

Appendix A Pedigree, genotype and the number of eggs of 362 Lue-yang black-boned chickens used in association study

Family ID	Individual ID	Father ID	Mother ID	Sex	Genotype of Val566 Ile		EN31	EN35	EN40
m635	2926	m635	f1382	2	1	2	11	34	57
m635	2929	m635	f1987	2	2	2	32	37	47
m635	2930	m635	f1987	2	1	1	22	25	37
m635	2931	m635	f1987	2	1	2	42	61	81
m635	2942	m635	f532	2	2	2	23	41	61
m635	f1382	0	0	2	2	2	-99.999	-99.999	-99.999
m635	f1987	0	0	2	0	0	-99.999	-99.999	-99.999
m635	f532	0	0	2	0	0	-99.999	-99.999	-99.999
m635	m635	0	0	1	1	2	-99.999	-99.999	-99.999
m667	3560	m667	f603	2	1	2	32	41	50
m667	3566	m667	f1637	2	1	2	33	48	60
m667	3568	m667	f1637	2	1	2	25	42	60
m667	3606	m667	f311	2	2	2	28	44	54
m667	3614	m667	f1785	2	1	2	28	50	74
m667	f1637	0	0	2	0	0	-99.999	-99.999	-99.999
m667	f1785	0	0	2	0	0	-99.999	-99.999	-99.999
m667	f311	0	0	2	0	0	-99.999	-99.999	-99.999
m667	f603	0	0	2	2	2	-99.999	-99.999	-99.999
m667	m667	0	0	1	0	0	-99.999	-99.999	-99.999
m686	537	m686	f905	2	1	2	28	48	66
m686	539	m686	f905	2	1	2	38	57	62
m686	542	m686	f905	2	2	2	41	60	80
m686	543	m686	f726	2	1	2	-99.999	3	8
m686	546	m686	f726	2	1	2	49	68	92
m686	552	m686	f956	2	1	2	38	55	66
m686	560	m686	f824	2	1	2	51	59	78
m686	561	m686	f702	2	1	2	20	34	48
m686	f702	0	0	2	2	2	-99.999	-99.999	-99.999
m686	f726	0	0	2	0	0	-99.999	-99.999	-99.999
m686	f824	0	0	2	1	2	-99.999	-99.999	-99.999
m686	f905	0	0	2	0	0	-99.999	-99.999	-99.999
m686	f956	0	0	2	0	0	-99.999	-99.999	-99.999
m686	m686	0	0	1	1	2	-99.999	-99.999	-99.999
m707	3424	m707	f1963	2	2	2	41	61	73
m707	3442	m707	f1761	2	1	2	33	46	55
m707	3444	m707	f1761	2	2	2	61	84	91
m707	3445	m707	f1761	2	1	2	-99.999	6	21

Family ID	Individual ID	Father ID	Mother ID	Sex	Genotype of Val566 Ile		EN31	EN35	EN40
m707	3446	m707	f1761	2	2	2	13	36	48
m707	3449	m707	f796	2	2	2	37	55	65
m707	3455	m707	f1467	2	2	2	8	29	52
m707	3462	m707	f1514	2	2	2	37	57	72
m707	f1467	0	0	2	0	0	-99.999	-99.999	-99.999
m707	f1514	0	0	2	1	2	-99.999	-99.999	-99.999
m707	f1761	0	0	2	2	2	-99.999	-99.999	-99.999
m707	f1963	0	0	2	2	2	-99.999	-99.999	-99.999
m707	f796	0	0	2	2	2	-99.999	-99.999	-99.999
m707	m707	0	0	1	0	0	-99.999	-99.999	-99.999
m711	3901	m711	f630	2	2	2	37	53	63
m711	3904	m711	f630	2	1	2	38	58	68
m711	3910	m711	f424	2	2	2	7	12	14
m711	3913	m711	f424	2	2	2	40	57	60
m711	3918	m711	f266	2	1	2	33	50	58
m711	3921	m711	f442	2	1	1	31	46	61
m711	f266	0	0	2	0	0	-99.999	-99.999	-99.999
m711	f424	0	0	2	0	0	-99.999	-99.999	-99.999
m711	f442	0	0	2	0	0	-99.999	-99.999	-99.999
m711	f630	0	0	2	0	0	-99.999	-99.999	-99.999
m711	m711	0	0	1	0	0	-99.999	-99.999	-99.999
m719	3707	m719	f1901	2	1	2	21	41	60
m719	3724	m719	f1413	2	1	1	9	32	51
m719	f1413	0	0	2	1	2	-99.999	-99.999	-99.999
m719	f1901	0	0	2	0	0	-99.999	-99.999	-99.999
m719	m719	0	0	1	0	0	-99.999	-99.999	-99.999
m735	3182	m735	f1821	2	1	2	25	46	58
m735	3183	m735	f1821	2	1	1	-99.999	17	36
m735	3185	m735	f1821	2	2	2	25	36	50
m735	3187	m735	f1821	2	2	2	33	50	69
m735	f1821	0	0	2	1	2	-99.999	-99.999	-99.999
m735	m735	0	0	1	0	0	-99.999	-99.999	-99.999
m745	3817	m745	f743	2	1	2	32	46	56
m745	3822	m745	f743	2	1	2	25	44	60
m745	3825	m745	f471	2	1	2	23	37	57
m745	3831	m745	f914	2	1	2	19	33	45
m745	f471	0	0	2	1	2	-99.999	-99.999	-99.999
m745	f743	0	0	2	0	0	-99.999	-99.999	-99.999
m745	f914	0	0	2	0	0	-99.999	-99.999	-99.999

