Author: Jelena M. Aleksic

Article: Family-specific vs. universal PCR primers for the study of mitochondrial DNA in plants

Supplementary Material Table S2. The outcomes of *in silico* PCR amplification of 14 *cis*-splicing introns in *nad* genes in six members of *Cucurbitaceae*, *Euphorbiaceae*, *Rosaceae*, and in *Arabidopsis thaliana*, with 21 *Fabaceae*-specific mtDNA PCR primer pairs

Citrullus lanatus

gene	intron	F primer	5' - 3'	Position and orientation	Com (%)	*Tm* (°C)	R primer	5' - 3'	Position and orientation	Com (%)	Tm (°C)	Fragm length	*Ta* (°C)
nad1	i 2/3	nad1e2f15	TCTAGGAGCATTACGATCTGCAG	332089 –> 332111	100	56.2	nad1e3r1649	TTCTGGGAGATCAAACGGAGC	333728 <– 333748	100	56.2	1660	63
	i 4/5	nad1e4f46	CGTCTTCAATGGGGTCTGCT	189716 <–189735	100	59.9	nad1e5r3475	GGAAAGGTGACTGAAACACCA	185948 –> 185968	95	51.7	3788	63
nad2	i 1/2	nad2e1f311	CTAATGCGGCACCGGGTTCG	336148 –> 336167	100	60.9	nad2e2r1352	TTCGGATTTGCGCGAACTAGC	337209 <– 337229	95	49.5	1082	65
	i 3/4	nad2e4f535	GGTGGGTGAACCCTCATAGA	72273 –> 72292	100	56.5	nad2e3r2138	CAATTAGCCAAGATTTTGACCG	74689 <– 74710	100	54.1	2438	61
									46115 –> 46136	82	40.4		
									238327 <– 238348	82	40.4		
									209592 <– 209613	73	23.3		
		nad2e4f754	ATCAGACGGCTGTTCCCGTA	72489 –> 72508	95	53.2	nad2e3r2665	GTACCGCTCAGATTGCGGCCAA	74520 <– 74541	95	55.2	2053	66
	i 4/5	nad2e5f172	ATCCATGTCCTAGGTGTATCA	70206 –> 70226	100	53.6	nad2e4r2260	TCTATGAGGGTTCACCCACC	72273 <– 72292	100	54.7	2087	60
nad4	i 1/2	nad4e1f52	TGTCCCGTGCTAGGAAGCAT	174417 –> 174436	100	60.3	nad4e2r2155	GGTGCCTCTACATGAGCTTCGG	176481 <– 176502	100	59.3	2086	67
	i 2/3	nad4e2f252	CCGAAGCTCATGTAGAGGCACC	176481 –> 176502	100	59.8	nad4e3r3879	CCCCGATAAAGCTGCTAGTACC	180029 <– 180050	100	58.6	3570	65
									19412 <– 19433	73	39.5		
	i 3/4	nad4e3f202	GGTACTAGCAGCTTTATCGGGG	180029 –> 180050	100	57.5	nad4e4r3198	TTTGGGGTGAACACCCATCCGA	182966 <– 182987	100	59.5	2959	65
				114997 <– 115018	77	34.1							
				23856 <– 23877	73	35.2							
									373968 <– 373989	68	18.0		
		nad4e3f202	GGTACTAGCAGCTTTATCGGGG	180029 –> 180050	100	57.5	nad4 exon4[1]	GGAACACTTTGGGGTGAACA	182975 <– 182994	100	53.2	2966	63
				114997 <– 115018	77	34.1							
				23856 <– 23877	73	35.2							
nad5	i a/b	nad5af276	ATGAAGTCGCACCGGGAGCTA	243363 –> 243383	95	52.3	nad5br2061	GGCATGAATCACCGAACCTGC	245122 <– 245142	100	59.3	1780	66
				163713 –> 163733	62	35.4							
	i d/e	nad5d125	TGCTGCTCCAACCATTACC	344930 –> 344948	100	55.7	nad5er1305	CCCTCATCCGGCTCTCTGCA	346299 <– 346318	100	59.8	1389	63
		nad5df58	CCGAGTTTGCTGCTCCAACC	344923 –> 344942	100	60.7	nad5er1192	CCTCCCTTTACCACATCATGG	346246 <– 346266	100	56.9	1344	62
nad7	i 1/2	nad7e1f83	CCCATGACGACTAGGAACGGGCA	355039 <– 355061	96	60.1	nad7e2r1211	CATTCAGTGACTCCGCGATCG	353917 –> 353937	100	59.6	1145	65
		nad7e1f128	TTCGGACCTCAACATCCTGCTGC	354994 <– 355016	96	60.8	nad7e2r1193	TCGCCCTCTAAACGATCAGAA	353935 –> 353955	95	51.9	1082	63
	i 2/3	nad7e2f218	TTCTGATCGTTTAGAGGGCGA	353935 <– 353955	95	52.3	nad7e3r1715	GACGGAGTTGATGCTCCCAC	3352123 –> 352142	95	56.0	1833	64
		nad7e2f236	CGATCGCGGAGTCACTGAATG	353917 <– 353937	100	58.5	nad7e3r1715	GACGGAGTTGATGCTCCCAC	352123 –> 352142	95	56.0	1815	66
				75883 –> 75903	67	34.7							
	i 3/4	nad7e3f289	ATGTGGGAGCATCAACTCCGTCC	352122 <– 352144	96	58.9	nad7e4r1837	CATTCGACATCGTGATGGAGG	350548 –> 350568	95	50.7	1597	63
	i 4/5	nad7e4f336	TCCTCCATCACGATGTCGAA	350550 <– 350569	95	52.3	nad7e5r2552	GGTGCTCTTATTTTACGACGGTAG	348567 –> 348590	96	52.9	2003	63
		nad7e4f336	TCCTCCATCACGATGTCGAA	350550 <– 350569	95	52.3	nad7e5r2254	TGAGCCATTACCAAGGAGCT	348859 –> 348878	100	55.8	1711	63
		nad7e4f336	TCCTCCATCACGATGTCGAA	350550 <– 350569	95	52.3	nad7e5r2164	CATAGGGCTTCGGCGCTACTA	348948 –> 348968	95	51.3	1622	63

