10. Samostatné přílohy

10.1 Kompletní přehled nalezených SNP v bovinním TLR1

Polymorphism Type	Original Seq.	Coverage	Change	Variant P-Value (approximate)	Strand-Bias	Variant Frequency
SNP (transition)	363	15259	T -> C	7,9E-300	59.5%	5.8%
SNP (transversion)	408	15722	T -> A	2.0E-316	57.1%	5.9%
SNP (transversion)	423	15754	T -> G	5,1E-302	59.2%	5.8%
SNP (transversion)	436	15779	A -> T	3.7E-322	58.3%	6.0%
SNP (transversion)	499	15829	C -> A	2.2E-309	63.3%	5.8%
SNP (transversion)	502	15818	T -> A	3E-275	65.9%	5.5%
SNP (transversion)	511	15824	C -> A	3,1E-299	58.4%	5.7%
SNP (transition)	528	15832	T -> C	1,2E-291	62.6%	5.7%
SNP (transition)	567	15888	A -> G	9,5E-305	60.5%	5.8%
SNP (transversion)	571	15892	T -> G	1.6E-311	58.1%	5.8%
SNP (transversion)	602	15938	T -> G	7E-283	64.1%	5.6%
SNP (transversion)	607	15993	T -> G	1,5E-274	59.0%	5.5%
SNP (transversion)	620	16124	C -> A	2,9E-291	60.3%	5.6%
SNP (transversion)	952	24074	T -> A	0	67.3%	5.4%
SNP (transition)	960	24074	T -> C	0	58.9%	6.3%
SNP (transversion)	985	24111	T -> G	0	64.7%	6.1%
SNP (transversion)	991	24130	C -> A	0	57.1%	5.1%
SNP (transition)	991	24130	C -> T	0	63.1%	5.9%
SNP (transition)	994	24135	C -> T	0	58.4%	6.8%
SNP (transversion)	1024	24153	C -> A	0	61.3%	5.2%
SNP (transversion)	1047	24175	A -> T	0	57.6%	7.0%
SNP (transition)	1050	24182	C -> T	0	59.6%	6.1%
SNP (transversion)	1054	24184	C -> A	0	59.3%	5.8%
SNP (transversion)	1067	24178	G -> C	0	60.3%	7.8%
SNP (transversion)	1079	24194	C -> A	0	59.8%	5.1%
SNP (transversion)	1080	24191	A -> C	0	57.9%	5.5%
SNP (transversion)	1099	24210	G -> T	0	59.0%	7.1%
SNP (transversion)	1116	24234	G -> T	0	58.9%	8.9%
SNP (transversion)	1121	24240	G -> T	0	60.3%	5.8%
SNP (transition)	1123	24247	C -> T	0	60.7%	5.5%
SNP (transversion)	1126	24250	T -> A	0	57.0%	6.6%
SNP (transversion)	1127	24252	A -> T	0	57.6%	5.9%
SNP (transversion)	1140	24255	A -> T	0	57.5%	6.9%
SNP (transversion)	1189	24234	G -> T	0	64.9%	6.3%

SNP (transversion)	1190	24234	G -> T	0	59.8%	6.2%
SNP (transition)	1192	24233	C -> T	0	62.4%	6.0%
SNP (transversion)	1197	24231	C -> A	0	60.3%	6.7%
SNP (transversion)	1198	24230	A -> T	0	61.3%	5.6%
SNP (transition)	1200	24225	C -> T	0	60.0%	6.7%
SNP (transversion)	1203	24223	A -> C	0	61.5%	6.1%
SNP (transversion)	1225	24233	G -> T	0	58.3%	5.2%
SNP (transversion)	1236	24235	A -> T	0	63.0%	5.2%
SNP (transversion)	1245	24236	T -> A	0	59.9%	5.8%
SNP (transition)	1250	24232	G -> A	0	57.3%	6.1%
Insertion (tandem repeat)	1261	24233	(T)4 -> (T)5	0	63.5%	6.6%
SNP (transversion)	1294	24227	A -> C	0	57.1%	5.3%
SNP (transversion)	1315	24237	G -> T	0	58.3%	5.4%
SNP (transversion)	1328	24266	G -> T	0	59.3%	6.7%
SNP (transversion)	1333	24284	C -> A	0	57.4%	7.0%
SNP (transversion)	1337	24308	G -> T	0	58.6%	5.8%
SNP (transversion)	1342	24455	T -> A	0	59.5%	5.0%
SNP (transition)	1345	27829	G -> A	0	62.8%	5.2%
SNP (transition)	1352	28514	G -> A	0	58.0%	7.3%
SNP (transversion)	1355	28545	A -> T	0	57.8%	5.2%
SNP (transversion)	1373	28609	C -> A	0	58.1%	5.7%
SNP (transversion)	1379	28614	G -> T	0	57.3%	6.3%
SNP (transition)	1387	28617	G -> A	0	62.5%	6.7%
SNP (transversion)	1390	28619	T -> A	0	60.9%	6.0%
SNP (transition)	1392	28620	C -> T	0	57.0%	6.9%
SNP (transition)	1416	28617	G -> A	0	60.6%	7.1%
SNP (transversion)	1422	28612	G -> T	0	58.7%	5.2%
SNP (transition)	1426	28610	T -> C	0	58.4%	5.1%
SNP (transversion)	1432	28614	C -> A	0	58.6%	5.5%
SNP (transversion)	1437	28572	A -> T	0	60.2%	6.5%
SNP (transition)	1458	28575	C -> T	0	58.8%	7.1%
SNP (transition)	1460	28582	T -> C	0	57.3%	5.3%
SNP (transversion)	1464	28626	A -> T	0	57.5%	6.1%
SNP (transversion)	1466	28630	A -> T	0	59.9%	6.4%
SNP (transition)	1485	28596	T -> C	0	59.9%	5.3%
SNP (transversion)	1491	28548	G -> T	0	58.3%	6.8%
SNP (transversion)	1495	28516	A -> T	0	57.4%	5.3%
SNP (transversion)	1496	28504	C -> A	0	58.6%	5.7%
SNP (transition)	1499	28470	C -> T	0	57.2%	5.4%
SNP (transition)	1513	26294	T -> C	0	58.0%	6.4%
SNP (transition)	1514	25215	C -> T	0	60.2%	13.9%

SNP (transversion)	1516	11230	T -> A	0	62.1%	12.7%
SNP (transversion)	1525	7798	C -> A	6.6E-313	59.6%	8.5%
SNP (transversion)	1545	7603	T -> A	1.6E-318	59.8%	7.9%
SNP (transversion)	1623	7475	G -> T	0	57.6%	10.1%
SNP (transversion)	1625	7473	G -> T	3,1E-302	62.3%	7.7%
SNP (transition)	1630	7467	C -> T	3,9E-291	58.0%	8.3%
SNP (transition)	1932	6758	C -> T	0	58.9%	9.8%

10.2Kompletní přehled nalezených SNP v bovinním TLR 4 genu

Polymorphism Type	Original seq.	Change	Variant P-Value approx.	Strand-Bias	Ref. Freq.	Variant Freq.	protein id	AMK Change	CDS Codon Nr.	CDS Int.	CDS Pos.	Pos. Within Codon	Protein Effect
SNP (transversion)	108829553	A -> C	0.0	57.9%	75.0%	18.9%							
SNP (transversion)	108834281	A -> T	0.0	61.1%	13.2%	30.5%							
SNP (transition)	108836841	A -> G	0.0	62.6%	86.5%	10.3%							
SNP (transition)	108836848	G -> A	2.4E-289	51.0%	86.6%	5.6%							
SNP (transversion)	108836859	T -> G	1.1E-276	52.0%	82.3%	6.1%							
SNP (transversion)	108836862	T -> A	7.9E-283	52.0%	87.3%	6.1%							
SNP (transversion)	108836868	A -> T	5.0E-271	52.8%	85.5%	6.0%							
SNP (transversion)	108836873	G -> T	5.2E-287	58.5%	77.9%	6.2%							
SNP (transversion)	108836881	A -> T	1.4E-275	52.2%	87.7%	6.0%							
SNP (transversion)	108836900	T -> A	6.7E-270	59.1%	86.9%	6.0%							
SNP (transversion)	108836901	A -> T	2.8E-283	51.1%	87.5%	6.1%							
SNP (transition)	108836904	C -> T	3.3E-306	56.6%	83.4%	6.4%							
SNP (transition)	108836918	C -> T	1.9E-316	54.4%	75.3%	6.5%							

