

Adaptive genomic evolution of opsins reveals that early mammals flourished in nocturnal environments

Rui Borges, Warren E. Johnson, Stephen J. O'Brien, Cidália Gomes, Christopher P. Heesy and Agostinho Antunes

Table S3

Species-specific branch selection tests

The one-ratio model (H0) was tested against the two-ratios model considering the alternative hypotheses (H1) of verifying differentiated ω -ratio in the indicated branch. lnL is the logarithm of the model likelihood and the LRT is the likelihood ratio test. All the LRT comparisons were performed with 1 degree of freedom. Significant alternative hypothesis are marked with an asterisk (*) considering a Bonferroni corrected p-value of 0.002 (24 test comparisons).

Opsin	lnL M0	ω 0	Branch	lnL M1	ω 1	LRT	p-value
RH1	-18807.123	0.042	<i>Hydrurga leptonyx</i> and <i>Leptonychotes weddellii</i>	-18803.085	0.687	8.076	0.005
			<i>Erignathus barbatus</i>	-18801.966	0.856	10.312	0.001 *
			<i>Eubalaena glacialis</i>	-18802.685	0.720	8.876	0.003
			<i>Mesoplodon bidens</i>	-18792.297	0.778	29.651	0.000 *
			Monotremata	-18806.985	0.000	0.276	0.599
			<i>Phoca groenlandica</i>	-18803.648	0.414	6.949	0.008
			Verpertilionoidea	-18807.123	2.160	0.000	1.000
OPN1sw1	-18224.597	0.14	<i>Homo sapiens</i>	-18223.865	0.000	1.464	0.226
			<i>Myotis brandtii</i> and <i>Myotis velifer</i>	-18224.597	33.170	0.001	0.978
OPN1lw	-21567.983	0.108	<i>Chlorocebus sabaesus</i>	-21565.032	0.000	5.902	0.015
			<i>Orcinus orca</i>	-21567.63	0.000	0.707	0.401
OPN3	-14446.046	0.263	<i>Camelus</i>	-14444.441	999.999	3.211	0.073
			<i>Macaca sp.</i>	-14446.046	0.084	0.000	1.000
			Cercopithecinae	-14446.046	0.093	0.000	1.000
OPN5			Marsupials	-11603.606	0.103	0.393	0.531
			<i>Myotis davidii</i>	-11603.311	0.201	0.984	0.321
			<i>Pan sp.</i>	-11603.192	0.417	1.222	0.269
			<i>Physeter catodon</i>	-11600.687	0.639	6.232	0.013
			<i>Ornitorhynchus anatinus</i>	-11600.995	0.000	5.616	0.018
RGR	-16107.05	0.161	<i>Macaca sp.</i>	-16105.609	0.000	2.882	0.090
		0.161	<i>Ornitorhynchus anatinus</i>	-16105.468	0.000	3.166	0.075
RRH	-17046.677	0.237	<i>Ornitorhynchus anatinus</i>	-17040.753	0.094	11.849	0.001 *
			Hominidae	-17046.677	46.617	0.000	0.983
OPN4m	-27303.281	0.166	<i>Ornitorhynchus anatinus</i>	-27293.688	0.000	19.186	0.000 *