Cucumis melo subsp. melo

gene	intron	F primer	5' - 3'	Position and orientation	Com (%)	*Tm* (°C)	R primer	5' - 3'	Position and orientation	Com (%)	Tm (°C)	Fragm length	*Ta* (°C)
nad1	i 2/3	nad1e2f15	TCTAGGAGCATTACGATCTGCAG	924263 <– 924285	100	56.2	nad1e3r1649	TTCTGGGAGATCAAACGGAGC	920378 –> 920398	95	47.0	3908	64
									1437623 –> 1437643	67	37.2		
									1778402 <– 1778422	67	29.5		
	i 4/5	nad1e4f46	CGTCTTCAATGGGGTCTGCT	549052 <– 549071	100	59.9	nad1e5r3475	GGAAAGGTGACTGAAACACCA	543885 –> 543905	90	43.7	5187	64
									1489601 –> 1489621	67	21.9		
									1800450 –> 1800470	71	18.7		
									1682182 <– 1682202	76	40.5		
									917973 –> 917993	90	43.7		
									1015574 –> 1015594	67	20.9		
									2282635 –> 2282655	62	28.6		
									234068 <– 234088	71	29.7		
nad2	i 1/2	nad2e1f311	CTAATGCGGCACCGGGTTCG	638756 –> 638775	95	55.4	nad2e2r1352	TTCGGATTTGCGCGAACTAGC	639836 <– 639856	95	49.0	1101	65
									1636267 <– 1636287	76	26.2		
	i 3/4	nad2e4f535	GGTGGGTGAACCCTCATAGA	249588 <– 249607	100	56.5	nad2e3r2138	CAATTAGCCAAGATTTTGACCG	243279 –> 243300	100	54.1	6329	62
				252895 <– 252914	70	37.1							
									366721 –> 366742	64	34.0		
									503640 <– 503661	73	33.6		
									2277366 <– 2277387	64	25.1		
									1501482 –> 1501503	59	33.6		
									92532 –> 92553	77	33.7		
									98462 –> 98483	68	28.6		
									1481575 <– 1481596	73	33.3		
		nad2e4f754	ATCAGACGGCTGTTCCCGTA	528412 –> 528431	70	38.0	nad2e3r2665	GTACCGCTCAGATTGCGGCCAA	–			No product	
	i 4/5	nad2e5f172	ATCCATGTCCTAGGTGTATCA	251638 <– 251658	100	53.6	nad2e4r2260	TCTATGAGGGTTCACCCACC	249588 –> 249607	100	54.7	2071	60
									2375846 –> 2375865	80	37.5		
									470349 <– 470368	80	37.5		
									44331 <– 44350	65	36.4		
nad4	i 1/2	nad4e1f52	TGTCCCGTGCTAGGAAGCAT	2026336 –> 2026355	100	60.3	nad4e2r2155	GGTGCCTCTACATGAGCTTCGG	2028561 <– 2028582	100	59.3	2247	67
				1915086 <– 1915105	70	38.7							
									1740474 <– 1740495	64	24.3		
	i 2/3	nad4e2f252	CCGAAGCTCATGTAGAGGCACC	2028561 –> 2028582	100	59.8	nad4e3r3879	CCCCGATAAAGCTGCTAGTACC	2035078 <– 2035099	100	58.6	6539	66
	i 3/4	nad4e3f202	GGTACTAGCAGCTTTATCGGGG	2035078 –> 2035099	100	57.2	nad4e4r3198	TTTGGGGTGAACACCCATCCGA	2039100 <– 2039121	100	59.5	2788	65
									2318552 <– 2318573	64	26.8		
		nad4e3f202	GGTACTAGCAGCTTTATCGGGG	2035078 –> 2035099	100	57.2	nad4 exon4[1]	GGAACACTTTGGGGTGAACA	2039109 <– 2039128	100	53.2	4051	63
nad5	i a/b	nad5af276	ATGAAGTCGCACCGGGAGCTA	271402 –> 271422	100	52.3	nad5br2061	GGCATGAATCACCGAACCTGC	273158 <– 273178	100	59.3	1777	66
									668344 <– 668364	67	45.8		
									2119055 –> 2119075	76	38.1		
									2072157 <– 2072177	71	22.2		
	i d/e	nad5d125	TGCTGCTCCAACCATTACC	1984169 –> 1984187	100	55.7	nad5er1305	CCCTCATCCGGCTCTCTGCA	1985728 <– 1985747	100	59.8	1579	63
				2414330 <– 2414348	79	32.2							
				2160560 –> 2160578	74	25.7							
									937034 –> 937053	75	29.7		