Family ID	Individual ID	Father ID	Mother ID	Sex	Genotype of Val566 Ile		EN31	EN35	EN40
m745	m745	0	0	1	0	0	-99.999	-99.999	-99.999
m746	603	m746	f548	2	1	2	24	41	58
m746	618	m746	f685	2	2	2	14	19	26
m746	619	m746	f685	2	2	2	43	65	83
m746	620	m746	f685	2	1	2	-99.999	16	36
m746	621	m746	f685	2	1	2	34	59	88
m746	622	m746	f685	2	1	2	16	32	39
m746	633	m746	f465	2	1	2	41	62	77
m746	634	m746	f465	2	1	2	54	73	88
m746	f465	0	0	2	2	2	-99.999	-99.999	-99.999
m746	f548	0	0	2	1	2	-99.999	-99.999	-99.999
m746	f685	0	0	2	2	2	-99.999	-99.999	-99.999
m746	m746	0	0	1	1	2	-99.999	-99.999	-99.999
m748	1258	m748	f335	2	2	2	45	59	73
m748	1259	m748	f335	2	2	2	24	43	55
m748	1264	m748	f777	2	1	2	23	47	62
m748	1271	m748	f555	2	2	2	38	46	54
m748	1272	m748	f555	2	2	2	44	46	47
m748	1277	m748	f1655	2	1	2	40	58	79
m748	1279	m748	f1655	2	2	2	-99.999	19	38
m748	f1655	0	0	2	2	2	-99.999	-99.999	-99.999
m748	f335	0	0	2	1	2	-99.999	-99.999	-99.999
m748	f555	0	0	2	2	2	-99.999	-99.999	-99.999
m748	f777	0	0	2	1	2	-99.999	-99.999	-99.999
m748	m748	0	0	1	0	0	-99.999	-99.999	-99.999
m758	2388	m758	f51	2	1	2	35	48	49
m758	f51	0	0	2	0	0	-99.999	-99.999	-99.999
m758	m758	0	0	1	0	0	-99.999	-99.999	-99.999
m764	3136	m764	f225	2	1	2	47	66	86
m764	3139	m764	f225	2	1	2	33	51	67
m764	3140	m764	f225	2	1	1	37	56	70
m764	3152	m764	f257	2	1	2	28	49	69
m764	3156	m764	f106	2	1	1	30	50	71
m764	f106	0	0	2	0	0	-99.999	-99.999	-99.999
m764	f225	0	0	2	0	0	-99.999	-99.999	-99.999
m764	f257	0	0	2	0	0	-99.999	-99.999	-99.999
m764	m764	0	0	1	0	0	-99.999	-99.999	-99.999
m766	3637	m766	f1602	2	2	2	12	30	49
m766	f1602	0	0	2	1	2	-99.999	-99.999	-99.999

Family ID	Individual ID	Father ID	Mother ID	Sex	Genotype of Val566 Ile		EN31	EN35	EN40
m766	m766	0	0	1	0	0	-99.999	-99.999	-99.999
m785	3694	m785	f207	2	1	2	48	68	91
m785	3700	m785	f1450	2	1	2	22	39	47
m785	3702	m785	f1450	2	1	2	33	58	84
m785	3703	m785	f1450	2	1	2	24	43	48
m785	f1450	0	0	2	0	0	-99.999	-99.999	-99.999
m785	f207	0	0	2	1	2	-99.999	-99.999	-99.999
m785	m785	0	0	1	0	0	-99.999	-99.999	-99.999
m806	415	m806	f665	2	1	1	27	43	51
m806	416	m806	f886	2	1	1	55	74	89
m806	417	m806	f886	2	1	2	9	29	48
m806	419	m806	f886	2	1	2	38	57	79
m806	423	m806	f785	2	1	2	53	53	53
m806	427	m806	f785	2	2	2	54	79	94
m806	429	m806	f880	2	1	2	32	52	66
m806	430	m806	f880	2	1	2	-99.999	20	41
m806	432	m806	f880	2	1	2	51	71	92
m806	f665	0	0	2	0	0	-99.999	-99.999	-99.999
m806	f785	0	0	2	2	2	-99.999	-99.999	-99.999
m806	f880	0	0	2	0	0	-99.999	-99.999	-99.999
m806	f886	0	0	2	1	2	-99.999	-99.999	-99.999
m806	m806	0	0	1	0	0	-99.999	-99.999	-99.999
m809	506	m809	f838	2	1	2	44	58	66
m809	508	m809	f830	2	1	2	43	54	69
m809	f830	0	0	2	1	2	-99.999	-99.999	-99.999
m809	f838	0	0	2	1	2	-99.999	-99.999	-99.999
m809	m809	0	0	1	1	2	-99.999	-99.999	-99.999
m817	1741	m817	f320	2	1	2	41	64	79
m817	1745	m817	f242	2	2	2	36	58	78
m817	1747	m817	f242	2	2	2	38	56	66
m817	1749	m817	f242	2	2	2	-99.999	0	1
m817	1755	m817	f227	2	1	2	33	48	55
m817	1765	m817	f553	2	1	2	15	36	48
m817	f227	0	0	2	0	0	-99.999	-99.999	-99.999
m817	f242	0	0	2	2	2	-99.999	-99.999	-99.999
m817	f320	0	0	2	2	2	-99.999	-99.999	-99.999
m817	f553	0	0	2	0	0	-99.999	-99.999	-99.999
m817	m817	0	0	1	1	2	-99.999	-99.999	-99.999
m822	1950	m822	f562	2	1	2	5	26	47

