## **Supplementary Materials**

Human	A	<b>G</b> R <sub>261</sub>	A	A	A K <sub>262</sub>	G	A	G G	T T	A A	<b>A</b> A	G G	T T
Chimp		R <sub>261</sub>			K 262		I <sub>263</sub> I	G	Ť	A	A	G	Ť
Gorrila		R			K		Î	Ğ	Ť	A	A	Ğ	Ť
Orangutan		R			K		Î	Ğ	Ť	A	A	Ğ	Ť
Gibbon		R			K		Î	Ğ	Ť	A	A	Ğ	Ť
Rhesus		R			K		Î	G	Ť	A	A	Ğ	Ť
Crab-eating macaque		R			K		Î	Ğ	Ť	A	A	Ğ	Ť
Baboon		R			K		Î	G	Ť	A	A	Ğ	Ť
Green monkey		R			K		Î	G	Ť	A	A	Ğ	Ť
Marmoset		R			K		Î	G	Ť	A	A	Ğ	Ť
Squirrel monkey		R			K		Î	Ğ	Ť	A	A	Ğ	Ť
Bushbaby		R			K		M	Ğ	Ť	A	A	Ğ	Ť
Chinese tree shrew		R			K		M	Ğ	Ť	A	A	Ğ	Ť
Squirrel		R			K		M	G	T	A	A	Ğ	T
Lesser Egyptian jerboa		R			K		M	Ğ	Ť	A	A	Ğ	Ť
Prairie vole		R			K		M	G	Ť	Α	Α	Ğ	T
Chinese hamster		R			K		M	Ğ	Ť	A	A	Ğ	Ť
Mouse		R			K		M	Ğ	Ť	A	A	Ğ	Ĉ
Rat		R			K		M	G	Ť	A	A	Ğ	Č
Naked mole-rat		K			K		M	Ğ	Î	A	A	Ğ	Ť
Guinea pig		R			K		M	Ğ	Ť	A	A	Ğ	T
Chinchilla		R			K		M	Ğ	T	A	A	Ğ	T
Brush tailed rat		R			R		M	Ğ	Ť	A	A	Ğ	T
Rabbit		R			K		M	G	T	Α	Α	G	T
Pika		K			K		V	G	T	Α	Α	G	T
Pig		R			K		M	G	T	A	A	G	T
Alpaca		R			K		M	Ğ	T	A	A	G	T
Bactrian camel		R			K		M	G	T	Α	A	G	T
Dolphin		R			K		M	G	T	A	A	G	T
Killer whale		R			K		M	G	T	Α	Α	G	T
Tibetan antelope		R			K		L	G	T	Α	Α	G	T
Cow		R			K		M	G	T	A	Α	G	T
Sheep		R			K		L	G	T	A	A	G	T
Domestic goat		R			K		L	G	T	A	Α	G	T
Horse		R			K		M	G	T	A	A	G	T
White rhinoceros		R			R		M	G	T	Α	A	G	T
Cat		R			K		M	G	T	Α	A	G	T
Dog		R			K		M	G	T	A	A	G	T
Ferret		R			K		M	G	T	A	A	G	T
Panda		R			K		M	G	T	A	A	G	T
Pacific walrus		R			K		M	G	T	Α	Α	G	T
Weddell seal		R			K		M	G	T	Α	A	G	T
Black flying-fox		R			K		M	G	T	Α	Α	G	T
Megabat		R			K		M	G	T	Α	A	G	T
David's myotis (bat)		K			K		M	G	T	Α	A	G	T
Microbat		K			K		M	G	T	Α	Α	G	T
Big brown bat		R			K		M	G	T	Α	Α	G	T
Hedgehog		R			K		L	G	T	G	A	G	T
Shrew		~			K		M	G	T	Α	Α	G	T
Star-nosed mole		R			K		I	G	T	Α	Α	G	T
Elephant		R			K		T	G	T	Α	A	G	T
Cape elephant shrew		R			K		M	G	T	Α	A	G	T
Manatee		R			K		M	G	T	Α	Α	G	T
Cape golden mole		R			R		M	G	T	Α	A	G	T
Tenrec		R			K		M	G	T	Α	A	G	T
Aardvark		R			K		T	G	T	Α	Α	G	T
Armadillo		R			K		M	G	T	Α	A	G	T
Opossum		R			K		M	G	T	Α	A	G	T
Tasmanian devil		~			R		M	G	T	Α	A	G	T
Wallaby		K			R		M	G	T	Α	Α	G	T
Platypus		R			K		M	G	T	Α	Α	G	T

**Supplementary Figure 1:** Sequence alignment of the exon-intron junction illustrating conservations of splice-donor site of intron 3 of *RP1*. The c.787+1G shown in red are fully conserved in *RP1* orthlogs.