		nad5df58	CCGAGTTTGCTGCTCCAACC	1984162 –> 1984181	100	60.7	nad5er1192	CCTCCCTTTACCACATCATGG	1985675 <– 1985695	100	56.9	1534	62
				716177 <– 716196	75	36.0							
				504273 <– 504292	70	35.0							
				1970702 <– 1970721	70	27.3							
nad7	i 1/2	nad7e1f83	CCCATGACGACTAGGAACGGGCA	2126836 –> 2126858	96	60.1	nad7e2r1211	CATTCAGTGACTCCGCGATCG	2128029 <– 2128049	100	59.6	1214	65
									2350291 –> 2350311	67	45.5		
		nad7e1f128	TTCGGACCTCAACATCCTGCTGC	2126881 –> 2126903	96	60.8	nad7e2r1193	TCGCCCTCTAAACGATCAGAA	2128011 <– 2128031	95	51.9	1151	63
									1369552 –> 1369572	76	21.1		
									2255996 <– 2256016	62	19.4		
									145710 <– 145730	62	23.5		
									837297 –> 837317	62	7.5		
									531775 –> 531795	76	29.9		
									2392941 <– 2392961	71	29.8		
									439881 <– 439901	76	4.0		
									336433 –> 336453	71	4.0		
	i 2/3	nad7e2f218	TTCTGATCGTTTAGAGGGCGA	2128011 –> 2128031	95	52.3	nad7e3r1715	GACGGAGTTGATGCTCCCAC	2129454 <– 2129473	95	56.0	1463	63
									2298181 <– 2298200	70	37.6		
									2264680 <– 2264699	70	38.7		
									1127763 –> 1127782	70	38.1		
		nad7e2f236	CGATCGCGGAGTCACTGAATG	2128029 –> 2128049	100	58.5	nad7e3r1715	GACGGAGTTGATGCTCCCAC	2129454 <– 2129473	95	56.0	1445	65
				1722143 <– 1722163	71	33.4							
				711386 <– 711406	67	34.7							
				91430 –> 91450	71	30.1							
				1501258 –> 1501278	76	27.7							
									2298181 <– 2298200	70	37.6		
									2264680 <– 2264699	70	38.7		
									1127763 –> 1127782	70	38.1		
	i 3/4	nad7e3f289	ATGTGGGAGCATCAACTCCGTCC	2129452 –> 2129474	96	58.9	nad7e4r1837	CATTCGACATCGTGATGGAGG	2132017 <– 2132037	95	50.7	2586	64
				1630888 <– 1630910	57	38.3							
									275665 –> 275685	81	30.6		
	i 4/5	nad7e4f336	TCCTCCATCACGATGTCGAA	2132016 –> 2132035	95	52.3	nad7e5r2552	GGTGCTCTTATTTTACGACGGTAG	2137034 <– 2137057	100	55.1	5042	64
									41628 –> 41651	67	36.1		
		nad7e4f336	TCCTCCATCACGATGTCGAA	2132016 –> 2132035	95	52.3	nad7e5r2254	TGAGCCATTACCAAGGAGCT	2136745 <– 2136764	100	55.8	4749	64
		nad7e4f336	TCCTCCATCACGATGTCGAA	2132016 –> 2132035	95	52.3	nad7e5r2164	CATAGGGCTTCGGCGCTACTA	–			No product	

***Cucumis sativus* mitochondrion chromosome 1**

gene	intron	F primer	5' - 3'	Position and orientation	Com (%)	*Tm* (°C)	R primer	5' - 3'	Position and orientation	Com (%)	Tm (°C)	Fragm length	*Ta* (°C)
nad1	i 2/3	nad1e2f15	TCTAGGAGCATTACGATCTGCAG	1287913 <– 1287935	100	56.2	nad1e3r1649	TTCTGGGAGATCAAACGGAGC	1283978 –> 1283998	95	47.0	3958	64
									407615 –> 407635	62	31.5		
				57102 <– 57124*	61	29.0							
	i 4/5	nad1e4f46	CGTCTTCAATGGGGTCTGCT	1371656 –> 1371675	100	59.9	nad1e5r3475	GGAAAGGTGACTGAAACACCA	1376136 <– 1376156	90	43.7	4501	63
									1294396 <– 1294416	71	35.5		
									524680 <– 524700	67	30.3		
									1281138 –> 1281158	90	43.7		