Family ID	Individual ID	Father ID	Mother ID	Sex	Genotype of Val566 Ile		EN31	EN35	EN40
m822	1963	m822	f892	2	1	2	26	43	62
m822	1968	m822	f149	2	1	2	41	57	74
m822	1969	m822	f149	2	1	2	-99.999	7	7
m822	f149	0	0	2	0	0	-99.999	-99.999	-99.999
m822	f562	0	0	2	0	0	-99.999	-99.999	-99.999
m822	f892	0	0	2	0	0	-99.999	-99.999	-99.999
m822	m822	0	0	1	1	2	-99.999	-99.999	-99.999
m828	1805	m828	f503	2	1	2	31	50	56
m828	1816	m828	f709	2	2	2	-99.999	25	45
m828	1821	m828	f539	2	1	2	19	36	49
m828	1823	m828	f808	2	2	2	21	37	48
m828	1826	m828	f808	2	1	1	20	36	46
m828	1831	m828	f127	2	2	2	50	72	91
m828	f127	0	0	2	0	0	-99.999	-99.999	-99.999
m828	f503	0	0	2	2	2	-99.999	-99.999	-99.999
m828	f539	0	0	2	0	0	-99.999	-99.999	-99.999
m828	f709	0	0	2	1	2	-99.999	-99.999	-99.999
m828	f808	0	0	2	0	0	-99.999	-99.999	-99.999
m828	m828	0	0	1	1	2	-99.999	-99.999	-99.999
m835	2524	m835	f1492	2	1	2	42	61	81
m835	2526	m835	f1492	2	2	2	43	59	70
m835	2529	m835	f1492	2	1	2	38	60	84
m835	2537	m835	f1381	2	2	2	24	43	63
m835	2539	m835	f1381	2	2	2	29	49	69
m835	2542	m835	f1381	2	1	2	40	60	75
m835	2543	m835	f1381	2	2	2	46	60	74
m835	2545	m835	f1197	2	2	2	32	43	48
m835	2546	m835	f1197	2	2	2	48	72	98
m835	2548	m835	f1197	2	1	2	34	55	71
m835	f1197	0	0	2	0	0	-99.999	-99.999	-99.999
m835	f1381	0	0	2	0	0	-99.999	-99.999	-99.999
m835	f1492	0	0	2	0	0	-99.999	-99.999	-99.999
m835	m835	0	0	1	2	2	-99.999	-99.999	-99.999
m839	3016	m839	f1662	2	1	2	31	45	58
m839	f1662	0	0	2	0	0	-99.999	-99.999	-99.999
m839	m839	0	0	1	2	2	-99.999	-99.999	-99.999
m842	2346	m842	f241	2	1	2	30	49	70
m842	2355	m842	f61	2	1	2	40	55	71
m842	f241	0	0	2	0	0	-99.999	-99.999	-99.999

Family ID	Individual ID	Father ID	Mother ID	Sex	Genotype of Val566 Ile		EN31	EN35	EN40
m842	f61	0	0	2	0	0	-99.999	-99.999	-99.999
m842	m842	0	0	1	0	0	-99.999	-99.999	-99.999
m843	2020	m843	f889	2	2	2	8	18	28
m843	2022	m843	f889	2	2	2	-99.999	4	5
m843	2032	m843	f263	2	1	2	43	59	76
m843	2034	m843	f286	2	1	2	18	33	48
m843	2038	m843	f286	2	1	2	30	54	72
m843	f263	0	0	2	0	0	-99.999	-99.999	-99.999
m843	f286	0	0	2	0	0	-99.999	-99.999	-99.999
m843	f889	0	0	2	2	2	-99.999	-99.999	-99.999
m843	m843	0	0	1	2	2	-99.999	-99.999	-99.999
m844	2899	m844	f32	2	1	2	27	44	60
m844	2901	m844	f32	2	1	2	37	52	71
m844	2905	m844	f32	2	1	2	25	42	53
m844	f32	0	0	2	1	2	-99.999	-99.999	-99.999
m844	m844	0	0	1	2	2	-99.999	-99.999	-99.999
m854	3379	m854	f1770	2	2	2	48	69	89
m854	3387	m854	f1892	2	1	2	23	39	54
m854	f1770	0	0	2	1	2	-99.999	-99.999	-99.999
m854	f1892	0	0	2	1	2	-99.999	-99.999	-99.999
m854	m854	0	0	1	2	2	-99.999	-99.999	-99.999
m859	2453	m859	f1495	2	1	2	29	48	66
m859	2459	m859	f1542	2	1	1	45	67	88
m859	f1495	0	0	2	0	0	-99.999	-99.999	-99.999
m859	f1542	0	0	2	0	0	-99.999	-99.999	-99.999
m859	m859	0	0	1	0	0	-99.999	-99.999	-99.999
m863	2426	m863	f77	2	1	2	33	43	48
m863	2427	m863	f77	2	1	2	41	64	73
m863	2430	m863	f1673	2	2	2	48	70	74
m863	2436	m863	f1604	2	1	1	34	52	69
m863	f1604	0	0	2	0	0	-99.999	-99.999	-99.999
m863	f1673	0	0	2	0	0	-99.999	-99.999	-99.999
m863	f77	0	0	2	1	2	-99.999	-99.999	-99.999
m863	m863	0	0	1	0	0	-99.999	-99.999	-99.999
m864	1694	m864	f508	2	2	2	43	62	72
m864	1699	m864	f626	2	2	2	25	47	59
m864	1701	m864	f626	2	1	2	23	41	56
m864	f508	0	0	2	0	0	-99.999	-99.999	-99.999
m864	f626	0	0	2	0	0	-99.999	-99.999	-99.999

Family ID	Individual ID	Father ID	Mother ID	Sex	Genotype of Val566 Ile		EN31	EN35	EN40
m864	m864	0	0	1	2	2	-99.999	-99.999	-99.999
m865	791	m865	f922	2	1	2	33	47	55
m865	792	m865	f922	2	1	2	-99.999	16	20
m865	793	m865	f922	2	1	2	44	62	72
m865	805	m865	f825	2	2	2	-99.999	19	39
m865	806	m865	f825	2	2	2	20	41	53
m865	810	m865	f582	2	1	2	22	45	63
m865	f582	0	0	2	1	2	-99.999	-99.999	-99.999
m865	f825	0	0	2	0	0	-99.999	-99.999	-99.999
m865	f922	0	0	2	1	2	-99.999	-99.999	-99.999
m865	m865	0	0	1	2	2	-99.999	-99.999	-99.999
m866	2487	m866	f52	2	1	2	31	52	65
m866	f52	0	0	2	0	0	-99.999	-99.999	-99.999
m866	m866	0	0	1	0	0	-99.999	-99.999	-99.999
m869	1426	m869	f397	2	1	1	39	57	69
m869	1427	m869	f397	2	2	2	26	47	66
m869	1430	m869	f999	2	1	2	-99.999	17	27
m869	1447	m869	f903	2	2	2	14	34	44
m869	f397	0	0	2	0	0	-99.999	-99.999	-99.999
m869	f903	0	0	2	2	2	-99.999	-99.999	-99.999
m869	f999	0	0	2	2	2	-99.999	-99.999	-99.999
m869	m869	0	0	1	1	2	-99.999	-99.999	-99.999
m870	2249	m870	f269	2	1	2	51	70	92
m870	2252	m870	f526	2	2	2	37	52	69
m870	2253	m870	f526	2	1	2	49	71	91
m870	2255	m870	f526	2	2	2	29	46	56
m870	f269	0	0	2	0	0	-99.999	-99.999	-99.999
m870	f526	0	0	2	1	2	-99.999	-99.999	-99.999
m870	m870	0	0	1	1	2	-99.999	-99.999	-99.999
m875	2303	m875	f1978	2	2	2	39	58	68
m875	2304	m875	f1978	2	1	2	37	53	65
m875	2306	m875	f1587	2	1	2	43	66	90
m875	2309	m875	f1587	2	2	2	40	53	66
m875	f1587	0	0	2	0	0	-99.999	-99.999	-99.999
m875	f1978	0	0	2	0	0	-99.999	-99.999	-99.999
m875	m875	0	0	1	1	2	-99.999	-99.999	-99.999
m886	3504	m886	f351	2	1	1	26	39	59
m886	3512	m886	f1826	2	1	2	43	59	65
m886	3518	m886	f1886	2	1	2	18	35	50