SNP (transition)	108836919	T -> C	0.0	58.4%	89.7%	7.3%							
SNP (transversion)	108836952	C -> A	8.3E-273	50.3%	83.7%	6.0%	NP_776623.5	D -> E	96	3	288	3	Substitution
SNP (transversion)	108836963	G -> C	0.0	58.3%	69.0%	10.7%	NP_776623.5	G -> A	100	3	299	2	Substitution
SNP (transversion)	108836970	C -> A	0.0	57.8%	83.5%	9.1%	NP_776623.5	N -> K	102	3	306	3	Substitution
SNP (transversion)	108836981	C -> A	0.0	58.0%	87.2%	8.4%	NP_776623.5	T -> N	106	3	317	2	Substitution
SNP (transition)	108836982	C -> T	2.0E-282	51.0%	79.2%	5.9%	NP_776623.5		106	3	318	3	None
SNP (transition)	108836983	T -> C	5.1E-311	51.9%	87.9%	6.4%	NP_776623.5		107	3	319	1	None
SNP (transversion)	108837021	G -> T	1.0E-305	63.5%	89.2%	6.2%	NP_776623.5	W -> C	119	3	357	3	Substitution
SNP (transition)	108837027	C -> T	5.0E-298	56.6%	78.0%	5.2%	NP_776623.5		121	3	363	3	None
SNP (transversion)	108837036	G -> C	0.0	58.6%	67.5%	7.7%	NP_776623.5		124	3	372	3	None
SNP (transition)	108837037	C -> T	3.1E-297	58.5%	83.8%	6.3%	NP_776623.5		125	3	373	1	None
SNP (transversion)	108837059	T -> G	3.6E-273	55.0%	85.3%	5.9%	NP_776623.5	V -> G	132	3	395	2	Substitution
SNP (transversion)	108837059	T -> G	3.6E-273	55.0%	85.3%	5.9%	NP_776623.5	V -> G	132	3	395	2	Substitution
SNP (transversion)	108837061	G -> C	2.2E-303	52.8%	76.7%	5.3%	NP_776623.5	A -> P	133	3	397	1	Substitution
SNP (transversion)	108837071	C -> A	9.8E-297	50.8%	85.5%	5.2%	NP_776623.5	T -> K	136	3	407	2	Substitution
SNP (transition)	108837093	C -> T	1.8E-274	61.4%	81.1%	6.0%	NP_776623.5		143	3	429	3	None
SNP (transition)	108837095	T -> C	3.5E-323	55.0%	84.7%	6.4%	NP_776623.5	F -> S	144	3	431	2	Substitution
Deletion	108837099	(C)4 ->	0.0	58.1%		14.0%	NP_776623.5		145	3	435	3	Frame Shift

(tandem repeat)		(C)3											
SNP (transition)	108837124	G -> A	4.6E-295	50.9%	87.4%	6.3%	NP_776623.5	E -> K	154	3	460	1	Substitution
SNP (transversion)	108837141	C -> A	2.9E-295	59.7%	89.8%	6.3%	NP_776623.5	H -> Q	159	3	477	3	Substitution
SNP (transition)	108837155	C -> T	2.2E-277	54.2%	87.7%	5.9%	NP_776623.5	S -> F	164	3	491	2	Substitution
SNP (transition)	108837156	C -> T	4.4E-305	52.1%	76.6%	6.2%	NP_776623.5		164	3	492	3	None
SNP (transversion)	108837164	T -> A	3.9E-291	53.7%	85.6%	6.0%	NP_776623.5		167	3	500	2	Truncation
Deletion (tandem repeat)	108837178	(T)5 -> (T)4	2.1E-291	51.9%		22.9%	NP_776623.5		172	3	514	1	Frame Shift
SNP (transition)	108837179	C -> T	0.0	58.0%	85.4%	6.7%	NP_776623.5	S -> F	172	3	515	2	Substitution
SNP (transversion)	108837189	C -> A	0.0	60.1%	70.6%	11.2%	NP_776623.5		175	3	525	3	None
SNP (transversion)	108837204	G -> T	1.0E-295	57.1%	87.2%	5.6%	NP_776623.5	L -> F	180	3	540	3	Substitution
SNP (transition)	108837212	C -> T	0.0	58.1%	84.8%	6.6%	NP_776623.5	S -> F	183	3	548	2	Substitution
SNP (transversion)	108837239	A -> T	2.7E-308	50.7%	89.4%	5.9%	NP_776623.5	Y -> F	192	3	575	2	Substitution
SNP (transversion)	108837253	G -> T	1.6E-316	55.3%	81.3%	6.6%	NP_776623.5	V -> F	197	3	589	1	Substitution
SNP (transversion)	108837278	A -> C	8.3E-272	59.1%	81.3%	6.1%	NP_776623.5	N -> T	205	3	614	2	Substitution
SNP (transversion)	108837303	C -> A	0.0	59.3%	85.2%	7.3%	NP_776623.5	N -> K	213	3	639	3	Substitution
SNP (transversion)	108837315	T -> A	4.2E-320	55.8%	82.3%	6.7%	NP_776623.5	F -> L	217	3	651	3	Substitution
SNP	108837316	A -> T	1.1E-302	50.2%	88.0%	5.8%	NP_776623.5	I -> F	218	3	652	1	Substitution

(transversion)													
SNP (transversion)	108837371	A -> T	1.3E-309	53.3%	83.7%	5.3%	NP_776623.5	N -> I	236	3	707	2	Substitution
Insertion (tandem repeat)	108837372	(T)4 -> (T)5	1.5E-320	55.3%		5.9%	NP_776623.5		236	3	708	3	Frame Shift
SNP (transversion)	108837375	T -> A	0.0	60.9%	75.4%	9.4%	NP_776623.5	F -> L	237	3	711	3	Substitution
SNP (transversion)	108837385	C -> A	3.9E-282	51.2%	84.0%	6.2%	NP_776623.5	H -> N	241	3	721	1	Substitution
SNP (transition)	108837409	G -> A	4.0E-281	51.9%	85.6%	6.1%	NP_776623.5	G -> S	249	3	745	1	Substitution
SNP (transversion)	108837410	G -> T	0.0	62.0%	76.4%	6.6%	NP_776623.5	G -> V	249	3	746	2	Substitution
SNP (transition)	108837412	C -> T	6.4E-317	58.2%	84.0%	6.6%	NP_776623.5		250	3	748	1	None
SNP (transversion)	108837418	G -> T	5.7E-308	55.7%	88.7%	6.4%	NP_776623.5	G -> C	252	3	754	1	Substitution
SNP (transversion)	108837422	T -> A	0.0	57.3%	78.6%	7.4%	NP_776623.5		253	3	758	2	Truncation
SNP (transversion)	108837423	A -> T	9.8E-294	59.0%	85.5%	6.1%	NP_776623.5	L -> F	253	3	759	3	Substitution
SNP (transversion)	108837443	T -> G	0.0	57.5%	73.0%	7.1%	NP_776623.5	L -> W	260	3	779	2	Substitution
SNP (transition)	108837465	G -> A	3.0E-293	54.6%	80.7%	6.3%	NP_776623.5		267	3	801	3	None
SNP (transition)	108837476	G -> A	0.0	57.6%	83.6%	8.6%	NP_776623.5	R -> K	271	3	812	2	Substitution
SNP (transition)	108837488	C -> T	0.0	62.7%	83.2%	7.8%	NP_776623.5	S -> F	275	3	824	2	Substitution
SNP (transition)	108837492	C -> T	0.0	57.0%	86.1%	6.8%	NP_776623.5		276	3	828	3	None
Deletion (tandem	108837500	(G)3 -> (G)2	1.7E-313	62.0%		25.0%	NP_776623.5		279	3	836	2	Frame Shift

repeat)													
SNP (transversion)	108837515	C -> A	8.9E-274	60.9%	88.8%	5.3%	NP_776623.5	T -> N	284	3	851	2	Substitution
SNP (transversion)	108837546	C -> A	1.4E-280	52.6%	87.6%	6.2%	NP_776623.5	D -> E	294	3	882	3	Substitution
Deletion (tandem repeat)	108837559	(G)4 -> (G)3	0.0	59.1%		30.7%	NP_776623.5		299	3	895	1	Frame Shift
SNP (transversion)	108837584	T -> G	5.8E-299	57.2%	78.1%	6.2%	NP_776623.5	L -> W	307	3	920	2	Substitution
SNP (transversion)	108837585	G -> T	6.0E-272	52.3%	86.0%	5.9%	NP_776623.5	L -> F	307	3	921	3	Substitution
SNP (transversion)	108837590	A -> T	1.9E-316	57.2%	81.6%	5.9%	NP_776623.5	N -> I	309	3	926	2	Substitution
SNP (transversion)	108837592	G -> T	0.0	57.4%	82.4%	8.7%	NP_776623.5	V -> F	310	3	928	1	Substitution
SNP (transversion)	108837598	G -> T	1.6E-271	64.0%	86.9%	6.1%	NP_776623.5	V -> L	312	3	934	1	Substitution
SNP (transition)	108837620	C -> T	1.6E-281	57.9%	76.9%	6.2%	NP_776623.5	S -> F	319	3	956	2	Substitution
SNP (transition)	108837625	G -> A	7.5E-318	50.1%	87.3%	6.4%	NP_776623.5	G -> R	321	3	961	1	Substitution
SNP (transition)	108837640	C -> T	0.0	59.5%	72.9%	9.2%	NP_776623.5	L -> F	326	3	976	1	Substitution
SNP (transversion)	108837821	G -> T	1.5E-300	50.9%	20.8%	17.4%	NP_776623.5	S -> I	386	3	1157	2	Substitution
SNP (transversion)	108838612	G -> T	8.2E-292	53.0%	68.0%	6.5%	NP_776623.5	V -> F	650	3	1948	1	Substitution
SNP (transition)	108838629	C -> T	1.3E-313	51.4%	84.0%	7.1%	NP_776623.5		655	3	1965	3	None
SNP (transition)	108838635	C -> T	4.4E-285	51.9%	86.4%	6.7%	NP_776623.5		657	3	1971	3	None
SNP (transition)	108838685	C -> T	0.0	61.2%	81.0%	7.4%	NP_776623.5	T -> I	674	3	2021	2	Substitution