									518564 <– 518584	67	20.9			
									37227 <– 37247**	67	27.7			
nad2	i 1/2	nad2e1f311	CTAATGCGGCACCGGGTTCG	797700 –> 797719	95	55.4	nad2e2r1352	TTCGGATTTGCGCGAACTAGC	798770 <– 798790	95	49.0	1091	65	
	i 3/4	nad2e4f535	GGTGGGTGAACCCTCATAGA	1004917 <– 1004936	100	56.5	nad2e3r2138	CAATTAGCCAAGATTTTGACCG	1000473 –> 1000494	100	54.1	4464	61	
				1153967 <– 1153986	65	26.6								
									848421 –> 848442	77	36.0			
		nad2e4f754	ATCAGACGGCTGTTCCCGTA	–			nad2e3r2665	GTACCGCTCAGATTGCGGCCAA	1000642 –> 1000663	95	55.2	No product		
	i 4/5	nad2e5f172	ATCCATGTCCTAGGTGTATCA	1006982 <– 1007002	100	53.6	nad2e4r2260	TCTATGAGGGTTCACCCACC	1004917 –> 1004936	100	54.7	2086	60	
									1069540 –> 1069559	75	33.3			
nad4	i 1/2	nad4e1f52	TGTCCCGTGCTAGGAAGCAT	1542834 <– 1542853	100	60.3	nad4e2r2155	GGTGCCTCTACATGAGCTTCGG	1540297 –> 1540318	100	59.3	2557	67	
				227265 <– 227284	80	25.8								
	i 2/3	nad4e2f252	CCGAAGCTCATGTAGAGGCACC	1540297 <– 1540318	100	59.8	nad4e3r3879	CCCCGATAAAGCTGCTAGTACC	1534038 –> 1534059	100	58.9	6281	66	
									1463063 <– 1463084	64	21.3			
									47050 <– 47071	68	24.8			
	i 3/4	nad4e3f202	GGTACTAGCAGCTTTATCGGGG	1534038 <– 1534059	100	57.2	nad4e4r3198	TTTGGGGTGAACACCCATCCGA	1529041 –> 1529062	100	59.5	2791	65	
				1457720 –> 1457741	73	35.2								
									1313824 <– 1313845	68	37.3			
		nad4e3f202	GGTACTAGCAGCTTTATCGGGG	1534038 <– 1534059	100	57.2	nad4 exon4[1]	GGAACACTTTGGGGTGAACA				No product		
				1457720 –> 1457741	73	35.2								
									1529034 –> 1529053	100	53.2			
nad5	i a/b	nad5af276	ATGAAGTCGCACCGGGAGCTA	1511126 –> 1511146	100	52.3	nad5br2061	GGCATGAATCACCGAACCTGC	1513760 <– 1513780	100	59.3	2655	67	
				385665 –> 385685	67	42.2								
	i d/e	nad5d125	TGCTGCTCCAACCATTACC	417541 –> 417559	100	55.7	nad5er1305	CCCTCATCCGGCTCTCTGCA	418936 <– 418955	100	59.8	1415	63	
				1072954 <– 1072972	74	25.7								
		nad5df58	CCGAGTTTGCTGCTCCAACC	417534 –> 417553	100	60.7	nad5er1192	CCTCCCTTTACCACATCATGG	–			No product		
				847783 –>847802	70	35.0								
				22689 –> 22708*	75	25.9								
nad7	i 1/2	nad7e1f83	CCCATGACGACTAGGAACGGGCA	696354 –> 696376	96	60.1	nad7e2r1211	CATTCAGTGACTCCGCGATCG	697877 <– 697897	100	59.6	1544	65	
									21704 <– 21724	67	43.7			
									512984 <– 513004	71	45.4			
		nad7e1f128	TTCGGACCTCAACATCCTGCTGC	696399 –> 696421	96	60.8	nad7e2r1193	TCGCCCTCTAAACGATCAGAA	697859 <– 697879	95	51.9	1481	63	
	i 2/3	nad7e2f218	TTCTGATCGTTTAGAGGGCGA	697859 –> 697879	95	52.3	nad7e3r1715	GACGGAGTTGATGCTCCCAC	699541 <– 699560	95	56.0	1702	63	
				1253100 <– 1253120	67	22.1								
				902178 <– 902198	71	37.1								
		nad7e2f236	CGATCGCGGAGTCACTGAATG	697877 –> 697897	100	58.5	nad7e3r1715	GACGGAGTTGATGCTCCCAC	699541 <– 699560	95	56.0	1684	65	
				1083544 <– 1083564	71	33.4								
				524931 –> 524951	71	33.3								
				502961 –> 502981	67	38.2								
				114799 –> 114819	67	34.7								
				573902 <– 573922	71	37.5								
				356707 <– 356727	71	28.0								
	i 3/4	nad7e3f289	ATGTGGGAGCATCAACTCCGTCC	699539 –> 699561	96	58.9	nad7e4r1837	CATTCGACATCGTGATGGAGG	702009 <– 702029	95	50.7	2491	64	
	i 4/5	nad7e4f336	TCCTCCATCACGATGTCGAA	702008 –> 702027	95	52.3	nad7e5r2552	GGTGCTCTTATTTTACGACGGTAG	706713 <– 706736	100	55.1	4729	63	
		nad7e4f336	TCCTCCATCACGATGTCGAA	702008 –> 702027	95	52.3	nad7e5r2254	TGAGCCATTACCAAGGAGCT	706424 <– 706443	100	55.8	4436	64	
		nad7e4f336	TCCTCCATCACGATGTCGAA	702008 –> 702027	95	52.3	nad7e5r2164	CATAGGGCTTCGGCGCTACTA	–			No product		