Family ID	Individual ID	Father ID	Mother ID	Sex	Genotype of Val566 Ile		EN31	EN35	EN40
m886	3519	m886	f1900	2	1	2	10	30	50
m886	3525	m886	f1775	2	1	2	49	71	91
m886	3530	m886	f1775	2	1	2	17	36	55
m886	f1775	0	0	2	1	2	-99.999	-99.999	-99.999
m886	f1826	0	0	2	2	2	-99.999	-99.999	-99.999
m886	f1886	0	0	2	1	2	-99.999	-99.999	-99.999
m886	f1900	0	0	2	0	0	-99.999	-99.999	-99.999
m886	f351	0	0	2	1	2	-99.999	-99.999	-99.999
m886	m886	0	0	1	0	0	-99.999	-99.999	-99.999
m888	1639	m888	f135	2	1	2	26	41	48
m888	1641	m888	f310	2	1	2	20	39	46
m888	1643	m888	f310	2	2	2	21	45	58
m888	1647	m888	f310	2	1	2	46	70	91
m888	1649	m888	f979	2	2	2	7	26	45
m888	1652	m888	f979	2	1	1	43	66	83
m888	f135	0	0	2	0	0	-99.999	-99.999	-99.999
m888	f310	0	0	2	0	0	-99.999	-99.999	-99.999
m888	f979	0	0	2	0	0	-99.999	-99.999	-99.999
m888	m888	0	0	1	1	2	-99.999	-99.999	-99.999
m889	41	m889	f916	2	1	2	34	55	68
m889	43	m889	f822	2	1	2	34	51	62
m889	46	m889	f822	2	2	2	9	9	28
m889	47	m889	f822	2	1	2	-99.999	15	25
m889	48	m889	f822	2	1	1	29	46	65
m889	50	m889	f251	2	1	2	38	55	71
m889	58	m889	f775	2	1	2	8	24	39
m889	59	m889	f775	2	1	2	36	57	74
m889	63	m889	f775	2	1	2	41	62	81
m889	69	m889	f793	2	1	2	27	47	58
m889	f251	0	0	2	1	2	-99.999	-99.999	-99.999
m889	f775	0	0	2	1	2	-99.999	-99.999	-99.999
m889	f793	0	0	2	1	2	-99.999	-99.999	-99.999
m889	f822	0	0	2	1	2	-99.999	-99.999	-99.999
m889	f916	0	0	2	0	0	-99.999	-99.999	-99.999
m889	m889	0	0	1	1	2	-99.999	-99.999	-99.999
m890	1380	m890	f564	2	1	2	-99.999	18	41
m890	1382	m890	f564	2	1	2	30	49	68
m890	1390	m890	f1598	2	1	2	49	70	91
m890	f1598	0	0	2	2	2	-99.999	-99.999	-99.999

Family ID	Individual ID	Father ID	Mother ID	Sex	Genotype of Val566 Ile		EN31	EN35	EN40
m890	f564	0	0	2	1	2	-99.999	-99.999	-99.999
m890	m890	0	0	1	1	2	-99.999	-99.999	-99.999
m895	993	m895	f990	2	1	2	40	50	61
m895	998	m895	f990	2	1	2	49	69	87
m895	1001	m895	f326	2	2	2	26	43	62
m895	1009	m895	f691	2	1	2	16	35	58
m895	1012	m895	f710	2	2	2	64	86	109
m895	1019	m895	f523	2	1	2	39	53	65
m895	f326	0	0	2	1	2	-99.999	-99.999	-99.999
m895	f523	0	0	2	2	2	-99.999	-99.999	-99.999
m895	f691	0	0	2	0	0	-99.999	-99.999	-99.999
m895	f710	0	0	2	1	2	-99.999	-99.999	-99.999
m895	f990	0	0	2	0	0	-99.999	-99.999	-99.999
m895	m895	0	0	1	0	0	-99.999	-99.999	-99.999
m896	3758	m896	f901	2	2	2	45	69	86
m896	3769	m896	f739	2	1	2	20	33	44
m896	3770	m896	f739	2	1	2	42	61	82
m896	3772	m896	f739	2	2	2	47	65	86
m896	f739	0	0	2	0	0	-99.999	-99.999	-99.999
m896	f901	0	0	2	0	0	-99.999	-99.999	-99.999
m896	m896	0	0	1	0	0	-99.999	-99.999	-99.999
m900	3858	m900	f487	2	1	2	18	38	62
m900	3859	m900	f450	2	2	2	27	51	78
m900	3862	m900	f450	2	1	2	-99.999	5	19
m900	3871	m900	f759	2	1	2	11	28	46
m900	3875	m900	f693	2	2	2	30	51	74
m900	3876	m900	f693	2	1	2	14	28	44
m900	3878	m900	f693	2	2	2	34	48	66
m900	f450	0	0	2	1	2	-99.999	-99.999	-99.999
m900	f487	0	0	2	0	0	-99.999	-99.999	-99.999
m900	f693	0	0	2	2	2	-99.999	-99.999	-99.999
m900	f759	0	0	2	2	2	-99.999	-99.999	-99.999
m900	m900	0	0	1	0	0	-99.999	-99.999	-99.999
m904	1488	m904	f1576	2	1	2	38	56	79
m904	1491	m904	f1576	2	1	2	55	78	101
m904	1496	m904	f453	2	1	2	41	58	73
m904	1498	m904	f957	2	1	2	45	50	62
m904	1500	m904	f957	2	1	2	45	66	89
m904	1502	m904	f957	2	1	2	39	52	68

