataaagtattctcatttggga	tttgatgtataaaaagttgtaaatagg
AK082072	chicken	gtcccatggagaaacagaa	cgaaacgataaaacgctgtct
AK082072	opossum	caaggattgaaatgctcacct	ctttattgacaatctctgttctgaaagt
AK082072	mouse	tgctgattaagggtgcttg	ctagaattggcatggcatca
AK082467	mouse, opossum, chicken	atgggtkcagsgtgatct	tggtccataccattaaactcmgaaca
RMST	opossum	gcacggactgctgggcag	cgattaaactctccgatgtgggtgc
RMST	chicken	gcacgggctgctgggcag	cgattaaactctcagacatggtagcaact

Primers for IncRNA ortholog RACE (FIGURES 2-4)			
IncRNA	species	RACE primer	nested primer
AK043754 5'	opossum	ctcccctccccgcctctgctt	catccctctataaacaacaactttcaaaag
AK043754 3'	opossum	gggggtgggggttaggggtggaggg	not needed
AK043754 5'	chicken	aagtgtcttctctgccccctccagaatctca	gttgatccctgctgtgttgcacaaagtcagaaagagt
AK043754 3'	chicken	tgacaagcaggggatcaac	cagttcagcattgttttaaaggatgtggaggg
AK082072 5'	opossum	gctcattaaatttctgttctccaatgggagg	gaactgcatgcttttgcttgaatgac
AK082072 3'	opossum	gacacagcattagccctggctgctgtt	gaggccagtcagaggttcaggattgggtc
AK082467/RMST 5'	opossum	tagatcacctcgaccatgacaaaagggc	catccctctataaacaacaactttcaaaag
AK082467 3'	opossum	ctatggcgggtctgaccccaatccata	atgggtgctatgcaattcatcaattcttac
AK082467/RMST 5'	chicken	agattagatcacgtgcaccatcacaaat	ctgcacccatcacaaatagacttcacagtga
AK082467 3'	chicken	gctatggccaatctgacctcaatctatgc	atggcgggtgtacaattcatcagttcttac