Cucurbita pepo

gene	intron	F primer	5' - 3'	Position and orientation	Com (%)	*Tm* (°C)	R primer	5' - 3'	Position and orientation	Com (%)	Tm (°C)	Fragm length	*Ta* (°C)
nad1	i 2/3	nad1e2f15	TCTAGGAGCATTACGATCTGCAG	109441 <– 109463	100	56.2	nad1e3r1649	TTCTGGGAGATCAAACGGAGC	107699 –> 107719	100	56.2	1765	63
									44423 –> 44443	71	32.2		
	i 4/5	nad1e4f46	CGTCTTCAATGGGGTCTGCT	633012 <– 633031	100	59.9	nad1e5r3475	GGAAAGGTGACTGAAACACCA	629445 –> 629465	95	51.7	3587	63
				669500 <– 669519	65	23.5							
									106116 –> 106136	95	51.7		
									267329 –> 267349	62	32.2		
nad2	i 1/2	nad2e1f311	CTAATGCGGCACCGGGTTCG	618393 <– 618412	95	53.2	nad2e2r1352	TTCGGATTTGCGCGAACTAGC	617337 –> 617357	95	49.0	1076	65
	i 3/4	nad2e4f535	GGTGGGTGAACCCTCATAGA	954170 –> 954189	90	46.6	nad2e3r2138	CAATTAGCCAAGATTTTGACCG	956575 <– 956596	100	54.1	2427	61
				727917 –> 727936	75	22.3							
									489963 –> 489984	68	24.8		
		nad2e4f754	ATCAGACGGCTGTTCCCGTA	954386 –> 954405	95	53.2	nad2e3r2665	GTACCGCTCAGATTGCGGCCAA	956406 <– 956427	95	55.2	2042	66
				263167 <– 263186	70	41.7							
				561477 <– 561496	75	21.1							
	i 4/5	nad2e5f172	ATCCATGTCCTAGGTGTATCA	952162 –> 952182	100	53.6	nad2e4r2260	TCTATGAGGGTTCACCCACC	954170 <– 954189	90	47.6	2028	60
				451110 <– 451130	67	14.0							
nad4	i 1/2	nad4e1f52	TGTCCCGTGCTAGGAAGCAT	181041 –> 181060	100	60.3	nad4e2r2155	GGTGCCTCTACATGAGCTTCGG	183088 <– 183109	100	59.3	2069	67
	i 2/3	nad4e2f252	CCGAAGCTCATGTAGAGGCACC	183088 –> 183109	100	59.8	nad4e3r3879	CCCCGATAAAGCTGCTAGTACC	186708 <– 186729	100	58.9	3642	65
				23706 <– 23727	59	41.5							
									240183 –> 240204	68	21.7		
									870981 <– 871002	68	31.9		
									279069 –> 279090	68	22.4		
	i 3/4	nad4e3f202	GGTACTAGCAGCTTTATCGGGG	186708 –> 186729	100	57.5	nad4e4r3198	TTTGGGGTGAACACCCATCCGA	189226 <– 189247	100	59.5	2540	65
				606802 <– 606823	73	40.5							
				5328 <– 5349	64	42.1							
		nad4e3f202	GGTACTAGCAGCTTTATCGGGG	186708 –> 186729	100	57.5	nad4 exon4[1]	GGAACACTTTGGGGTGAACA	189235 <– 189254	100	53.2	2547	63
				606802 <– 606823	73	40.5							
				5328 <– 5349	64	42.1							
nad5	i a/b	nad5af276	ATGAAGTCGCACCGGGAGCTA	393939 <– 393959	100	52.3	nad5br2061	GGCATGAATCACCGAACCTGC				No product	
				411377 –> 411397									
									458452 –> 458472	67	32.1		
	i d/e	nad5d125	TGCTGCTCCAACCATTACC	356811 –> 35629	100	55.7	nad5er1305	CCCTCATCCGGCTCTCTGCA	358166 <– 358185	100	59.8	1375	63
		nad5df58	CCGAGTTTGCTGCTCCAACC	356804 –> 356823	100	60.7	nad5er1192	CCTCCCTTTACCACATCATGG	358113 <– 358133	95	52.2	1330	62
				435845 –> 435864	75	36.9							
nad7	i 1/2	nad7e1f83	CCCATGACGACTAGGAACGGGCA	–	100	63.9	nad7e2r1211	CATTCAGTGACTCCGCGATCG	286111 –> 286131	100	59.6	No product	
									42965 –> 42985	67	40.3		
		nad7e1f128	TTCGGACCTCAACATCCTGCTGC	287180 <– 287202	96	60.8	nad7e2r1193	TCGCCCTCTAAACGATCAGAA	286129 –> 286149	95	51.9	1074	63
	i 2/3	nad7e2f218	TTCTGATCGTTTAGAGGGCGA	286129 <– 286149	95	52.3	nad7e3r1715	GACGGAGTTGATGCTCCCAC	284670 –> 284689	95	56.0	1480	63
				652181 <– 652201	62	40.1							
									70113 <– 70132	80	46.2		
		nad7e2f236	CGATCGCGGAGTCACTGAATG	286111 <– 286131	100	58.5	nad7e3r1715	GACGGAGTTGATGCTCCCAC	284670 –> 284689	95	56.0	1462	65
				957732 –> 957752	67	34.7							
									70113 <– 70132	80	46.2		

	i 3/4	nad7e3f289	ATGTGGGAGCATCAACTCCGTCC	284669 <– 284691	96	58.9	nad7e4r1837	CATTCGACATCGTGATGGAGG	283105 –> 283125	95	50.7	1587	63
	i 4/5	nad7e4f336	TCCTCCATCACGATGTCGAA	283107 <– 283126	95	52.3	nad7e5r2552	GGTGCTCTTATTTTACGACGGTAG	281091 –> 281114	100	55.1	2036	63
									978582 <– 978605	67	22.3		
		nad7e4f336	TCCTCCATCACGATGTCGAA	283107 <– 283126	95	52.3	nad7e5r2254	TGAGCCATTACCAAGGAGCT	281392 –> 281411	95	47.7	1735	63
		nad7e4f336	TCCTCCATCACGATGTCGAA	283107 <– 283126	95	52.3	nad7e5r2164	CATAGGGCTTCGGCGCTACTA	281481 –> 281501	95	51.3	1646	63