Family ID	Individual ID	Father ID	Mother ID	Sex	Genotype of Val566 Ile		EN31	EN35	EN40
m904	1506	m904	f957	2	1	2	39	59	71
m904	1511	m904	f919	2	2	2	34	54	68
m904	1513	m904	f766	2	2	2	35	55	61
m904	1518	m904	f766	2	1	1	51	72	91
m904	f1576	0	0	2	1	2	-99.999	-99.999	-99.999
m904	f453	0	0	2	0	0	-99.999	-99.999	-99.999
m904	f766	0	0	2	0	0	-99.999	-99.999	-99.999
m904	f919	0	0	2	1	2	-99.999	-99.999	-99.999
m904	f957	0	0	2	1	2	-99.999	-99.999	-99.999
m904	m904	0	0	1	0	0	-99.999	-99.999	-99.999
m905	2718	m905	f120	2	2	2	35	49	56
m905	2720	m905	f120	2	1	2	26	45	61
m905	2726	m905	f314	2	1	2	41	64	83
m905	2732	m905	f1825	2	2	2	44	46	59
m905	2740	m905	f33	2	1	2	49	70	95
m905	f120	0	0	2	0	0	-99.999	-99.999	-99.999
m905	f1825	0	0	2	0	0	-99.999	-99.999	-99.999
m905	f314	0	0	2	0	0	-99.999	-99.999	-99.999
m905	f33	0	0	2	0	0	-99.999	-99.999	-99.999
m905	m905	0	0	1	0	0	-99.999	-99.999	-99.999
m907	2154	m907	f328	2	1	2	15	35	46
m907	2164	m907	f672	2	1	1	49	69	86
m907	2167	m907	f1877	2	1	1	33	52	67
m907	2169	m907	f527	2	1	1	15	22	28
m907	2170	m907	f527	2	1	1	37	55	74
m907	2171	m907	f527	2	1	2	32	43	51
m907	f1877	0	0	2	0	0	-99.999	-99.999	-99.999
m907	f328	0	0	2	2	2	-99.999	-99.999	-99.999
m907	f527	0	0	2	0	0	-99.999	-99.999	-99.999
m907	f672	0	0	2	0	0	-99.999	-99.999	-99.999
m907	m907	0	0	1	1	2	-99.999	-99.999	-99.999
m921	2597	m921	f1883	2	2	2	21	39	53
m921	2601	m921	f1853	2	1	2	33	52	65
m921	2607	m921	f1853	2	2	2	28	46	63
m921	f1853	0	0	2	0	0	-99.999	-99.999	-99.999
m921	f1883	0	0	2	0	0	-99.999	-99.999	-99.999
m921	m921	0	0	1	1	2	-99.999	-99.999	-99.999
m929	2108	m929	f46	2	1	2	24	45	66
m929	2109	m929	f46	2	1	2	33	38	50

Family ID	Individual ID	Father ID	Mother ID	Sex	Genotype of Val566 Ile		EN31	EN35	EN40
m929	f46	0	0	2	0	0	-99.999	-99.999	-99.999
m929	f765	0	0	2	2	2	-99.999	-99.999	-99.999
m929	m929	0	0	1	2	2	-99.999	-99.999	-99.999
m934	954	m934	f480	2	2	2	29	44	60
m934	f480	0	0	2	2	2	-99.999	-99.999	-99.999
m934	m934	0	0	1	0	0	-99.999	-99.999	-99.999
m935	850	m935	f491	2	1	2	30	50	65
m935	852	m935	f491	2	1	2	50	63	72
m935	853	m935	f491	2	1	1	-99.999	21	44
m935	854	m935	f491	2	2	2	34	50	62
m935	864	m935	f799	2	1	2	38	56	63
m935	867	m935	f799	2	2	2	-99.999	1	1
m935	887	m935	f1916	2	1	2	17	33	46
m935	f1916	0	0	2	2	2	-99.999	-99.999	-99.999
m935	f491	0	0	2	1	2	-99.999	-99.999	-99.999
m935	f799	0	0	2	0	0	-99.999	-99.999	-99.999
m935	m935	0	0	1	0	0	-99.999	-99.999	-99.999
m939	739	m939	f812	2	1	2	18	31	46
m939	750	m939	f805	2	1	2	52	75	94
m939	759	m939	f389	2	1	2	42	55	59
m939	f389	0	0	2	1	2	-99.999	-99.999	-99.999
m939	f805	0	0	2	1	2	-99.999	-99.999	-99.999
m939	f812	0	0	2	0	0	-99.999	-99.999	-99.999
m939	m939	0	0	1	2	2	-99.999	-99.999	-99.999
m941	3210	m941	f1594	2	2	2	8	30	52
m941	3211	m941	f1594	2	2	2	50	72	85
m941	3223	m941	f293	2	2	2	16	28	46
m941	3225	m941	f293	2	2	2	30	40	45
m941	3226	m941	f169	2	2	2	34	54	74
m941	3229	m941	f169	2	2	2	37	46	48
m941	3231	m941	f169	2	1	2	13	31	54
m941	3233	m941	f169	2	2	2	35	39	43
m941	3238	m941	f365	2	1	2	36	54	67
m941	3241	m941	f1049	2	1	2	16	36	45
m941	3242	m941	f1049	2	1	2	11	27	47
m941	3243	m941	f1049	2	1	2	38	54	65
m941	f1049	0	0	2	0	0	-99.999	-99.999	-99.999
m941	f1594	0	0	2	2	2	-99.999	-99.999	-99.999
m941	f169	0	0	2	0	0	-99.999	-99.999	-99.999