SNP (transversion)	108838744	G -> T	8.8E-292	51.0%	81.9%	6.6%	NP_776623.5	V -> L	694	3	2080	1	Substitution
SNP (transition)	108838749	G -> A	9.2E-315	59.9%	83.9%	6.5%	NP_776623.5		695	3	2085	3	None
Deletion (tandem repeat)	108838772	(CC)3 -> (CC)2	4.0E-290	54.5% -> 57.3%		23.7%	NP_776623.5		703	3	2108	2	Frame Shift
Deletion (tandem repeat)	108838798	(G)3 -> (G)2	1.6E-297	60.6%		23.9%	NP_776623.5		712	3	2134	1	Frame Shift
SNP (transition)	108838807	C -> T	2.1E-308	56.5%	86.3%	7.1%	NP_776623.5	P -> S	715	3	2143	1	Substitution
SNP (transversion)	108838825	G -> C	3.3E-274	53.1%	83.7%	6.3%	NP_776623.5	A -> P	721	3	2161	1	Substitution
SNP (transversion)	108838825	G -> C	3.3E-274	53.1%	83.7%	6.3%	NP_776623.5	A -> P	721	3	2161	1	Substitution
SNP (transversion)	108838867	A -> T	2.4E-311	51.5%	84.7%	7.3%	NP_776623.5	I -> F	735	3	2203	1	Substitution
SNP (transversion)	108838882	C -> A	4.9E-276	51.0%	71.1%	6.8%	NP_776623.5	Q -> K	740	3	2218	1	Substitution
SNP (transition)	108838911	C -> T	2.1E-307	58.0%	82.1%	7.3%	NP_776623.5		749	3	2247	3	None
SNP (transversion)	108838926	T -> G	4.2E-290	51.0%	85.0%	6.4%	NP_776623.5	I -> M	754	3	2262	3	Substitution
SNP (transition)	108838945	C -> T	3.1E-297	55.3%	84.9%	6.5%	NP_776623.5		761	3	2281	1	None
SNP (transition)	108839032	C -> T	2.0E-317	58.8%	86.6%	7.0%	NP_776623.5		790	3	2368	1	None
SNP (transition)	108839040	G -> A	4.4E-304	57.1%	79.4%	6.7%	NP_776623.5		792	3	2376	3	None
SNP (transversion)	108839043	C -> A	4.0E-317	51.9%	83.5%	6.2%	NP_776623.5	N -> K	793	3	2379	3	Substitution
SNP (transition)	108839059	G -> A	4.1E-275	57.0%	75.2%	5.2%	NP_776623.5	E -> K	799	3	2395	1	Substitution
SNP (transition)	108839062	G -> A	2.9E-284	56.4%	81.0%	6.6%	NP_776623.5	D -> N	800	3	2398	1	Substitution

SNP (transversion)	108839075	G -> C	8.6E-273	60.4%	88.0%	6.1%	NP_776623.5	G -> A	804	3	2411	2	Substitution
SNP (transversion)	108839076	G -> C	0.0	58.1%	71.6%	10.8%	NP_776623.5		804	3	2412	3	None
SNP (transversion)	108839125	C -> A	0.0	58.3%	67.1%	8.8%	NP_776623.5	P -> T	821	3	2461	1	Substitution
SNP (transversion)	108839144	C -> A	7.6E-322	57.1%	83.7%	7.0%	NP_776623.5	T -> K	827	3	2480	2	Substitution
SNP (transversion)	108839159	C -> A	1.7E-271	50.7%	86.9%	6.0%	NP_776623.5	T -> N	832	3	2495	2	Substitution
SNP (transversion)	108839163	C -> A	2.3E-273	55.1%	77.3%	5.4%	NP_776623.5	N -> K	833	3	2499	3	Substitution
SNP (transition)	108839182	T -> C	4.1E-271	51.0%	83.4%	5.9%	NP_776623.5	S -> P	840	3	2518	1	Substitution
SNP (transversion)	108839185	A -> C	7.9E-307	50.1%	83.9%	6.8%	NP_776623.5	T -> P	841	3	2521	1	Substitution
SNP (transition)	108839197	G -> A	1.1E-295	58.6%	80.7%	6.7%							
SNP (transition)	108839202	C -> T	1.8E-315	63.7%	88.4%	6.9%							
SNP (transition)	108839204	C -> T	0.0	57.4%	71.0%	7.7%							
SNP (transition)	108839219	C -> T	8.3E-297	52.3%	84.8%	6.7%							
SNP (transition)	108839223	G -> A	0.0	60.5%	84.8%	8.0%							
SNP (transversion)	108839238	T -> G	3.7E-289	53.7%	86.9%	6.6%							
SNP (transversion)	108839260	C -> G	0.0	63.5%	77.8%	9.3%							
SNP (transversion)	108839263	C -> A	0.0	57.6%	77.5%	7.6%							
SNP (transversion)	108839266	G -> T	6.9E-304	66.2%	82.5%	6.8%							

SNP (transversion)	108839269	C -> A	8.5E-299	53.2%	86.8%	6.7%							
SNP (transversion)	108839270	C -> A	4.7E-309	52.9%	76.3%	6.9%							
SNP (transversion)	108839291	G -> T	3.9E-272	61.9%	80.9%	6.4%							
SNP (transversion)	108839302	G -> T	3.6E-284	58.5%	79.0%	6.6%							

10.3Kompletní přehled nalezených SNP v bovinním genu MyD88

Polymorphism Type	Original sequence	Coverage	Change	Variant P-Value approx.	Strand-Bias	Ref. Freq.	Ref. Nucleotide	Amino Acid Change	CDS Position	Codon Change	Protein Effect	Variant Freq.	Variant Raw Freq.	Protein id
SNP (transversion)	11647703	1452	C->G	0	57.3%	57.3%	C					38.8%	564	
SNP (transition)	11647731	5976	C -> T	1.5E-265	55.9%	78.8%	C					8.1%	485	
SNP (transition)	11647731	5976	C -> T	1.5E-265	55.9%	78.8%	C					8.1%	485	
SNP (transversion)	11647736	5983	G -> T	1.6E-322	55.5%	69.8%	G					9.1%	544	
Insertion (tandem repeat)	11647756	5995	(A)2 -> (A)3	2.6E-203	60.4%							7.0%	417	
SNP (transversion)	11647770	6001	G -> T	2.1E-292	59.1%	87.2%	G					8.6%	514	
Insertion	11647807	6023	+A	1.5E-209	69.2%							7.1%	425	
SNP (transition)	11647826	6043	G -> A	3.1E-222	62.3%	84.7%	G					7.3%	440	
SNP (transversion)	11647829	6045	C -> A	1.8E-237	58.6%	85.7%	C					7.6%	457	
SNP (transversion)	11647864	6095	G -> T	1.0E-238	53.3%	84.1%	G					7.5%	460	
SNP	11647930	6183	G -> C	1.4E-251	57.4%	71.1%	G					7.7%	477	

(transversion)														
SNP (transversion)	11647933	6194	C -> A	2.0E-249	52.2%	84.6%	C					7.7%	475	
SNP (transversion)	11647950	6237	T -> G	4.7E-274	53.7%	82.4%	T					8.1%	503	
Deletion (tandem repeat)	11647954	6251	(G)4 -> (G)3	1.2E-294	56.0%		G					26.3%	1647	
SNP (transversion)	11647956	6256	C -> G	1.2E-246	55.5%	74.9%	C					7.6%	474	
SNP (transversion)	11647978	6307	G -> T	1.3E-274	51.2%	73.0%	G					8.0%	506	
SNP (transition)	11647983	6314	G -> A	5.8E-220	56.3%	85.2%	G					7.1%	446	
SNP (transversion)	11647994	6327	C -> A	5.2E-204	58.6%	85.5%	C					6.8%	428	
SNP (transversion)	11647999	6331	G -> T	1.6E-253	50.0%	79.5%	G					7.6%	484	
SNP (transition)	11648002	6332	G -> A	1.6E-264	50.2%	70.1%	G					7.8%	496	
SNP (transversion)	11648010	6331	C -> A	1.2E-211	52.4%	80.5%	C					6.9%	437	
SNP (transversion)	11648012	6332	C -> A	1.8E-219	52.9%	84.8%	C					7.0%	446	
SNP (transition)	11648027	6356	C -> T	5.7E-205	56.3%	72.9%	C					6.8%	430	
SNP (transversion)	11648044	6385	C -> A	5.8E-244	55.4%	75.3%	C	Q -> K	604	CAA -> AAA	Substitution	7.3%	465	XP_005222436.1
SNP	11648044	6385	C -> A	5.8E-244	55.4%	75.3%	C	Q -> K	340	CAA -	Substitution	7.3%	465	NP_0010