Malus x domestica **cultivar Golden delicious**

gene	intron	F primer	5' - 3'	Position and orientation	Com (%)	*Tm* (°C)	R primer	5' - 3'	Position and orientation	Com (%)	Tm (°C)	Fragm length	*Ta* (°C)
nad1	i 2/3	nad1e2f15	TCTAGGAGCATTACGATCTGCAG	262045 <– 262067	100	56.2	nad1e3r1649	TTCTGGGAGATCAAACGGAGC	260402 –> 260422	100	56.2	1666	63
	i 4/5	nad1e4f46	CGTCTTCAATGGGGTCTGCT	236990 <– 237009	100	59.9	nad1e5r3475	GGAAAGGTGACTGAAACACCA	233281 –> 233301	95	51.7	3729	63
nad2	i 1/2	nad2e1f311	CTAATGCGGCACCGGGTTCG	165754 –> 165773	100	60.9	nad2e2r1352	TTCGGATTTGCGCGAACTAGC	166796 <– 166816	90	41.0	1063	65
				394653 –> 394672	65	41.1							
	i 3/4	nad2e4f535	GGTGGGTGAACCCTCATAGA	243428 –> 243447	100	56.5	nad2e3r2138	CAATTAGCCAAGATTTTGACCG	245408 <– 245429	95	49.5	2002	61
		nad2e4f754	ATCAGACGGCTGTTCCCGTA	243644 –> 243663	100	58.4	nad2e3r2665	GTACCGCTCAGATTGCGGCCAA	245239 <– 245260	100	62.2	1617	65
	i 4/5	nad2e5f172	ATCCATGTCCTAGGTGTATCA	241474 –> 241494	100	53.6	nad2e4r2260	TCTATGAGGGTTCACCCACC	243428 <– 243447	100	54.7	1974	60
nad4	i 1/2	nad4e1f52	TGTCCCGTGCTAGGAAGCAT	32727 <– 32746	100	58.1	nad4e2r2155	GGTGCCTCTACATGAGCTTCGG	30648 –> 30669	100	59.3	2099	67
									390460 <– 390481	73	41.1		
	i 2/3	nad4e2f252	CCGAAGCTCATGTAGAGGCACC	30648 <– 30669	100	59.8	nad4e3r3879	CCCCGATAAAGCTGCTAGTACC	26969 –> 26990	100	58.1	3701	65
	i 3/4	nad4e3f202	GGTACTAGCAGCTTTATCGGGG	26969 <– 26990	100	56.4	nad4e4r3198	TTTGGGGTGAACACCCATCCGA	24374 –> 24395	100	59.5	2617	65
				384403 <– 384424	59	32.0							
		nad4e3f202	GGTACTAGCAGCTTTATCGGGG	26969 <– 26990	100	56.4	nad4 exon4[1]	GGAACACTTTGGGGTGAACA	24367 –> 24386	100	53.2	2624	63
				384403 <– 384424	59	32.0							
									342963 <– 342982	75	27.0		
nad5	i a/b	nad5af276	ATGAAGTCGCACCGGGAGCTA	73702 <– 73722	100	59.8	nad5br2061	GGCATGAATCACCGAACCTGC	71943 –> 71963	100	59.3	1780	66
									68219 <– 68239	71	36.2		
	i d/e	nad5d125	TGCTGCTCCAACCATTACC	41847 –> 41865	100	55.7	nad5er1305	CCCTCATCCGGCTCTCTGCA	43041 <– 43060	95	57.8	1214	63
		nad5df58	CCGAGTTTGCTGCTCCAACC	41840 –> 41859	100	60.7	nad5er1192	CCTCCCTTTACCACATCATGG	42988 <– 43008	95	51.9	1169	62
									168441 –> 168461	62	27.3		
nad7	i 1/2	nad7e1f83	CCCATGACGACTAGGAACGGGCA	181574 <–181596	100	63.9	nad7e2r1211	CATTCAGTGACTCCGCGATCG	180450 –> 180470	100	59.6	1147	65
									84775 –> 84795	71	33.5		
		nad7e1f128	TTCGGACCTCAACATCCTGCTGC	181529 <–181551	96	60.8	nad7e2r1193	TCGCCCTCTAAACGATCAGAA	180468 –> 180468	95	51.9	1084	63
				312184 <– 312206	96	55.6							
				56466 <– 56488	61	36.3							
	i 2/3	nad7e2f218	TTCTGATCGTTTAGAGGGCGA	180468 <– 180488	95	52.3	nad7e3r1715	GACGGAGTTGATGCTCCCAC	178998 –> 179017	95	56.0	1491	63
		nad7e2f236	CGATCGCGGAGTCACTGAATG	180450 <– 180470	100	58.5	nad7e3r1715	GACGGAGTTGATGCTCCCAC	178998 –> 179017	95	56.0	1473	65
				122999 –> 123019	86	51.0							
				246551 –> 246571	67	34.7							
	i 3/4	nad7e3f289	ATGTGGGAGCATCAACTCCGTCC	178997 <– 179019	96	58.9	nad7e4r1837	CATTCGACATCGTGATGGAGG	177431 –> 177451	100	57.4	1589	63
				323104 <– 323126	78	37.9							
	i 4/5	nad7e4f336	TCCTCCATCACGATGTCGAA	177433 <– 177452	100	56.3	nad7e5r2552	GGTGCTCTTATTTTACGACGGTAG	175417 –> 175440	100	55.1	2036	63
									89262 <– 89285	62	27.9		
		nad7e4f336	TCCTCCATCACGATGTCGAA	177433 <– 177452	100	56.3	nad7e5r2254	TGAGCCATTACCAAGGAGCT	175712 –> 175731	95	51.0	1741	63
		nad7e4f336	TCCTCCATCACGATGTCGAA	177433 <– 177452	100	56.3	nad7e5r2164	CATAGGGCTTCGGCGCTACTA	175801 –> 175821	100	55.7	1652	63

