

**Supplementary Table 2**

**Non-synonymous substitution rates within BESs**

Locus	Subspecies	Parameters (M1a)	Parameters (M2a)	$2\Delta \ln L$	p-value
ESAG6	T.b.g.	$\omega_0=0.000, p_0=0.560$	$\omega_0=0.157, p_0=0.752$	3.460	0.177
		$\omega_1=1.000, p_1=0.440$	$\omega_1=1.000, p_1=0.216$		
			$\omega_2=7.215, p_2=0.032$		
	T.b.b.	$\omega_0=0.031, p_0=0.708$	$\omega_0=0.043, p_0=0.724$	61.58	$4.25 \times 10^{-14}$
		$\omega_1=1.000, p_1=0.292$	$\omega_1=1.000, p_1=0.220$		
	T. eq.	$\omega_2=4.132, p_2=0.056$			
ESAG5	T.b.g.	$\omega_0=0.000, p_0=0.536$	$\omega_0=0.000, p_0=0.711$	6.276	0.043
		$\omega_1=1.000, p_1=0.464$	$\omega_1=1.000, p_1=0.022$		
			$\omega_2=2.207, p_2=0.266$		
	T.b.b.	$\omega_0=0.691, p_0=1.000$	$\omega_0=0.557, p_0=0.686$	-0.010	1.000
		$\omega_1=1.000, p_1=0.000$	$\omega_1=1.000, p_1=0.314$		
	T. eq.	$\omega_2=1.010, p_2=0.000$			
ESAG2	T.b.b.	$\omega_0=0.000, p_0=0.484$	$\omega_0=0.262, p_0=0.852$	71.95	$2.22 \times 10^{-16}$
		$\omega_1=1.000, p_1=0.516$	$\omega_1=1.000, p_1=0.000$		
			$\omega_2=4.056, p_2=0.148$		
	T. eq.	$\omega_0=0.000, p_0=0.441$	$\omega_0=0.000, p_0=0.544$	14.70	$6.42 \times 10^{-4}$
		$\omega_1=1.000, p_1=0.559$	$\omega_1=1.000, p_1=0.317$		
	T. eq.	$\omega_2=3.186, p_2=0.140$			
ESAG2	T.b.g.	$\omega_0=0.021, p_0=0.714$	$\omega_0=0.032, p_0=0.735$	10.63	0.005
		$\omega_1=1.000, p_1=0.286$	$\omega_1=1.000, p_1=0.236$		
			$\omega_2=5.335, p_2=0.029$		
	T.b.b.	$\omega_0=0.058, p_0=0.691$	$\omega_0=0.060, p_0=0.689$	40.72	0.000
		$\omega_1=1.000, p_1=0.309$	$\omega_1=1.000, p_1=0.289$		
	T. eq.	$\omega_2=5.220, p_2=0.021$			
ESAG2	T.b.b.	$\omega_0=0.163, p_0=0.848$	$\omega_0=0.217, p_0=0.970$	7.521	0.023
		$\omega_1=1.000, p_1=0.152$	$\omega_1=1.000, p_1=0.000$		
	T. eq.	$\omega_2=6.592, p_2=0.030$			

**Sup. Table 2. Non-synonymous substitution rates for different genes located within trypanosome BESs.** Sequences from different BES loci from *Trypanosoma brucei gambiense* DAL 972 (T.b.g.), *T. b. brucei* EATRO 2340 (T.b.b.), or *T. equiperdum* STIB 818 (T. eq) were analysed. The dN/ dS ratio ( $\omega$ ) and weights (p) of discrete priors for the relative rate of non-synonymous (dN) to synonymous (dS) substitutions under models M1a (2 atoms) and M2a (3 atoms); p-value of the difference in log-likelihoods between M2a and M1a under a  $\chi^2$ -distribution with two degrees of freedom. Rows with a p value of  $< 0.05$  indicate significant support for adaptive evolution.