(transversion)										> AAA				14404.1
SNP (transversion)	11648053	6388	A -> T	3.3E-216	53.4%	82.8%	A	I -> F	613	ATT -> TTT	Substitution	7.0%	444	XP_005222436.1
SNP (transversion)	11648053	6388	A -> T	3.3E-216	53.4%	82.8%	A	I -> F	349	ATT -> TTT	Substitution	7.0%	444	NP_001014404.1
SNP (transition)	11648056	6392	C -> T	6.5E-232	51.1%	83.2%	C		616	CTG -> TTG	None	7.2%	462	XP_005222436.1
SNP (transition)	11648056	6392	C -> T	6.5E-232	51.1%	83.2%	C		352	CTG -> TTG	None	7.2%	462	NP_001014404.1
SNP (transition)	11648071	6401	G->A	6.3E-282	52.6%	79.5%	G	E->K	631	GAG->AAG	Substitution	8.1%	517	
SNP (transition)	11648124	6521	G -> A	4.2E-278	54.0%	74.9%	G		684	CGG -> CGA	None	7.9%	517	XP_005222436.1
SNP (transition)	11648124	6521	G -> A	4.2E-278	54.0%	74.9%	G		420	CGG -> CGA	None	7.9%	517	NP_001014404.1
SNP (transversion)	11648148	6530	C -> A	6.7E-206	51.4%	78.6%	C		708	ACC -> ACA	None	6.7%	435	XP_005222436.1
SNP (transversion)	11648148	6530	C -> A	6.7E-206	51.4%	78.6%	C		444	ACC -> ACA	None	6.7%	435	NP_001014404.1
SNP (transversion)	11648160	6531	C -> A	1.1E-316	58.6%	73.0%	C	D -> E	720	GAC -> GAA	Substitution	8.5%	558	XP_005222436.1
SNP (transversion)	11648160	6531	C -> A	1.1E-316	58.6%	73.0%	C	D -> E	456	GAC -> GAA	Substitution	8.5%	558	NP_001014404.1
SNP (transition)	11648164	6534	G->A	4.3E-208	52.2%	85.5%	G	G->S	727	GGT->AGT	Substitution	5.8%	380	
SNP (transversion)	11648168	6533	G -> T	2.6E-270	51.9%	76.7%	G					7.8%	509	
SNP (transition)	11648173	6531	G -> A	2.1E-225	59.9%	85.9%	G					7.0%	459	

SNP (transition)	11648189	6531	T -> C	1.5E-320	50.5%	83.6%	T					8.6%	562	
SNP (transition)	11648190	6532	C -> T	1.3E-238	59.1%	83.9%	C					7.3%	474	
SNP (transversion)	11648194	6531	G -> C	1.2E-317	51.3%	69.0%	G					8.6%	559	
SNP (transversion)	11648196	6533	C -> A	7.1E-310	55.0%	76.3%	C					8.4%	551	
SNP (transversion)	11648199	6535	A -> T	7.1E-209	66.4%	81.7%	A					6.7%	440	
SNP (transition)	11648200	6534	G -> A	3.1E-233	54.9%	84.6%	G					7.2%	468	
SNP (transition)	11648201	6534	G -> A	1.9E-239	59.4%	75.7%	G					7.3%	475	
SNP (transversion)	11648203	6535	C -> A	1.8E-247	57.0%	81.1%	C					7.4%	484	
SNP (transversion)	11648207	6535	G -> T	3.5E-271	62.9%	84.6%	G					7.8%	510	
SNP (transversion)	11648209	6536	G -> T	1.4E-255	61.3%	84.8%	G					7.5%	493	
SNP (transversion)	11648211	6537	T -> G	3.6E-201	57.3%	85.0%	T					6.6%	431	
SNP (transversion)	11648212	6537	G -> T	4.0E-226	55.7%	80.9%	G					7.0%	460	
SNP (transition)	11648216	6540	A -> G	4.5E-233	56.8%	80.1%	A					7.2%	468	
SNP (transition)	11648217	6541	G -> A	6.4E-202	57.6%	85.1%	G					6.6%	432	
SNP	11648231	6548	G -> A	8.5E-250	56.9%	74.2%	G					7.4%	487	

(transition)														
SNP (transversion)	11648242	6550	G -> T	3.3E-216	53.0%	68.0%	G					6.9%	449	
SNP (transversion)	11648246	6551	T -> G	9.7E-213	54.8%	85.3%	T					6.8%	445	
SNP (transversion)	11648251	6552	G -> T	5.7E-267	53.2%	83.4%	G					7.7%	506	
SNP (transversion)	11648253	6554	G -> C	4.5E-265	58.3%	73.0%	G					7.7%	504	
SNP (transition)	11648285	6574	C -> T	1.9E-216	52.9%	84.6%	C					6.8%	450	
SNP (transversion)	11648293	6583	A -> C	1.8E-251	56.5%	76.7%	A					7.4%	490	
SNP (transversion)	11648299	6601	A -> T	9.4E-274	55.3%	82.0%	A					7.8%	515	
SNP (transversion)	11648302	6616	A -> T	1.1E-240	54.3%	81.8%	A					7.2%	479	
SNP (transversion)	11648303	6624	T -> A	2.7E-220	55.9%	83.7%	T					6.9%	456	
SNP (transversion)	11648312	11151	A -> C	2.6E-253	58.3%	88.7%	A					5.6%	626	
SNP (transversion)	11648314	11249	C -> A	6.5E-289	52.5%	85.9%	C					6.0%	674	
SNP (transition)	11648344	11389	T -> C	3.0E-269	62.9%	87.2%	T					5.7%	653	
SNP (transversion)	11648352	11389	A -> C	1.4E-271	50.9%	87.3%	A					5.8%	656	
SNP (transversion)	11648355	11384	G -> C	6.7E-286	59.2%	81.5%	G					5.9%	674	

SNP (transversion)	11648372	11182	C -> G	1.3E-208	52.2%	86.9%	C					5.1%	567	
SNP (transversion)	11648375	9240	G -> T	3.2E-263	56.6%	77.1%	G					6.3%	585	
SNP (transversion)	11648395	6148	G -> T	2.9E-227	54.1%	77.5%	G					7.3%	449	
Deletion (tandem repeat)	11648460	6125	(C)4 -> (C)3	2.5E-227	53.5%		C					24.3%	1487	
SNP (transition)	11648464	6125	C -> T	1.4E-201	53.5%	72.2%	C					6.8%	419	
SNP (transition)	11648472	6123	A -> G	3.2E-204	60.9%	75.1%	A					6.9%	422	
SNP (transversion)	11648488	6123	C -> A	1.5E-208	52.5%	65.6%	C					7.0%	427	
Deletion (tandem repeat)	11648488	6123	(C)3 -> (C)2	2.3E-235	54.7%		C					24.6%	1504	
SNP (transversion)	11648503	6122	C -> A	3.2E-226	56.8%	70.1%	C					7.3%	447	
SNP (transversion)	11648507	6121	G -> C	9.4E-259	57.5%	71.2%	G		465	GGG -> GGC	None	7.8%	478	NP_001014404.1
SNP (transversion)	11648657	6018	G -> T	2.1E-210	51.1%	73.5%	G	W -> C	615	TGG -> TGT	Substitution	6.9%	418	NP_001014404.1
SNP (transversion)	11648712	5998	T -> G	1.3E-200	57.7%	78.2%	T					6.9%	414	
SNP (transversion)	11648735	5993	C -> A	7.0E-267	50.9%	69.5%	C					8.1%	487	
SNP	11648758	5997	T -> C	1.7E-208	56.0%	76.5%	T					7.1%	423	

(transition)														
Deletion	11648762	5996	-G	8.5E-212	56.3%		G					23.9%	1432	
SNP (transversion)	11648764	5996	C -> G	1.3E-254	55.7%	78.7%	C					7.9%	474	
SNP (transversion)	11648765	5996	C -> G	8.4E-214	52.7%	74.4%	C					7.2%	429	
SNP (transition)	11648797	5992	T -> C	8.5E-232	59.9%	75.2%	T					7.5%	449	
SNP (transversion)	11648800	5991	C -> A	2.7E-313	52.7%	62.1%	C					8.9%	535	
Deletion (tandem repeat)	11648800	5991	(C)3 -> (C)2	3.0E-282	53.6%		C					26.3%	1578	
SNP (transition)	11648812	5988	C -> T	1.4E-217	55.2%	59.3%	C					7.2%	433	
SNP (transversion)	11648845	5985	A -> C	4.5E-207	57.5%	75.7%	A					7.0%	421	
Deletion (tandem repeat)	11648853	5990	(C)4 -> (C)3	2.7E-299	58.7%		C					26.9%	1611	
Deletion (tandem repeat)	11648966	6009	(C)3 -> (C)2	3.1E-228	57.3%		C					24.5%	1470	
SNP (transversion)	11648988	6009	G -> C	1.5E-321	55.9%	69.3%	G					9.1%	544	
Deletion (tandem repeat)	11649009	6010	(C)3 -> (C)2	2.3E-232	59.7%		C					24.6%	1479	
SNP	11649039	6012	G -> A	2.2E-264	54.4%	65.9%	G					8.1%	485	