Ricinus communis

gene	intron	F primer	5' - 3'	Position and orientation	Com (%)	*Tm* (°C)	R primer	5' - 3'	Position and orientation	Com (%)	Tm (°C)	Fragm length	*Ta* (°C)
nad1	i 2/3	nad1e2f15	TCTAGGAGCATTACGATCTGCAG	249737 –> 249759	100	56.2	nad1e3r1649	TTCTGGGAGATCAAACGGAGC	251408 <– 251428	100	56.2	1692	63
	i 4/5	nad1e4f46	CGTCTTCAATGGGGTCTGCT	156242 –> 156261	100	59.9	nad1e5r3475	GGAAAGGTGACTGAAACACCA	159926 <– 159946	90	46.6	3705	63
									398398 <– 398418	62	31.9		
nad2	i 1/2	nad2e1f311	CTAATGCGGCACCGGGTTCG	189618 –> 189637	95	55.4	nad2e2r1352	TTCGGATTTGCGCGAACTAGC	190665 <– 190685	95	49.0	1068	65
				3765 <– 3784	70	46.0							
	i 3/4	nad2e4f535	GGTGGGTGAACCCTCATAGA	304874 –> 304893	100	56.5	nad2e3r2138	CAATTAGCCAAGATTTTGACCG	307503 <– 307524	95	49.1	2651	61
		nad2e4f754	ATCAGACGGCTGTTCCCGTA	305090 –> 305109	100	58.4	nad2e3r2665	GTACCGCTCAGATTGCGGCCAA	307334 <– 307355	100	62.2	2266	66
	i 4/5	nad2e5f172	ATCCATGTCCTAGGTGTATCA	302896 –> 302916	100	53.6	nad2e4r2260	TCTATGAGGGTTCACCCACC	304874 <– 304893	100	54.7	1998	60
nad4	i 1/2	nad4e1f52	TGTCCCGTGCTAGGAAGCAT	269970 –> 269989	100	58.3	nad4e2r2155	GGTGCCTCTACATGAGCTTCGG	272049 <– 272070	100	59.3	2101	67
									468934 <– 468955	77	48.6		
	i 2/3	nad4e2f252	CCGAAGCTCATGTAGAGGCACC	272049 –> 272070	100	59.8	nad4e3r3879	CCCCGATAAAGCTGCTAGTACC	275923 <– 275944	95	54.4	3896	65
	i 3/4	nad4e3f202	GGTACTAGCAGCTTTATCGGGG	275923 –> 275944	95	51.9	nad4e4r3198	TTTGGGGTGAACACCCATCCGA	278560 <– 278581	95	55.4	2659	65
				232637 <– 22658	77	36.0							
									105232 <– 105253	64	25.4		
		nad4e3f202	GGTACTAGCAGCTTTATCGGGG	275923 –> 275944	95	51.9	nad4 exon4[1]	GGAACACTTTGGGGTGAACA	278569 <– 278588	100	53.2	2666	63
				232637 <– 22658	77	36.0							
nad5	i a/b	nad5af276	ATGAAGTCGCACCGGGAGCTA	483913 –> 483933	100	59.8	nad5br2061	GGCATGAATCACCGAACCTGC	485666 <– 485686	100	59.3	1774	66
	i d/e	nad5d125	TGCTGCTCCAACCATTACC	12721 –> 12739	100	55.7	nad5er1305	CCCTCATCCGGCTCTCTGCA	13821 <– 13840	100	59.8	1120	63
				33423 –> 33441	84	37.3							
		nad5df58	CCGAGTTTGCTGCTCCAACC	12714 –> 12733	100	60.7	nad5er1192	CCTCCCTTTACCACATCATGG	13768 <– 13788	95	54.1	1075	62
									102268 <– 102288	71	24.7		
									192319 –> 192339	62	27.1		
nad7	i 1/2	nad7e1f83	CCCATGACGACTAGGAACGGGCA	96175 <– 96197	100	63.9	nad7e2r1211	CATTCAGTGACTCCGCGATCG	95067 –> 95087	100	59.6	1131	65
				44266 –> 44288	100	63.9							
				405380 –> 405402	65	32.4							
		nad7e1f128	TTCGGACCTCAACATCCTGCTGC	96130 <– 96152	100	61.7	nad7e2r1193	TCGCCCTCTAAACGATCAGAA	95085 –> 95105	95	51.9	1068	63
	i 2/3	nad7e2f218	TTCTGATCGTTTAGAGGGCGA	95085 <– 95105	95	52.3	nad7e3r1715	GACGGAGTTGATGCTCCCAC	93585 –> 93604	90	53.7	1521	63
		nad7e2f236	CGATCGCGGAGTCACTGAATG	95067 <– 95087	100	58.5	nad7e3r1715	GACGGAGTTGATGCTCCCAC	93585 –> 93604	90	53.7	1503	65
				308557 –> 308577	67	33.7							
	i 3/4	nad7e3f289	ATGTGGGAGCATCAACTCCGTCC	108467 <– 108489	65	15.4	nad7e4r1837	CATTCGACATCGTGATGGAGG				No product	
									92011 –> 92031	100	57.4		
	i 4/5	nad7e4f336	TCCTCCATCACGATGTCGAA	92013 <– 92032	100	56.3	nad7e5r2552	GGTGCTCTTATTTTACGACGGTAG	90080 –> 90103	96	53.3	1953	63
									182028 <– 182051	62	16.4		
		nad7e4f336	TCCTCCATCACGATGTCGAA	92013 <– 92032	100	56.3	nad7e5r2254	TGAGCCATTACCAAGGAGCT	90376 –> 90395	95	51.0	1657	63
		nad7e4f336	TCCTCCATCACGATGTCGAA	92013 <– 92032	100	56.3	nad7e5r2164	CATAGGGCTTCGGCGCTACTA	90465 –> 90485	95	51.7	1568	63

