

**Table S3.** GBP2 whole gene log likelihood scores and parameter estimates for four models of variable  $\omega$  among sites assuming the f3X4 model of codon frequencies in PAML.

Site Model	Parameter Estimates	Sites* with $\omega^{**}>1$	InL
<b>M1: Neutral</b>	( $\omega_0=0$ ) $f_0=0.735$ ( $\omega_1=1$ ) $f_1=0.265$ branch $\omega$ (mean)=0.293	Not allowed	-5061.10
<b>M2: Selection</b>	( $\omega_0=0$ ) $f_0=0.732$ ( $\omega_1=1$ ) $f_1=0.248$ <b>(<math>\omega_2=6.6</math>) <math>f_2=0.021</math></b> branch $\omega$ (mean)=0.421	<b>247 H 0.993</b> 575 W 0.976 <b>582 K 0.999</b> <b>585 E 1.000</b> 587 I 0.975	-5037.85
<b>M7: <math>\beta</math></b>	$p=0.01204$ $q=0.02377$ branch $\omega$ (mean)=0.314	Not allowed	-5061.77
<b>M8: <math>\beta</math> and <math>\omega</math></b>	$p=0.07563$ $q=0.18279$ $f_0=0.97860$ <b><math>\omega_1=6.5</math> (<math>f_1=0.0214</math>)</b> branch $\omega$ (mean)=0.426	241 P 0.969 <b>247 H 0.997</b> 575 W 0.991 <b>582 K 0.999</b> 583 S 0.979 584 L 0.978 <b>585 E 1.000</b> 587 I 0.993	-5038.30

\*posterior probabilities >0.95 by Bayes Empirical Bayes (BEB) analysis

\*\* $\omega=dN/dS$

\*\*\*Amino acid positions shown are for human GBP2.