

Supplemental Table S1: Output of the Selecton server analysis. Bayesian Ka/Ks ratios derived from the mechanistic empirical combination model underlying the codon analysis of positive / purifying selection presented in Figure 7C. Ratios above 1 indicate positive selection of the codon.

Pos.	Amino acid	Ka/Ks	[Confidence Interval] (* if lower bound > 1)
687	L	0.024	[3.3e-07,0.3]
688	I	0.26	[0.046,0.3]
689	N	0.16	[0.0041,0.3]
690	L	0.024	[3.3e-07,0.3]
691	L	0.024	[3.3e-07,0.3]
692	V	0.3	[0.3,0.3]
693	S	0.29	[0.046,0.3]
694	I	0.011	[3.3e-07,0.046]
695	E	0.023	[3.3e-07,0.3]
696	P	0.023	[3.3e-07,0.3]
697	D	0.17	[0.0041,0.3]
698	M	0.65	[0.3,1]
699	I	0.76	[0.3,1]
700	Y	0.022	[3.3e-07,0.3]
701	A	0.013	[3.3e-07,0.046]
702	G	0.036	[3.3e-07,0.3]
703	H	0.25	[0.046,0.3]
704	D	0.024	[3.3e-07,0.3]
705	N	0.018	[3.3e-07,0.3]
706	T	0.3	[0.046,0.3]
707	K	0.018	[3.3e-07,0.3]
708	P	0.025	[3.3e-07,0.3]
709	D	0.31	[0.046,1]
710	T	0.015	[3.3e-07,0.046]
711	S	0.18	[0.0041,0.3]
712	S	0.01	[3.3e-07,0.046]
713	S	0.13	[0.0041,0.3]
714	L	0.021	[3.3e-07,0.3]
715	L	0.023	[3.3e-07,0.3]
716	T	0.14	[0.0041,0.3]
717	S	0.2	[0.046,0.3]
718	L	0.021	[3.3e-07,0.3]
719	N	0.013	[3.3e-07,0.046]
720	Q	0.14	[0.0041,0.3]
721	L	0.023	[3.3e-07,0.3]
722	A	1.4	[1.4,1.4]*
723	E	0.023	[3.3e-07,0.3]
724	R	0.012	[3.3e-07,0.046]
725	Q	0.015	[3.3e-07,0.046]
726	L	0.019	[3.3e-07,0.3]
727	L	0.018	[3.3e-07,0.3]
728	S	0.13	[0.0041,0.3]
729	V	0.0093	[3.3e-07,0.046]
730	V	0.013	[3.3e-07,0.046]
731	K	0.018	[3.3e-07,0.3]
732	W	0.048	[3.3e-07,0.3]
733	S	0.015	[3.3e-07,0.046]
734	K	0.017	[3.3e-07,0.3]
735	S	0.35	[0.3,1]
736	L	0.024	[3.3e-07,0.3]
737	P	0.022	[3.3e-07,0.3]
738	G	0.026	[3.3e-07,0.3]
739	F	0.02	[3.3e-07,0.3]
740	R	0.022	[3.3e-07,0.3]
741	N	0.15	[0.0041,0.3]
742	L	0.022	[3.3e-07,0.3]
743	H	0.013	[3.3e-07,0.046]
744	I	0.011	[3.3e-07,0.046]
745	D	0.019	[3.3e-07,0.3]
746	D	0.022	[3.3e-07,0.3]
747	Q	0.016	[3.3e-07,0.046]
748	I	0.0089	[3.3e-07,0.046]

