

**TABLE S2 Evolutionary analysis of the *Mst77Y* genes.**

Test	Hypothesis	Parameter constraints				Parameter values						$\chi^2$ (d.f.)	P-value
		dN <sub>pf</sub>	dS <sub>pf</sub>	dN <sub>nf</sub>	dS <sub>nf</sub>	dN <sub>pf</sub>	dS <sub>pf</sub>	dN <sub>nf</sub>	dS <sub>nf</sub>	$\omega_{pf}$	$\omega_{nf}$		
1	H <sub>0</sub>	free	= dN <sub>pf</sub>	= dN <sub>pf</sub>	= dN <sub>pf</sub>	10.46	10.46	10.46	10.46	1	1	3.99 (1)	0.046
	H <sub>1</sub>	free	free	= dN <sub>pf</sub>	= dS <sub>pf</sub>	9.06	15.30	9.06	15.30	0.59	0.59		
2	H <sub>0</sub>	free	free	= dN <sub>pf</sub>	= dS <sub>pf</sub>	9.06	15.30	9.06	15.30	0.59	0.59	3.12 (2)	0.210
	H <sub>1</sub>	free	free	free	free	7.29	13.49	11.68	18.39	0.54	0.63		
3	H <sub>0</sub>	free	free	free	= dN <sub>nf</sub>	7.30	13.70	13.03	13.03	0.53	1	1.34 (1)	0.246
	H <sub>1</sub>	free	free	free	free	7.29	13.49	11.68	18.39	0.54	0.63		
4	H <sub>0</sub>	free	= dN <sub>pf</sub>	free	= dN <sub>nf</sub>	8.66	8.66	13.14	13.14	1	1	2.85 (1)	0.091
	H <sub>1</sub>	free	free	free	= dN <sub>nf</sub>	7.30	13.70	13.03	13.03	0.53	1		