Family ID	Individual ID	Father ID	Mother ID	Sex	Genotype of Val566 Ile		EN31	EN35	EN40
m941	f293	0	0	2	1	2	-99.999	-99.999	-99.999
m941	f365	0	0	2	0	0	-99.999	-99.999	-99.999
m941	m941	0	0	1	0	0	-99.999	-99.999	-99.999
m942	1885	m942	f419	2	1	1	32	57	76
m942	1889	m942	f419	2	1	2	18	39	63
m942	f419	0	0	2	0	0	-99.999	-99.999	-99.999
m942	m942	0	0	1	1	2	-99.999	-99.999	-99.999
m943	333	m943	f761	2	1	1	27	44	53
m943	336	m943	f761	2	1	1	41	61	75
m943	337	m943	f697	2	1	2	35	39	58
m943	339	m943	f697	2	1	2	44	62	69
m943	342	m943	f697	2	1	2	40	58	66
m943	352	m943	f989	2	1	1	40	56	73
m943	353	m943	f989	2	2	2	49	70	94
m943	357	m943	f769	2	1	1	47	69	83
m943	364	m943	f827	2	1	2	46	66	75
m943	f697	0	0	2	0	0	-99.999	-99.999	-99.999
m943	f761	0	0	2	0	0	-99.999	-99.999	-99.999
m943	f769	0	0	2	1	2	-99.999	-99.999	-99.999
m943	f827	0	0	2	1	2	-99.999	-99.999	-99.999
m943	f989	0	0	2	1	2	-99.999	-99.999	-99.999
m943	m943	0	0	1	1	2	-99.999	-99.999	-99.999
m946	1195	m946	f663	2	1	2	56	59	70
m946	1198	m946	f663	2	1	2	60	81	93
m946	1199	m946	f663	2	1	2	-99.999	6	9
m946	1203	m946	f489	2	2	2	51	71	84
m946	f489	0	0	2	1	2	-99.999	-99.999	-99.999
m946	f663	0	0	2	1	2	-99.999	-99.999	-99.999
m946	m946	0	0	1	0	0	-99.999	-99.999	-99.999
m948	2559	m948	f1842	2	2	2	12	31	51
m948	2574	m948	f1808	2	1	2	37	52	68
m948	f1808	0	0	2	0	0	-99.999	-99.999	-99.999
m948	f1842	0	0	2	2	2	-99.999	-99.999	-99.999
m948	m948	0	0	1	0	0	-99.999	-99.999	-99.999
m950	3058	m950	f205	2	2	2	45	64	88
m950	3063	m950	f1966	2	1	1	47	64	75
m950	3065	m950	f1966	2	1	2	32	49	66
m950	3068	m950	f201	2	1	1	42	62	80
m950	3074	m950	f42	2	2	2	51	72	87

Family ID	Individual ID	Father ID	Mother ID	Sex	Genotype of Val566 Ile		EN31	EN35	EN40
m950	3076	m950	f235	2	2	2	44	47	51
m950	3080	m950	f66	2	1	2	22	37	49
m950	3087	m950	f66	2	2	2	23	41	54
m950	f1966	0	0	2	0	0	-99.999	-99.999	-99.999
m950	f201	0	0	2	0	0	-99.999	-99.999	-99.999
m950	f205	0	0	2	2	2	-99.999	-99.999	-99.999
m950	f235	0	0	2	0	0	-99.999	-99.999	-99.999
m950	f42	0	0	2	0	0	-99.999	-99.999	-99.999
m950	f66	0	0	2	0	0	-99.999	-99.999	-99.999
m950	m950	0	0	1	0	0	-99.999	-99.999	-99.999
m953	1557	m953	f724	2	1	2	39	56	70
m953	1559	m953	f724	2	2	2	30	46	64
m953	1579	m953	f644	2	2	2	32	47	59
m953	1580	m953	f644	2	1	2	32	46	53
m953	1581	m953	f577	2	2	2	39	60	81
m953	f577	0	0	2	0	0	-99.999	-99.999	-99.999
m953	f644	0	0	2	0	0	-99.999	-99.999	-99.999
m953	f724	0	0	2	0	0	-99.999	-99.999	-99.999
m953	m953	0	0	1	1	2	-99.999	-99.999	-99.999
m954	2641	m954	f1546	2	1	2	45	67	88
m954	2646	m954	f1546	2	1	2	24	42	60
m954	2647	m954	f591	2	1	2	8	19	26
m954	2652	m954	f591	2	1	1	-99.999	22	30
m954	f1546	0	0	2	0	0	-99.999	-99.999	-99.999
m954	f591	0	0	2	0	0	-99.999	-99.999	-99.999
m954	m954	0	0	1	1	2	-99.999	-99.999	-99.999
m956	1043	m956	f987	2	1	2	38	49	60
m956	1050	m956	f426	2	1	2	28	47	61
m956	1055	m956	f707	2	1	1	42	52	55
m956	1060	m956	f707	2	1	2	30	47	61
m956	f426	0	0	2	1	2	-99.999	-99.999	-99.999
m956	f707	0	0	2	1	1	-99.999	-99.999	-99.999
m956	f987	0	0	2	2	2	-99.999	-99.999	-99.999
m956	m956	0	0	1	0	0	-99.999	-99.999	-99.999
m963	1104	m963	f392	2	2	2	38	50	68
m963	1110	m963	f392	2	2	2	28	40	46
m963	1119	m963	f151	2	1	2	29	50	62
m963	1125	m963	f132	2	1	2	35	51	72
m963	1126	m963	f132	2	1	2	32	49	61