749	T	0.011	[3.3e-07,0.046]
750	L	0.025	[3.3e-07,0.3]
751	I	0.014	[3.3e-07,0.046]
752	Q	0.016	[3.3e-07,0.046]
753	Y	0.023	[3.3e-07,0.3]
754	S	0.015	[3.3e-07,0.046]
755	W	0.048	[3.3e-07,0.3]
756	M	0.01	[3.3e-07,0.046]
757	S	0.012	[3.3e-07,0.046]
758	L	0.023	[3.3e-07,0.3]
759	M	0.01	[3.3e-07,0.046]
760	V	0.014	[3.3e-07,0.046]
761	F	0.019	[3.3e-07,0.3]
762	G	0.53	[0.046,1]
763	L	0.024	[3.3e-07,0.3]
764	G	0.035	[3.3e-07,0.3]
765	W	0.048	[3.3e-07,0.3]
766	R	0.012	[3.3e-07,0.046]
767	S	0.018	[3.3e-07,0.3]
768	Y	0.024	[3.3e-07,0.3]
769	K	0.017	[3.3e-07,0.3]
770	H	0.12	[0.0041,0.3]
771	V	0.13	[0.0041,0.3]
772	S	0.079	[0.0041,0.3]
773	G	0.26	[0.0041,1]
774	Q	0.26	[0.046,0.3]
775	M	0.011	[3.3e-07,0.046]
776	L	0.024	[3.3e-07,0.3]
777	Y	0.022	[3.3e-07,0.3]
778	F	0.019	[3.3e-07,0.3]
779	A	0.013	[3.3e-07,0.046]
780	P	0.023	[3.3e-07,0.3]
781	D	0.019	[3.3e-07,0.3]
782	L	0.024	[3.3e-07,0.3]
783	I	0.078	[0.0041,0.3]
784	L	0.33	[0.046,1]
785	N	0.013	[3.3e-07,0.046]
786	E	0.024	[3.3e-07,0.3]
787	Q	0.017	[3.3e-07,0.046]
788	R	0.021	[3.3e-07,0.3]
789	M	0.011	[3.3e-07,0.046]
790	K	0.019	[3.3e-07,0.3]
791	E	0.024	[3.3e-07,0.3]
792	S	0.41	[0.3,1]
793	S	0.016	[3.3e-07,0.046]
794	F	0.37	[0.046,1]
795	Y	0.024	[3.3e-07,0.3]
796	P	0.26	[0.046,0.3]
797	L	0.024	[3.3e-07,0.3]
798	C	0.038	[3.3e-07,0.3]
799	L	0.02	[3.3e-07,0.3]
800	T	0.017	[3.3e-07,0.046]
801	M	0.011	[3.3e-07,0.046]
802	W	0.052	[3.3e-07,0.3]
803	Q	0.017	[3.3e-07,0.046]
804	I	0.016	[3.3e-07,0.046]
805	P	0.024	[3.3e-07,0.3]
806	Q	0.017	[3.3e-07,0.3]
807	E	0.025	[3.3e-07,0.3]
808	F	0.021	[3.3e-07,0.3]
809	V	0.16	[0.0041,0.3]
810	K	0.02	[3.3e-07,0.3]
811	L	0.02	[3.3e-07,0.3]
812	Q	0.016	[3.3e-07,0.046]
813	V	0.28	[0.046,0.3]
814	S	0.26	[0.046,0.3]
815	Q	0.56	[0.3,1]
816	E	0.024	[3.3e-07,0.3]
817	E	0.025	[3.3e-07,0.3]
818	F	0.026	[3.3e-07,0.3]
819	L	0.028	[3.3e-07,0.3]