(transition)														
Deletion (tandem repeat)	11649039	6012	(G)3 -> (G)2	8.6E-214	55.6%		G					23.9%	1439	
SNP (transition)	11649087	6026	C -> T	8.5E-231	58.6%	70.9%	C					7.5%	449	
SNP (transversion)	11649092	6026	G -> T	4.4E-205	56.2%	80.4%	G					7.0%	420	
Deletion	11649095	6027	-T	2.9E-222	53.1%		T					24.2%	1460	
Insertion	11649096	6026	+G	4.3E-212	67.1%							7.1%	428	
Deletion (tandem repeat)	11649126	6135	(G)3 -> (G)2	1.6E-208	52.2%		G					23.6%	1447	
Deletion (tandem repeat)	11649146	6169	(C)4 -> (C)3	1.5E-283	52.7%		C					26.1%	1611	
Deletion (tandem repeat)	11649204	6223	(C)5 -> (C)4	3.9E-252	57.6%		C					25.0%	1556	
SNP (transition)	11649206	6224	T -> C	6.5E-268	51.4%	79.1%	T					8.0%	496	
SNP (transversion)	11649243	6231	C -> A	5.7E-264	53.0%	58.6%	C		762	CCC -> CCA	None	7.9%	492	NP_001014404.1
SNP (transversion)	11649252	6242	C -> A	6.6E-239	58.9%	76.5%	C		771		Truncation	7.4%	465	NP_001014404.1
SNP (transition)	11649264	8015	G -> A	5.5E-245	51.1%	84.3%	G		783	AAG -> AAA	None	5.8%	468	NP_001014404.1
SNP (transversion)	11649302	8253	G -> T	2.3E-211	57.8%	85.6%	G	C -> F	821	TGT -> TTT	Substitution	6.0%	493	NP_001014404.1

SNP (transition)	11649318	8249	C -> T	6.7E-231	52.8%	70.4%	C		837	CCC -> CCT	None	6.3%	517	NP_001014404.1
SNP (transversion)	11649333	8238	G -> T	1.1E-316	52.4%	76.5%	G	W -> C	852	TGG -> TGT	Substitution	7.5%	616	NP_001014404.1
SNP (transition)	11649336	8236	C -> T	3.7E-296	54.3%	82.7%	C		855	TTC -> TTT	None	7.2%	593	NP_001014404.1
SNP (transition)	11649353	8194	A -> G	7.4E-200	55.8%	81.7%	A	K -> R	872	AAG -> AGG	Substitution	5.4%	445	NP_001014404.1
SNP (transversion)	11649355	8187	G -> C	3.1E-255	62.0%	77.7%	G	A -> P	874	GCC -> CCC	Substitution	6.4%	525	NP_001014404.1
Insertion (tandem repeat)	11649374	6841	(A)2 -> (A)3	7.7E-315	53.4%							8.3%	567	
SNP (transversion)	11649375	3531	T -> A	2.1E-252	53.2%	71.2%	T					10.8%	380	
SNP (transition)	11649386	3160	C -> T	5.7E-238	51.0%	66.8%	C					11.1%	351	
SNP (transversion)	11649388	3153	G -> T	4.8E-222	55.4%	76.2%	G					10.7%	336	
SNP (transition)	11649390	3150	G -> A	9.9E-242	52.8%	65.5%	G					11.2%	354	
SNP (transition)	11649418	3293	C -> T	1.9E-239	50.0%	74.7%	C					10.9%	358	
SNP (transition)	11649434	3292	C -> T	3.2E-220	52.4%	67.4%	C					10.3%	340	
SNP (transversion)	11649437	3293	C -> A	1.1E-313	54.7%	70.0%	C					12.9%	424	
SNP (transversion)	11649445	3298	G -> T	3.8E-200	52.3%	72.8%	G					9.7%	321	

SNP (transversion)	11649448	3299	G -> T	3.6E-202	55.1%	76.2%	G					9.8%	323	
SNP (transition)	11649455	3296	G -> A	7.3E-277	52.6%	62.1%	G					11.9%	392	
SNP (transition)	11649458	3293	C -> T	4.6E-218	58.0%	75.1%	C					10.3%	338	
SNP (transversion)	11649470	3284	G -> T	9.7E-202	59.0%	76.9%	G					9.8%	322	
SNP (transition)	11649493	3261	C -> T	9.7E-239	55.1%	69.2%	C					10.9%	356	
SNP (transversion)	11649521	3248	G -> T	3.9E-201	56.6%	70.4%	G					9.9%	320	
SNP (transition)	11649557	3226	G -> A	5.0E-202	53.8%	76.7%	G					9.9%	320	
SNP (transversion)	11649560	3232	C -> A	2.3E-264	54.2%	73.7%	C					11.7%	378	
SNP (transversion)	11649573	3234	C -> G	8.0E-205	54.5%	62.9%	C					10.0%	323	
SNP (transversion)	11649600	3277	T->A	3,00E-263	55.9%	69.4%	T					11.6%	379	
SNP (transversion)	11649766	1087	G->C	1.1E-276	50.2%	20.1%	G					24.6%	267	
SNP (transition)	11649800	3843	G -> A	1.5E-282	58.2%	63.4%	G					11.0%	421	
SNP (transversion)	11649801	3850	A -> C	1.8E-229	59.8%	72.9%	A					9.6%	371	
SNP (transversion)	11649803	3856	C -> A	1.4E-289	57.7%	72.2%	C					11.1%	428	
Insertion	11649924	4712	+C	1.5E-207	58.4%							8.1%	380	

SNP (transition)	11649933	4754	C -> T	8.5E-213	57.1%	71.4%	C					8.1%	387	
SNP (transition)	11649973	4905	A -> G	1.5E-306	57.3%	70.7%	A					9.9%	487	
SNP (transition)	11649986	4923	C -> T	9.1E-236	57.3%	75.0%	C					8.5%	417	
SNP (transition)	11649994	4930	T -> C	2.6E-299	57.2%	71.0%	T					9.8%	481	
SNP (transversion)	11650087	5216	T -> G	2.2E-222	57.1%	68.2%	T					7.9%	413	
SNP (transition)	11650100	5524	T->C	8.5E-255	51,00 %	68.5%	T					9.5%	527	
SNP (transversion)	11650100	5524	T->A	8.5E-255	52.8%	68.5%	T					8.3%	458	
SNP (transversion)	11650102	5652	A -> C	2.0E-275	50.8%	66.1%	A					8.6%	484	
SNP (transition)	11650104	6348	G -> A	1.9E-271	51.2%	68.0%	G					7.9%	504	
SNP (transversion)	11650134	27623	G -> T	0.0	65.4%	86.0%	G					6.9%	1916	
SNP (transversion)	11650214	27818	T -> A	0.0	68.8%	83.4%	T					6.1%	1694	
SNP (transition)	11650493	24265	G -> A	0.0	65.9%	83.2%	G					7.0%	1704	
Deletion (tandem repeat)	11650555	24326	(A)4 -> (A)3	1.8E-200	52.6%		A					19.4%	4730	
SNP (transversion)	11650657	24476	G -> T	0.0	67.1%	88.4%	G					5.6%	1381	

Deletion (tandem repeat)	11650711	24550	(A)4 -> (A)3	1.5E-219	56.9%		A					19.8%	4849	
Deletion	11650738	24732	-C	3.3E-209	59.1%		C					19.5%	4833	
Deletion (tandem repeat)	11650770	24463	(C)3 -> (C)2	3.4E-313	57.6%		C					18.0%	4395	
SNP (transversion)	11650796	24523	C -> G	0.0	66.6%	89.1%	C					6.1%	1508	
SNP (transition)	11650884	24571	G -> A	0.0	65.0%	84.6%	G					10.4%	2559	

10.4Zdrojový Kód makra určeného pro porovnání SNP s databázemi

```
Sub comm1_Kliknutí()
Dim i As Long
Dim j As Long
Dim srcNum As Long
Dim lowerNum As Long
Dim upperNum As Long
Dim source As String
Dim target As String
Dim matchFound As Boolean

j = 3
With ActiveSheet
   Do While .Cells(j, 15) <> Empty
      If IsNumeric(.Cells(j, 15)) = False Then
         i = 3
         srcNum = .Cells(j, 9)
         lowerNum = srcNum - 10
         upperNum = srcNum + 10
         matchFound = False
         Do While .Cells(i, 26) <> Empty
            If .Cells(i, 26) > lowerNum And .Cells(i, 26) < upperNum Then
               .Cells(j, 16) = "Match found in range"
               matchFound = True
               Exit Do
            End If
            i = i + 1
         Loop
         If matchFound = False Then .Cells(j, 16) = "No match found in range"
      Else
         .Cells(j, 16) = "Skipped"
      End If
      j = j + 1
   Loop

End With
End Sub
```