Family ID	Individual ID	Father ID	Mother ID	Sex	Genotype of Val566 Ile		EN31	EN35	EN40
m963	1129	m963	f655	2	2	2	36	55	63
m963	1130	m963	f655	2	2	2	25	35	52
m963	1142	m963	f430	2	2	2	23	38	58
m963	f132	0	0	2	0	0	-99.999	-99.999	-99.999
m963	f151	0	0	2	1	2	-99.999	-99.999	-99.999
m963	f392	0	0	2	2	2	-99.999	-99.999	-99.999
m963	f430	0	0	2	1	2	-99.999	-99.999	-99.999
m963	f655	0	0	2	2	2	-99.999	-99.999	-99.999
m963	m963	0	0	1	2	2	-99.999	-99.999	-99.999
m971	2771	m971	f354	2	1	2	27	45	59
m971	2773	m971	f1834	2	1	2	45	59	63
m971	2774	m971	f1834	2	1	1	26	44	53
m971	2780	m971	f1834	2	2	2	46	62	68
m971	f1834	0	0	2	0	0	-99.999	-99.999	-99.999
m971	f354	0	0	2	1	2	-99.999	-99.999	-99.999
m971	m971	0	0	1	0	0	-99.999	-99.999	-99.999
m972	2852	m972	f215	2	2	2	50	67	85
m972	2853	m972	f215	2	2	2	23	37	52
m972	2860	m972	f142	2	1	1	27	50	67
m972	2862	m972	f142	2	1	1	31	46	61
m972	2867	m972	f599	2	2	2	54	77	95
m972	2870	m972	f599	2	2	2	37	60	72
m972	f142	0	0	2	0	0	-99.999	-99.999	-99.999
m972	f215	0	0	2	0	0	-99.999	-99.999	-99.999
m972	f599	0	0	2	0	0	-99.999	-99.999	-99.999
m972	m972	0	0	1	1	2	-99.999	-99.999	-99.999
m974	2198	m974	f383	2	2	2	51	66	79
m974	2207	m974	f884	2	1	2	54	71	84
m974	2212	m974	f888	2	1	2	45	67	86
m974	f383	0	0	2	1	2	-99.999	-99.999	-99.999
m974	f884	0	0	2	0	0	-99.999	-99.999	-99.999
m974	f888	0	0	2	0	0	-99.999	-99.999	-99.999
m974	m974	0	0	1	0	0	-99.999	-99.999	-99.999
m975	666	m975	f614	2	1	2	31	42	47
m975	669	m975	f613	2	1	2	37	50	58
m975	671	m975	f613	2	2	2	34	53	71
m975	672	m975	f613	2	1	2	19	36	47
m975	674	m975	f613	2	1	2	23	29	36
m975	675	m975	f613	2	2	2	16	25	31

Family ID	Individual ID	Father ID	Mother ID	Sex	Genotype of Val566 Ile		EN31	EN35	EN40
m975	678	m975	f475	2	1	2	9	28	45
m975	680	m975	f475	2	1	2	21	25	34
m975	685	m975	f850	2	1	2	33	52	74
m975	688	m975	f850	2	1	1	38	58	80
m975	696	m975	f492	2	1	1	29	45	52
m975	f475	0	0	2	0	0	-99.999	-99.999	-99.999
m975	f492	0	0	2	1	2	-99.999	-99.999	-99.999
m975	f613	0	0	2	1	2	-99.999	-99.999	-99.999
m975	f614	0	0	2	1	2	-99.999	-99.999	-99.999
m975	f850	0	0	2	0	0	-99.999	-99.999	-99.999
m975	m975	0	0	1	1	2	-99.999	-99.999	-99.999
m978	3246	m978	f208	2	2	2	41	63	82
m978	3252	m978	f19	2	2	2	58	78	93
m978	3255	m978	f175	2	1	1	42	57	66
m978	3270	m978	f203	2	1	2	26	27	27
m978	3271	m978	f203	2	1	1	13	32	49
m978	f175	0	0	2	0	0	-99.999	-99.999	-99.999
m978	f19	0	0	2	2	2	-99.999	-99.999	-99.999
m978	f203	0	0	2	0	0	-99.999	-99.999	-99.999
m978	f208	0	0	2	2	2	-99.999	-99.999	-99.999
m978	m978	0	0	1	0	0	-99.999	-99.999	-99.999
m979	3102	m979	f168	2	1	2	13	33	45
m979	3103	m979	f168	2	1	1	38	55	66
m979	3116	m979	f1777	2	1	2	26	45	58
m979	f168	0	0	2	0	0	-99.999	-99.999	-99.999
m979	f1777	0	0	2	0	0	-99.999	-99.999	-99.999
m979	m979	0	0	1	0	0	-99.999	-99.999	-99.999
m985	119	m985	f389	2	1	2	44	55	62
m985	120	m985	f389	2	1	1	18	38	56
m985	121	m985	f389	2	1	2	12	27	41
m985	129	m985	f993	2	1	2	96	115	132
m985	147	m985	f722	2	2	2	43	58	60
m985	149	m985	f722	2	2	2	31	46	60
m985	153	m985	f988	2	1	2	24	34	41
m985	154	m985	f988	2	1	2	37	57	77
m985	161	m985	f558	2	1	2	36	54	71
m985	162	m985	f558	2	2	2	36	53	63
m985	f389	0	0	2	1	2	-99.999	-99.999	-99.999
m985	f558	0	0	2	1	2	-99.999	-99.999	-99.999

Family ID	Individual ID	Father ID	Mother ID	Sex	Genotype of Val566 Ile		EN31	EN35	EN40
m985	f722	0	0	2	1	2	-99.999	-99.999	-99.999
m985	f988	0	0	2	2	2	-99.999	-99.999	-99.999
m985	f993	0	0	2	1	2	-99.999	-99.999	-99.999
m985	m985	0	0	1	0	0	-99.999	-99.999	-99.999
m986	202	m986	f588	2	2	2	34	51	67
m986	203	m986	f588	2	2	2	25	45	60
m986	206	m986	f588	2	2	2	24	43	53
m986	216	m986	f486	2	2	2	25	38	56
m986	218	m986	f559	2	1	2	23	39	60
m986	219	m986	f559	2	1	2	30	48	63
m986	221	m986	f559	2	1	2	23	42	63
m986	f486	0	0	2	1	2	-99.999	-99.999	-99.999
m986	f559	0	0	2	1	2	-99.999	-99.999	-99.999
m986	f588	0	0	2	2	2	-99.999	-99.999	-99.999
m986	m986	0	0	1	2	2	-99.999	-99.999	-99.999
m987	268	m987	f994	2	1	2	26	41	48
m987	276	m987	f910	2	1	2	36	52	64
m987	277	m987	f910	2	2	2	24	40	47
m987	278	m987	f910	2	1	2	35	52	65
m987	279	m987	f910	2	1	2	43	65	86
m987	281	m987	f865	2	2	2	42	63	82
m987	287	m987	f970	2	1	2	21	37	59
m987	292	m987	f977	2	1	2	38	60	76
m987	294	m987	f977	2	1	2	32	51	62
m987	f865	0	0	2	1	2	-99.999	-99.999	-99.999
m987	f910	0	0	2	0	0	-99.999	-99.999	-99.999
m987	f970	0	0	2	1	2	-99.999	-99.999	-99.999
m987	f977	0	0	2	1	2	-99.999	-99.999	-99.999
m987	f994	0	0	2	1	2	-99.999	-99.999	-99.999
m987	m987	0	0	1	2	2	-99.999	-99.999	-99.999
m992	3311	m992	f1793	2	1	2	47	57	61
m992	3319	m992	f1647	2	2	2	24	45	67
m992	3320	m992	f1647	2	2	2	31	46	65
m992	3322	m992	f507	2	1	2	52	76	101
m992	3323	m992	f507	2	2	2	50	65	69
m992	3338	m992	f477	2	2	2	38	48	60
m992	3342	m992	f1929	2	2	2	39	59	70
m992	f1647	0	0	2	2	2	-99.999	-99.999	-99.999
m992	f1793	0	0	2	0	0	-99.999	-99.999	-99.999