Arabidopsis thaliana

gene	intron	F primer	5' - 3'	Position and orientation	Com (%)	*Tm* (°C)	R primer	5' - 3'	Position and orientation	Com (%)	Tm (°C)	Fragm length	*Ta* (°C)
nad1	i 2/3	nad1e2f15	TCTAGGAGCATTACGATCTGCAG	289047 <– 289069	100	56.2	nad1e3r1649	TTCTGGGAGATCAAACGGAGC	287956 –> 287976	100	56.2	1114	63
									284303 <– 284323	62	35.3		
	i 4/5	nad1e4f46	CGTCTTCAATGGGGTCTGCT	147031 <– 147050	100	59.9	nad1e5r3475	GGAAAGGTGACTGAAACACCA	–			No product	
nad2	i 1/2	nad2e1f311	CTAATGCGGCACCGGGTTCG	–			nad2e2r1352	TTCGGATTTGCGCGAACTAGC	80203 –> 80223	95	49.5	No product	
	i 3/4	nad2e4f535	GGTGGGTGAACCCTCATAGA	330269 –> 330288	100	56.5	nad2e3r2138	CAATTAGCCAAGATTTTGACCG	333041 <– 333062	100	54.1	2794	61
									102194 –> 102215	59	30.6		
		nad2e4f754	ATCAGACGGCTGTTCCCGTA	330478 –> 330497	95	50.1	nad2e3r2665	GTACCGCTCAGATTGCGGCCAA	332872 <– 332893	100	62.2	2416	66
	i 4/5	nad2e5f172	ATCCATGTCCTAGGTGTATCA	328023 –> 328043	100	53.6	nad2e4r2260	TCTATGAGGGTTCACCCACC	330269 <– 330288	100	54.7	2266	60
nad4	i 1/2	nad4e1f52	TGTCCCGTGCTAGGAAGCAT	161744 –> 161763	95	51.7	nad4e2r2155	GGTGCCTCTACATGAGCTTCGG	163876 <– 163897	95	55.2	2154	67
	i 2/3	nad4e2f252	CCGAAGCTCATGTAGAGGCACC	163876 –> 163897	95	52.7	nad4e3r3879	CCCCGATAAAGCTGCTAGTACC	167421 <– 167442	100	58.9	3567	65
									174115 –> 174136	68	28.2		
	i 3/4	nad4e3f202	GGTACTAGCAGCTTTATCGGGG	167421 –> 167442	100	57.2	nad4e4r3198	TTTGGGGTGAACACCCATCCGA	169590 <– 169611	100	59.5	2191	65
									173834 –> 173855	64	43.6		
		nad4e3f202	GGTACTAGCAGCTTTATCGGGG	167421 –> 167442	100	57.2	nad4 exon4[1]	GGAACACTTTGGGGTGAACA	169599 <– 169618	100	53.2	2198	63
nad5	i a/b	nad5af276	ATGAAGTCGCACCGGGAGCTA	142836 <– 142856	100	59.8	nad5br2061	GGCATGAATCACCGAACCTGC	–			No product	
				101157 <– 101177	71	25.2							
	i d/e	nad5d125	TGCTGCTCCAACCATTACC	22004 <– 22022	100	55.7	nad5er1305	CCCTCATCCGGCTCTCTGCA	20764 –> 20783	95	57.8	1259	63
				208855 –> 208873	74	32.6							
				2216 <– 2234	74	38.0							
				55351 –> 55369	74	30.1							
		nad5df58	CCGAGTTTGCTGCTCCAACC	22010 <– 22029	100	60.7	nad5er1192	CCTCCCTTTACCACATCATGG	20815 –> 20835	86	46.0	1215	62
nad7	i 1/2	nad7e1f83	CCCATGACGACTAGGAACGGGCA	103954 –> 1039764	65	12.2	nad7e2r1211	CATTCAGTGACTCCGCGATCG				No product	
				227236 –> 227258	65	12.2							
									133249 <– 133269	100	59.6		
		nad7e1f128	TTCGGACCTCAACATCCTGCTGC	132113 –> 132135	96	56.9	nad7e2r1193	TCGCCCTCTAAACGATCAGAA	133231 <– 133251	95	51.9	1139	63
	i 2/3	nad7e2f218	TTCTGATCGTTTAGAGGGCGA	133231 –> 133251	95	52.3	nad7e3r1715	GACGGAGTTGATGCTCCCAC	134469 <– 134488	90	51.1	1258	63
				277594 –> 277614	71	27.8							
				267724 <– 267744	71	23.5							
		nad7e2f236	CGATCGCGGAGTCACTGAATG	133249 –> 133269	100	58.5	nad7e3r1715	GACGGAGTTGATGCTCCCAC	134469 <– 134488	90	51.1	1240	65
				106405 <– 106425	67	34.7							
	i 3/4	nad7e3f289	ATGTGGGAGCATCAACTCCGTCC	134467 –> 134489	91	53.8	nad7e4r1837	CATTCGACATCGTGATGGAGG	136035 <– 136055	100	57.4	1589	63
	i 4/5	nad7e4f336	TCCTCCATCACGATGTCGAA	136034 –> 136053	100	56.3	nad7e5r2552	GGTGCTCTTATTTTACGACGGTAG	138018 <– 138041	100	55.2	2008	63
		nad7e4f336	TCCTCCATCACGATGTCGAA	136034 –> 136053	100	56.3	nad7e5r2254	TGAGCCATTACCAAGGAGCT				No product	
									52942 <– 52961	70	33.6		
		nad7e4f336	TCCTCCATCACGATGTCGAA	136034 –> 136053	100	56.3	nad7e5r2164	CATAGGGCTTCGGCGCTACTA	137632 <– 137652	100	55.7	1619	63

Position and orientation of primers in mtDNA genomes; Com - complementarity of a primer and template DNA expressed through the percentage of binding nucleotides; *Tm* – melting temperature of a primer in °C; Fragm length – the length of the PCR products obtained via *in silico* PCR method; *Ta* – annealing temperature of a primer pair in °C; * and ** in *Cucumis sativus* denote binding sites within chromosome 2 and 3, respectively