10.5 MyD88 SNP shodná s databázemi

Nalezeno					Databáze Ensembl					Databáze EBI (NCBI)		
Original seq.	Change	Ref. Freq.	Ref. Nucl.	Variant Freq.	Variant ID	Location	Allele	Conseq. Type	Transcript	Sequence Name	Name	Min (with gaps)
11647760	G -> C	73.4%	G	16.7%	rs209121238	22:11647760	G/C	intron variant	ENSBTAT00000000735.3	209121238	C/G	11647760
11647865	T -> G	83.1%	T	10.6%	rs466090792	22:11647865	T/G	intron variant	ENSBTAT00000000735.3	466090792	G/T	11647865
11647950	T -> G	82.4%	T	8.1%	rs437446976	22:11647950	T/A/G	intron variant	ENSBTAT00000048711.3			
11648342	C -> G	72.1%	C	16.5%	rs210275212	22:11648342	C/G	intron variant	ENSBTAT00000000735.3	210275212	C/G	11648342
11648376	T -> G	69.6%	T	12.5%	rs464864628	22:11648376	T/G	intron variant	ENSBTAT00000000735.3	464864628	G/T	11648376
11648472	A -> G	75.1%	A	6.9%	rs454563424	22:11648472	A/G	intron variant	ENSBTAT00000000735.3	454563424	A/G	11648472
11649096	A -> G	4.2%	A	51.9%	rs41995876	22:11649096	A/G	intron variant	ENSBTAT00000000735.3	41995876	A/G	11649096
11649252	C -> A	76.5%	C	7.4%	rs452633714	22:11649252	C/A	stop gained	ENSBTAT00000048711.3	452633714	A/C	11649252
11649808	T -> C	8.4%	T	55.1%	rs41995877	22:11649808	T/C	3 prime UTR variant	ENSBTAT00000000735.3	41995877	C/T	11649808
11649846	C -> A	68.7%	C	10.0%	rs480396738	22:11649846	C/A	3 prime UTR variant	ENSBTAT00000048711.3	480396738	A/C	11649846
11649849	A -> C	73.9%	A	8.7%	rs448935538	22:11649849	A/C	3 prime	ENSBTAT00000000073	448935538	A/C	11649849

								UTR variant	5.3			
11649909	C -> T	66.3%	C	9.7%	rs445176939	22:11649909	C/T	3 prime UTR variant	ENSBTAT0000004871 1.3	445176939	C/T	11649909
11649920	T -> C	71.1%	T	8.0%	rs475739510	22:11649920	T/C	3 prime UTR variant	ENSBTAT0000000073 5.3	475739510	C/T	11649920
11649925	G -> T	69.4%	G	8.9%	rs465289412	22:11649925	G/T	3 prime UTR variant	ENSBTAT0000000073 5.3	465289412	G/T	11649925
11649927	A -> T	69.3%	A	9.4%	rs433946047	22:11649927	A/T	3 prime UTR variant	ENSBTAT0000004871 1.3	433946047	A/T	11649927
11649929	C -> A	66.2%	C	8.7%	rs454162821	22:11649929	C/A	3 prime UTR variant	ENSBTAT0000000073 5.3	454162821	A/C	11649929
11649936	C -> T	69.5%	C	9.2%	rs474303568	22:11649936	C/T	3 prime UTR variant	ENSBTAT0000004871 1.3	474303568	C/T	11649936
11649949	T -> A	70.3%	T	8.8%	rs436503691	22:11649949	T/A	3 prime UTR variant	ENSBTAT0000000073 5.3	436503691	A/T	11649949
11649957	G -> A	68.8%	G	9.3%	rs457659673	22:11647959	G/A	intron variant	ENSBTAT0000004871 1.3			
11649971	T -> C	67.2%	T	9.4%	rs456645115	22:11649971	T/C	3 prime UTR variant	ENSBTAT0000000073 5.3	456645115	C/T	11649971
11649974	G -> A	69.4%	G	9.4%	rs720211262	22:11649974	G/A	3 prime UTR	ENSBTAT0000000073 5.3	720211262	A/G	11649974

								variant				
11649984	T -> G	71.7%	T	10.1%	rs476863926	22:11649984	T/G	3 prime UTR variant	ENSBTAT0000000073 5.3			
11650003	C -> T	72.1%	C	8.0%	rs723432386	22:11650003	C/T	3 prime UTR variant	ENSBTAT0000000073 5.3	723432386	C/T	11650003
11650004	G -> A	68.5%	G	9.0%	rs207889218	22:11650004	G/A	3 prime UTR variant	ENSBTAT0000004871 1.3	207889218	A/G	11650004
11650011	G -> A	72.0%	G	8.6%	rs482128059	22:11650011	G/A	3 prime UTR variant	ENSBTAT0000004871 1.3	482128059	A/G	11650011
11650044	G -> T	66.3%	G	12.7%	rs459065663	22:11650044	G/T	3 prime UTR variant	ENSBTAT0000000073 5.3	459065663	G/T	11650044
11650050	C -> T	68.2%	C	12.3%	rs472748468	22:11650050	C/T	3 prime UTR variant	ENSBTAT0000000073 5.3			
11650053	T -> C	71.4%	T	8.5%	rs439960073	22:11650053	T/C	3 prime UTR variant	ENSBTAT0000004871 1.3	439960073	C/T	11650053
11650065	T -> C	66.9%	T	9.4%	rs459980263	22:11650065	T/C	3 prime UTR variant	ENSBTAT0000000073 5.3	459980263	C/T	11650065
11650070	A -> G	63.0%	A	15.8%	rs207793357	22:11650070	A/G	3 prime UTR variant	ENSBTAT0000000073 5.3	207793357	A/G	11650070
11650071	A -> T	66.3%	A	10.6%	rs448984629	22:11650071	A/T	3 prime	ENSBTAT0000000073	448984629	A/T	11650071

								UTR variant	5.3			
11650073	A -> C	66.4%	A	10.7%	rs462695437	22:11650073	A/C	3 prime UTR variant	ENSBTAT0000000073 5.3	516728422	-/A	11650075
11650077	G -> A	62.5%	G	9.9%	rs797751095	22:11650077	G/A	3 prime UTR variant	ENSBTAT0000004871 1.3	797751095	A/G	11650077
11650079	G -> C	61.9%	G	11.5%	rs482847699	22:11650079	G/C	3 prime UTR variant	ENSBTAT0000000073 5.3			
11650083	G -> A	64.7%	G	9.8%	rs720997041	22:11650083	G/A	3 prime UTR variant	ENSBTAT0000004871 1.3	720997041	A/G	11650083
11650123	G -> T	76.6%	G	7.9%	rs465252477	22:11650117	G/T	3 prime UTR variant	ENSBTAT0000000073 5.3	465252477	G/T	11650117
11650135	G -> T	80.5%	G	7.4%	rs467809979	22:11650145	G/T	3 prime UTR variant	ENSBTAT0000000073 5.3			
11650224	G -> T	87.0%	G	7.5%	rs801315938	22:11650224	G/T	3 prime UTR variant	ENSBTAT0000000073 5.3			
11650287	C -> A	85.7%	C	6.7%	rs453604810	22:11650287	C/A	3 prime UTR variant	ENSBTAT0000000073 5.3			
11650320	A -> C	88.2%	A	5.7%	rs482825987	22:11650320	A/C	3 prime UTR variant	ENSBTAT0000000073 5.3	482825987	A/C	11650323

11650329	G -> T	87.5%	G	5.6%	rs478874178	22:11650329	G/T	3 prime UTR variant	ENSBTAT0000000735.3			
11650391	A -> C	85.1%	A	5.1%	rs455201466	22:11650391	A/C	3 prime UTR variant	ENSBTAT0000000735.3			
11650582	A -> T	67.2%	A	18.9%	rs41995878	22:11650582	A/T	3 prime UTR variant	ENSBTAT0000000735.3			
11650622	G -> T	81.0%	G	9.4%	rs450481466	22:11650613	G/T	3 prime UTR variant	ENSBTAT0000000735.3	450481466	G/T	11650616
11650776	G -> T	56.5%	G	7.2%	rs450021855	22:11650776	G/T	3 prime UTR variant	ENSBTAT0000000735.3			
11650849	T -> C	44.9%	T	37.6%	rs110635598	22:11650849	T/C	3 prime UTR variant	ENSBTAT0000000735.3			
11650856	G -> T	87.1%	G	5.7%	rs452767825	22:11650856	G/T	3 prime UTR variant	ENSBTAT0000000735.3			
11650885	G -> T	81.0%	G	7.0%	rs477186415	22:11650885	G/T	3 prime UTR variant	ENSBTAT0000000735.3			
11650896	A -> C	77.0%	A	5.4%	rs459671668	22:11650896	A/C/T	3 prime UTR variant	ENSBTAT0000000735.3			
11650920	G -> A	86.0%	G	5.9%	rs468757959	22:11650920	G/A	3 prime UTR variant	ENSBTAT0000000735.3			