820	C	0.03	[3.3e-07,0.3]
821	M	0.011	[3.3e-07,0.046]
822	K	0.019	[3.3e-07,0.3]
823	V	0.21	[0.046,0.3]
824	L	0.023	[3.3e-07,0.3]
825	L	0.025	[3.3e-07,0.3]
826	L	0.02	[3.3e-07,0.3]
827	L	0.02	[3.3e-07,0.3]
828	N	0.015	[3.3e-07,0.046]
829	T	0.016	[3.3e-07,0.046]
830	I	0.012	[3.3e-07,0.046]
831	P	0.024	[3.3e-07,0.3]
832	L	0.023	[3.3e-07,0.3]
833	E	0.024	[3.3e-07,0.3]
834	G	0.037	[3.3e-07,0.3]
835	L	0.025	[3.3e-07,0.3]
836	R	0.013	[3.3e-07,0.046]
837	S	0.088	[0.0041,0.3]
838	Q	0.016	[3.3e-07,0.046]
839	N	1	[0.3,1]
840	Q	0.017	[3.3e-07,0.046]
841	F	0.02	[3.3e-07,0.3]
842	E	0.9	[0.3,1]
843	E	0.2	[0.0041,0.3]
844	M	0.011	[3.3e-07,0.046]
845	R	0.012	[3.3e-07,0.046]
846	S	0.38	[0.3,1]
847	S	0.29	[0.046,0.3]
848	Y	0.03	[3.3e-07,0.3]
849	I	0.011	[3.3e-07,0.046]
850	R	0.013	[3.3e-07,0.046]
851	E	0.025	[3.3e-07,0.3]
852	L	0.027	[3.3e-07,0.3]
853	I	0.016	[3.3e-07,0.046]
854	K	0.019	[3.3e-07,0.3]
855	A	0.014	[3.3e-07,0.046]
856	I	0.011	[3.3e-07,0.046]
857	G	0.026	[3.3e-07,0.3]
858	L	0.022	[3.3e-07,0.3]
859	R	0.013	[3.3e-07,0.046]
860	Q	0.016	[3.3e-07,0.046]
861	K	0.018	[3.3e-07,0.3]
862	G	0.29	[0.0041,1]
863	V	0.01	[3.3e-07,0.046]
864	V	0.013	[3.3e-07,0.046]
865	S	0.46	[0.3,1]
866	S	0.013	[3.3e-07,0.046]
867	S	0.015	[3.3e-07,0.046]
868	Q	0.017	[3.3e-07,0.046]
869	R	0.02	[3.3e-07,0.3]
870	F	0.026	[3.3e-07,0.3]
871	Y	0.024	[3.3e-07,0.3]
872	Q	0.015	[3.3e-07,0.046]
873	L	0.019	[3.3e-07,0.3]
874	T	0.015	[3.3e-07,0.046]
875	K	0.17	[0.0041,0.3]
876	L	0.6	[0.3,1]
877	L	0.3	[0.046,1]
878	D	0.021	[3.3e-07,0.3]
879	N	0.48	[0.3,1]
880	L	0.022	[3.3e-07,0.3]
881	H	0.013	[3.3e-07,0.046]
882	D	0.02	[3.3e-07,0.3]
883	L	0.02	[3.3e-07,0.3]
884	V	0.014	[3.3e-07,0.046]
885	K	0.018	[3.3e-07,0.3]
886	Q	0.016	[3.3e-07,0.046]
887	L	0.02	[3.3e-07,0.3]
888	H	0.013	[3.3e-07,0.046]
889	L	0.025	[3.3e-07,0.3]
890	Y	0.031	[3.3e-07,0.3]

891	C	0.037	[3.3e-07,0.3]
892	L	0.023	[3.3e-07,0.3]
893	N	0.015	[3.3e-07,0.046]
894	T	0.015	[3.3e-07,0.046]
895	F	0.021	[3.3e-07,0.3]
896	I	0.016	[3.3e-07,0.046]
897	Q	0.17	[0.0041,0.3]
898	S	0.022	[3.3e-07,0.3]
899	R	0.026	[3.3e-07,0.3]
900	A	0.25	[0.046,0.3]
901	L	0.025	[3.3e-07,0.3]
902	C	0.75	[0.3,1]
903	V	0.011	[3.3e-07,0.046]
904	E	0.024	[3.3e-07,0.3]
905	F	0.021	[3.3e-07,0.3]
906	P	0.023	[3.3e-07,0.3]
907	E	0.024	[3.3e-07,0.3]
908	M	0.011	[3.3e-07,0.046]
909	M	0.011	[3.3e-07,0.046]
910	S	0.14	[0.0041,0.3]
911	E	0.19	[0.0041,0.3]
912	V	0.086	[0.0041,0.3]
913	I	0.011	[3.3e-07,0.046]
914	A	0.014	[3.3e-07,0.046]
915	A	0.015	[3.3e-07,0.046]
916	Q	0.016	[3.3e-07,0.046]
917	L	0.023	[3.3e-07,0.3]
918	P	0.033	[3.3e-07,0.3]
919	K	0.17	[0.0041,0.3]
920	I	0.016	[3.3e-07,0.046]
921	L	0.023	[3.3e-07,0.3]
922	A	0.014	[3.3e-07,0.046]
923	G	0.3	[0.0041,1]
924	M	0.098	[0.0041,0.3]
925	V	0.018	[3.3e-07,0.3]
926	K	0.019	[3.3e-07,0.3]
927	P	0.32	[0.046,1]
928	L	0.18	[0.0041,0.3]
929	L	0.26	[0.0041,1]
930	F	0.02	[3.3e-07,0.3]
931	H	0.014	[3.3e-07,0.046]
932	K	0.16	[0.0041,0.3]
933	K	0.019	[3.3e-07,0.3]