Family ID	Individual ID	Father ID	Mother ID	Sex	Genotype of Val566 Ile		EN31	EN35	EN40
m992	f1929	0	0	2	2	2	-99.999	-99.999	-99.999
m992	f477	0	0	2	2	2	-99.999	-99.999	-99.999
m992	f507	0	0	2	0	0	-99.999	-99.999	-99.999
m992	m992	0	0	1	0	0	-99.999	-99.999	-99.999
m993	2684	m993	f38	2	1	2	29	45	53
m993	2686	m993	f38	2	2	2	33	51	70
m993	f38	0	0	2	0	0	-99.999	-99.999	-99.999
m993	m993	0	0	1	2	2	-99.999	-99.999	-99.999
m996	2800	m996	f414	2	2	2	17	33	53
m996	2806	m996	f1885	2	2	2	19	34	48
m996	2810	m996	f1885	2	1	2	32	49	59
m996	2811	m996	f478	2	2	2	25	44	51
m996	2813	m996	f478	2	1	2	17	18	22
m996	2815	m996	f478	2	2	2	17	37	47
m996	2816	m996	f1827	2	2	2	34	54	76
m996	2824	m996	f3	2	2	2	18	37	56
m996	f1827	0	0	2	0	0	-99.999	-99.999	-99.999
m996	f1885	0	0	2	2	2	-99.999	-99.999	-99.999
m996	f3	0	0	2	0	0	-99.999	-99.999	-99.999
m996	f414	0	0	2	1	2	-99.999	-99.999	-99.999
m996	f478	0	0	2	0	0	-99.999	-99.999	-99.999
m996	m996	0	0	1	1	2	-99.999	-99.999	-99.999
m997	1318	m997	f509	2	1	2	13	34	55
m997	1326	m997	f1445	2	1	1	-99.999	18	23
m997	1328	m997	f1445	2	1	2	51	72	89
m997	1332	m997	f1445	2	1	1	-99.999	19	33
m997	f1445	0	0	2	1	2	-99.999	-99.999	-99.999
m997	f509	0	0	2	2	2	-99.999	-99.999	-99.999
m997	m997	0	0	1	1	2	-99.999	-99.999	-99.999

Appendix B Raw qPCR data of AMH expression in granular cells of prehierarchic follicle of Lueyang black-boned chickens and Nick layers

Sample Name	gene Name	Ct
LYC_275	AMH	32.629341
LYC_275	AMH	32.148239
LYC_275	AMH	32.287773
LYC_371	AMH	34.248676
LYC_371	AMH	33.479599
LYC_371	AMH	34.699272
LYC_380	AMH	34.218304
LYC_380	AMH	35.995342
LYC_380	AMH	33.980988
LYC_418	AMH	32.370853
LYC_418	AMH	32.602863
LYC_418	AMH	32.185791
LYC_423	AMH	34.362446
LYC_423	AMH	34.030926
LYC_423	AMH	34.602699
LYC_425	AMH	33.976723
LYC_425	AMH	33.624279
LYC_425	AMH	34.717674
Nick_1	AMH	34.329094
Nick_1	AMH	33.093323
Nick_2	AMH	35.203903
Nick_2	AMH	34.715042
Nick_2	AMH	34.418022
Nick_3	AMH	33.982246
Nick_3	AMH	33.655884
Nick_3	AMH	34.792171
Nick_6	AMH	33.293819
Nick_6	AMH	33.125271
Nick_6	AMH	33.396465
Nick_7	AMH	33.935646
Nick_7	AMH	33.014561
Nick_7	AMH	33.549519
Nick_9	AMH	33.11491
LYC_275	GAPDH	20.746674
LYC_275	GAPDH	21.250532
LYC_275	GAPDH	20.719208
LYC_371	GAPDH	22.439289
LYC_371	GAPDH	22.361578
LYC_371	GAPDH	22.398144
LYC_380	GAPDH	22.969124

Sample Name	gene Name	Ct
LYC_380	GAPDH	22.929913
LYC_380	GAPDH	23.039909
LYC_418	GAPDH	20.611523
LYC_418	GAPDH	20.418741
LYC_418	GAPDH	20.451735
LYC_423	GAPDH	23.734428
LYC_423	GAPDH	23.880398
LYC_423	GAPDH	23.919619
LYC_425	GAPDH	22.888924
LYC_425	GAPDH	22.664465
LYC_425	GAPDH	22.659201
Nick_1	GAPDH	21.433722
Nick_1	GAPDH	21.038015
Nick_1	GAPDH	21.203112
Nick_2	GAPDH	22.180647
Nick_2	GAPDH	22.167686
Nick_2	GAPDH	21.972504
Nick_3	GAPDH	22.780458
Nick_3	GAPDH	22.396336
Nick_3	GAPDH	22.930372
Nick_6	GAPDH	21.856104
Nick_6	GAPDH	21.330959
Nick_6	GAPDH	21.196331
Nick_7	GAPDH	21.90382
Nick_7	GAPDH	21.843521
Nick_7	GAPDH	22.948168
Nick_9	GAPDH	22.211781
Nick_9	GAPDH	22.687647
Nick_9	GAPDH	22.093441