11650928	A -> G	89.3%	A	5.4%	rs451073467	22:11650928	A/G	3 prime UTR variant	ENSBTAT00000000735.3			
11650936	G -> A	84.9%	G	6.6%	rs464896954	22:11650929	G/A	3 prime UTR variant	ENSBTAT00000000735.3			
11650945	C -> T	82.8%	C	6.0%	rs472243998	22:11650945	C/T	3 prime UTR variant	ENSBTAT00000000735.3	472243998	C/T	11650948
11649809	G -> C	78.5%	G	10.2%						1117912970	C/G	11649809
11650041	C -> T	61.2%	C	8.2%						472748468	C/T	11650050
11650084	A -> C	64.9%	A	11.9%						462695437	A/C	11650073
11650109	G -> T	85.5%	G	10.2%						445085205	G/T	11650107
11650121	A -> T	84.0%	A	5.1%						433909180	A/T	11650124
11650227	G -> T	89.5%	G	5.4%						801315938	G/T	11650227
11650241	G -> A	87.4%	G	5.8%						452638452	A/G	11650241
11650294	A -> C	89.7%	A	5.0%						453604810	A/C	11650290
11650318	A -> C	86.1%	A	5.2%						462631367	A/C	11650317
11650323	T -> A	85.7%	T	5.3%						458733106	A/T	11650327
11650376	C -> T	70.5%	C	7.9%						470296070	C/G/T	11650366
11650435	C -> T	84.6%	C	5.7%						456111975	C/T	11650433
11650549	A -> G	84.9%	A	5.8%						526823783	A/G	11650544
11650737	C -> G	87.3%	C	5.0%						715058776	C/G	11650746
11650833	A -> G	83.6%	A	5.1%						437485853	A/G	11650825
11650835	G -> T	79.3%	G	6.6%						468977182	G/T	11650832
11650874	A -> T	82.0%	A	5.6%						461108283	A/C/G/	11650874

											T	
11650879	A -> C	87.9%	A	6.8%						443514756	A/C	11650881
11650904	C -> T	82.6%	C	6.7%						479761793	C/T	11650902
11650904	(T)3 -> (T)4			5.8%						522437266	-/T	11650902

10.6Zdrojový Kód používaný pro úpravu nukleotidů při určování haplotypů

```
Const inCol As Integer = 1 'input string
Const outCol As Integer = 2 'output string
Const out2Col As Integer = 4 'second output string, no position ignored
Const notesCol As Integer = 3 'column for notes
Const def1Col As Integer = 6
Const def2Col As Integer = 7
Const alt1Col As Integer = 8
Const ignoreCol As Integer = 9
Const refRow As Integer = 3
Const inRow As Integer = 3

Private Sub CommCorr_Click()
Dim refLen As Integer
Dim inLen As Integer
Dim i As Long
Dim j As Long
Dim inSeq As String
Dim outSeq As String
Dim outSeq2 As String
Dim ignore As Boolean
Dim flag As Boolean
Dim inCounter As Long 'counter of input strings
Dim def1Arr() As String
Dim def2Arr() As String
Dim alt1Arr() As String
Dim ignoreArr() As Boolean
Dim chis As String  'checked character in sequence

refLen = 0
```

```
i = 0
With ActiveSheet
   'count length of reference values:
   Do While .Cells(refRow + i, def1Col) <> Empty Or .Cells(inRow + i, ignoreCol) <>
Empty
      refLen = refLen + 1
      i = i + 1
   Loop
   i = 0

   inCounter = 0
   Do While .Cells(inRow + i, inCol) <> Empty
      inCounter = inCounter + 1
      i = i + 1
   Loop
   i = 0

   flag = False
   If CheckLen.Value = True Then 'if length check is activated
      'check if input string length matches reference:
      Do While .Cells(inRow + i, inCol) <> Empty
         .Cells(1, 1) = inRow + i & " out of " & inCounter
         DoEvents
         If Len(.Cells(inRow + i, inCol)) <> refLen Then
            .Cells(inRow + i, notesCol) = "Input string length incorrect!"
            flag = True
         Else
            .Cells(inRow + i, notesCol) = "Length correct"
         End If
         DoEvents
         i = i + 1
```

```
    Loop
  End If

  If flag Then
    MsgBox ("Incorrect length detected." & vbCrLf & "Check and correct indicated cases.")
    Exit Sub
  End If
  flag = False

  'load reference string into arrays:
  ReDim def1Arr(refLen)
  ReDim def2Arr(refLen)
  ReDim alt1Arr(refLen)
  ReDim ignoreArr(refLen)
  For i = 0 To refLen - 1
    def1Arr(i) = .Cells(refRow + i, def1Col)
    def2Arr(i) = .Cells(refRow + i, def2Col)
    alt1Arr(i) = .Cells(refRow + i, alt1Col)
    If .Cells(refRow + i, ignoreCol) <> Empty Then ignoreArr(i) = True Else ignoreArr(i) =
False
  Next i

  'compare chars of input sequence and build output:
  i = 0
  outSeq = Empty
  Do While .Cells(inRow + i, inCol) <> Empty
    .Cells(1, 1) = i + 1 & " out of " & inCounter
    DoEvents
    inSeq = .Cells(inRow + i, inCol)
    For j = 0 To refLen
      chis = Mid(inSeq, j + 1, 1)
```

```
    'first output with ignored positions:
    If chis <> def1Arr(j) And ignoreArr(j) = False Then
       If chis <> def2Arr(j) Then
          If chis <> alt1Arr(j) Then
             outSeq = outSeq & def1Arr(j)
          Else
             outSeq = outSeq & chis
          End If
       Else
          outSeq = outSeq & chis
       End If
    Else
       outSeq = outSeq & chis
    End If

    'second output, no ignored positions:
    If chis <> def1Arr(j) Then
       If chis <> def2Arr(j) Then
          If chis <> alt1Arr(j) Then
             outSeq2 = outSeq2 & def1Arr(j)
          Else
             outSeq2 = outSeq2 & chis
          End If
       Else
          outSeq2 = outSeq2 & chis
       End If
    Else
       outSeq2 = outSeq2 & chis
    End If
Next j
.Cells(inRow + i, outCol) = outSeq
```

```
        .Cells(inRow + i, out2Col) = outSeq2
        outSeq = Empty
        outSeq2 = Empty
        i = i + 1
    Loop

    ReDim def1Arr(0)
    ReDim def2Arr(0)
    ReDim alt1Arr(0)
    ReDim ignoreArr(0)

End With
End Sub
```

10.7Výsledná vyhodnocená data z genotypovacích reakcí, gen TLR1

SNP v TLR1 u býků ČESTR podle
genotypování Snapshot

Reakce v multiplexu	A1	A1	C1	C1	C2	C2
SNP (podle ref. sekv. FJ147090)	798C>T		1762G>A		2097T>C	
Označení primeru	T798R		T762R		T097R	
Počet bazí	23	23	23	23	30	30
Alela	C	T	G	A	T	C
Inkorporovaný ddNTP*	G	A	C	T	A	G
Býk číslo						
B01						
B02						
B03		T		A		C
B04						
B05	C		G	A	T	C
B06		T	G	A	T	C
B07	C					C
B08	C	T	G		T	C
B09		T		A	T	C
B10		T	G	A	T	C
B11		T	G	A	T	
B12	C		G	A	T	C
B13						
B14			G	A	T	C
B15		T	G		T	C
B16		T		A	T	C
B17	C	T	G	A	T	C
B18	C		G	A	T	
B19		T	G		T	C
B20			G	A	T	C
B21	C		G	A	T	C
B22	C	T	G	A	T	
B23	C	T	G	A	T	
B24				A	T	
B25						
B26			G	A	T	
B27		T	G	A	T	
B28			G	A	T	
B29	C	T	G	A	T	
B30		T	G	A	T	
B31		T		A	T	C
B32	C	T	G	A	T	
B33		T		A	T	
B34	C	T	G	A	T	
B35	C	T				

B36	C	T	G		T	C
B37			G	A	T	
B38						
B39		T		A	T	
B40			G	A	T	C
B42	C		G	A	T	
B43	C	T	G	A	T	
B44		T		A	T	C
B45	C		G	A	T	
B46				A		
B47	C	T	G	A	T	
B48	C	T	G	A	T	
B49						
B50						
B51						
B52			G		T	
B53			G	A	T	
B54	C		G	A	T	C
B55			G	A	T	C
B56	C	T	G	A	T	C
B57	C					
B58	C			A	T	C
B59	C	T	G		T	
B60						
B61	C		G	A	T	
B62						
B63			G	A	T	C
B64			G	A	T	
B65	C		G	A	T	C
B66			G	A	T	
B67	C	T	G	A	T	C
B68			G	A	T	C
B69	C	T	G	A	T	C
B70	C	T	G	A	T	
B71			G	A	T	C
B72				A		
B73						
B74						
B75			G	A	T	C
B76			G	A		C
B77	C		G	A	T	
B78			G	A		C
B79	C	T	G	A	T	C
B80	C	T	G	A		C
B81	C	T	G	A	T	C
B82	C		G		T	
B83	C	T	G	A	T	
B84	C	T	G		T	C
B85						

B86		T	G		T	C
B87					T	C
B88	C		G	A	T	
B89			G	A		
B90			G	A	T	
B91			G		T	C
B92						
B93	C		G	A		C
B94	C	T				
B95				A	T	C
B96	C	T				

10.8Výsledná vyhodnocená data z genotypovacích reakcí, gen TLR4

SNP v TLR14u býků ČESTR podle genotypování Snapshot

Reakce v multiplexu	D1	D1	D2	D2	D3	D3	D4	D4	D5	D5	D6	D6	E1	E1	E2	E2	E3	E3	E4	E4	E5	E5	E6	E6
SNP (podle ref. sekv. AC000135.1)	245G>C		610C>T		5087 A>G		5134 G>A		7999 A>G		8885 A>G		9422 T>C		9713 G>A		9787 C>T		9794 T>C		10307 T>C		103010 T>G	56,5
Označení primeru	T245F		T610R		T087F		T134R		T999F		T885F		T422F		T713F		T787F		T794F		T307F		T010F	
Počet bazí	25	25	30	30	35	35	40	40	45	45	50	50	25	25	30	30	35	35	40	40	45	45	50	50
Alela	G	C	C	T	A	G	G	A	A	G	A	G	T	C	G	A	C	T	T	C	T	C	T	G
Inkorporovaný ddNTP*	G	C	G	A	A	G	C	T	A	G	A	G	T	C	G	A	C	T	T	C	T	C	T	G
Býk číslo																								
B01	G	C	C		A	G	G		A					C							T			T
B02	G	C	C						A	G	A			C	G				T		T			T
B03	G		C						A	G	A			C	G				T		T			T
B04	G		C							G	A		T	C	G			T	T		T			T
B05	G	C	C						A	G	A			C	G			T	T		T			T
B06	G	C	C						A	G	A			C	G			T	T		T			
B07	G	C	C	T					A	G		G		C	G			T	T		T			T
B08	G	C	C							G				C	G			T	T		T	C		T
B09	G	C	C							G	A		T	C	G			T	T		T	C		
B10	G	C	C						A	G	A			C	G			T	T		T	C		
B11	G	C	C						A	G	A			C	G			T	T		T			T

B12	G	C	C		A	G	G		A	G	A			C	G			T	T		T	C		T
B13	G	C	C		A	G	G		A	G	A			C	G			T	T		T			T
B14	G		C		A		G			G	A			C	G			T	T		T			T
B15	G	C	C		A	G								C	G			T	T		T			T
B16	G	C	C		A	G	G		A	G	A			C	G			T	T		T			T
B17	G	C	C		A	G			A	G	A									C				
B18	G	C	C		A	G			A	G	A	G		C	G			T	T		T			T
B19	G	C	C		A	G	G		A	G	A			C	G		C	T	T		T	C	G	T
B20	G	C	C		A		G			G	A		T	C	G			T	T		T			T
B21	G	C	C		A	G	G		A	G	A			C	G		C		T		T	C	G	T
B22		C	C			G	G	A	A		A				G			T	T		T			T
B23	G	C	C		A		G			G	A			C	G			T	T		T			T
B24	G	C	C		A	G	G	A	A	G	A		T	C	G			T	T		T			T
B25	G	C	C		A	G	G		A	G	A			C	G			T	T		T			T
B26		C	C	T		G	G		A	G	A			C	G			T	T		T			T
B27	G	C	C	T	A	G	G		A	G	A			C	G			T	T		T			T
B28		C	C	T		G	G		A		A			C	G		C		T		T	C		T
B29	G	C	C		A	G	G		A	G	A			C	G		C		T		T	C		T
B30	G	C	C	T	A	G	G		A	G	A			C	G			T	T		T			T
B31	G	C	C		A	G			A	G	A			C	G			T	T		T			T
B32	G	C	C	T	A	G	G		A	G	A			C	G			T	T		T			T
B33	G	C	C	T	A		G			G	A		T	C	G			T	T		T			T
B34	G	C	C		A	G	G	A					T	C	G			T	T		T			T
B35	G	C	C	T	A		G			G	A		T	C	GO			T	T		T			T
B36		C			A	G	G	A						C	G			T	T		T			T
B37	G	C	C		A	G	G		A	G	A		T	C	G			T	T		T			T
B38	G	C	C		A		G		A	G	A	G		C	G			T	T		T			T
B39	G	C	C		A	G	G		A	G	A		T	C	G			T	T		T			T
B40		C	C			G	G		A		A			C	G			T	T		T			T
B41+B96	G	C	C	T	A		G		A	G	A		T	C	G			T	T		T			T

B42		C	C			G	G		A		A			C	G			T	T		T			T
B43	G		C		A					G			T	C	G			T	T		T			T
B44	G	C			A	G	G	A						C	G			T	T		T			T
B45	G	C	C	T	A		G		A	G	A		T	C	G			T	T		T			T
B46		C	C			G	G	A	A		A		T	C	G		C		T		T	C		T
B47	G		C	T	A		G	A		G	A			C	G				T		T			T
B48	G		C		A	G	G	A		G	A		T	C	G			T	T		T			T
B49	G	C	C		A	G	G				A			C	G			T	T		T			T
B50	G	C	C	T	A	G	G		A	G	A			C	G			T	T		T			T
B51	G	C	C		A	G	G		A	G	A			C	G			T	T		T			T
B52	G	C	C	T	A	G	G	A	A	G	A			C	G			T	T		T			T
B53	G	C			A	G	G	A						C	G				T		T			T
B54	G	C	C		A	G	G		A	G	A		T	C	G		C	T	T		T	C		T
B55	G	C	C	T	A		G			G	A		T	C	G				T		T			T
B56	G	C	C	T		G	G		A		A		T	C										
B57	G	C	C		A		G		A	G	A			C	G				T		T			T
B58		C	C	T		G	G		A		A			C	G			T	T		T			
B59	G	C	C		A		G		A	G	A		T	C	G			T	T		T			T
B60	G	C	C		A	G	G		A	G	A		T	C	G		C	T	T		T	C		T
B61	G	C			A	G	G																	
B62	G				A		G							C	G			T	T		T			T
B63	G	C	C		A		G						T	C	G			T	T		T			T
B64	G	C	C		A		G		A	G	A		T	C	G			T	T		T			T
B65	G	C	C		A		G			G	A		T	C	G			T	T		T			T
B66	G	C	C		A	G	G		A	G	A			C	G			T	T		T			T
B67	G	C	C	T	A	G	G		A	G				C	G			T	T		T			T
B68	G	C	C		A	G	G		A	G	A		T	C	G			T	T		T			T
B69	G	C	C		A		G			G			T	C	G			T	T		T			T
B70		C	C	T		G	G	A	A		A		T	C	G			T	T		T			T
B71		C	C			G	G		A		A		T	C	G		C		T			C	G	

B72														C	G			T	T		T			T
B73	G	C	C		A	G	G		A				T	C	G			T	T		T			T
B74	G	C	C		A		G			G	A													
B75	G	C	C		A	G	G		A	G	A		T	C	G			T	T		T			T
B76	G	C	C		A	G	G		A		A		T	C	G			T	T		T			T
B77	G	C	C	T	A	G	G		A	G	A		T	C	G			T	T		T			T
B78		C	C	T		G	G	A	A		A		T	C	G			T	T		T			T
B79	G	C	C	T	A	G	G		A	G			T	C	G			T	T		T			T
B80	G	C	C		A	G	G		A	G	A	G	T	C	G	A		T	T		T			T
B81		C	C			G	G	A	A		A		T	C	G			T	T		T			T
B82	G	C	C		A	G	G		A	G	A	G			G									
B83	G	C	C	T	A	G	G	A	A	G	A	G	T	C	G			T	T		T			T
B84													T	C	G			T	T		T			T
B85		C	C			G	G		A	G	A													
B86	G		C		A		G	A	A	G	A			C					T		T			T
B87	G	C	C		A	G	G		A	G	A		T	C	G			T	T		T			T
B88	G	C	C		A		G	A		G	A	G	T	C	G			T	T		T			T
B89													T	C	G			T	T		T			T
B90	G	C	C		A		G	A	A	G	A		T	C	G			T	T		T			T
B91	G		C							G	A		T	C	G			T	T		T	C		T
B92		C	C			G	G	A	A		A													
B93	G	C	C					A	A	G	A		T	C	G	A		T		C				
B94	G	C	C		A					G	A													
B95	G	C	C						A	G	A		T	C	G	A								
B96		C	C		A				A	G														