

Table 1 Microsatellite primers for constructing RH map

Chromosome	Marker name	Forward primer	Reverse primer	Mapping*	Reference
1	S0008	gaggcagtggttctattca	gccatgtgtaaagttgtgct	F	Fredholm et al. 1993
1	S0056	aagccacatctctcttct	ataagttgcccccctactc	F	Robic et al. 1995
1	S0112	aatcctgagtatccttaacaggc	ttgacatgatgcagagaaggagtc	F	Ruyter et al. 1994a
1	S0155	tgttctctgtttctcctctgtttg	aaagtggaaagagtcfaatggctat	F	Ellegren et al. 1994a
1	SW1092	cctgctatgtcttattgggagg	gatcctgcattgccaagg	F	Rohrer et al. 1994
1	SW1301	tggataagcaatgaggtccc	tagtggattataatgtgctaacc	F	Alexander et al. 1996a
1	SW1332	gcataatgtgcaggtaccg	cagcctaagccaagtatgtgg	F	Rohrer et al. 1996
1	SW1430	tgttacacctggcagattcc	aggactcagagaacagaggtgg	F	Alexander et al. 1996a
1	SW1824	agtaaataatggaattaaatcgctg	tcaagctggaaacaggtgtg	F	Alexander et al. 1996a
1	SW2035	agccacgacaggaaatcaag	tgaatgtggaggagatgtgc	F	Alexander et al. 1996a
1	SW2166	aatgagccatggctattcttg	aagtgtggccctaaaagagc	F	Alexander et al. 1996a
1	SW373	tttgctgcaaagaatgttc	ggtaggattcaataaacacctgg	F	Ellegren et al. 1994a
1	SW501	ccatatgctgtaggtgcagtc	gcctctacatgtttgtttgtg	F	Alexander et al. 1996a
1	SW65	aagaatgtgacaccatccagc	gctgtagtctgattgacccc	F	Rohrer et al. 1994
1	SW705	ctgaagtcttgagatgaaacgc	tgtagagcattcagaggaagc	F	Rohrer et al. 1994
1	SW803	ggtcacaattgaggcactc	tccaagcaacagaagtgc	F	Rohrer et al. 1994
1	SW952	aacgggcacctgctgtatag	gatcatttctgctgcacagc	F	Rohrer et al. 1994
1	SW974	ggatgaagttttgctttgaacc	gaaagaatccaatccaacc	F	Rohrer et al. 1994
1	SWR1061	atctgcctgtgtctgcatg	tggcattgctgtgctatg	F	Alexander et al. 1996a
1	SWR1427	catatgccacaggtgtggtc	ctgtccatcatgcaaactcc	F	Alexander et al. 1996a
1	SWR485	ccattttcaattcatggaagg	ctaagccgcaacaggaactc	F	Rohrer et al. 1994
1	S0020	ggatatacaacaacctaatg	tatggctacatacaaaagt	P	Coppieters et al. 1993
1	S0113	agcctccgtgtaataatccttg	aggacatctctcattctctggcag	P	Ruyter et al. 1994a
1	S0142	ctaaattcctgtatgcttacc	tctggcatagccggcagctac	P	Jung et al. 1994
1	S0302	gcctacactattcaagactc	tgcagccctaaaagacaaa	P	Ellegren et al. 1994a
1	S0316	cattgttaataccattccaacc	gttccatccatgttctgctc	P	Anderson et al. 1994
1	S0320	tcccacaatccctgactacc	aatcttctttaaattgagggc	P	Anderson et al. 1994
1	S0331	agaactgtgccctaccctcttg	tctgagccaggagccagatatac	P	Groenen et al. 1995
1	S0354	aggggatagacacttccaactg	gtccttttcaaaggaagaccg	P	Robic et al. 1994
1	SW1311	caaatcattgactgcagaaaac	gcctgggtgttaagtaacaac	P	Rohrer et al. 1996
1	SW1417	gactctctcttggttctcg	agagccaaattgtaagtctgcc	P	Alexander et al. 1996a
1	SW1431	ttgatgagaacatgcaagtgtg	aaaagcatccatgcctgtg	P	Alexander et al. 1996a
1	SW1462	ctctctccagaggggtgtg	agaataacagggagggagagg	P	Alexander et al. 1996a
1	SW1514	agaagaggtgatttctttg	tcacaaaagaacctcacc	P	Rohrer et al. 1996
1	SW157	gcaatgtccgattctttattt	attgctgtgctgtttgtt	P	Rohrer et al. 1994
1	SW1621	aagcatcacctttatctctgcc	taaggcattaaggtgggccc	P	Alexander et al. 1996a
1	SW1653	ttaagctctcatttctatgagg	cccacattaagagacgtacgc	P	Alexander et al. 1996a
1	SW1846	accttatgttattaccacgatg	agttatttctggcctttaaacc	P	Alexander et al. 1996a
1	SW1851	ggcttggacattctcattgg	ggttgggaacctgatgtg	P	Alexander et al. 1996a
1	SW1902	caaacctcccttgcattgtc	agagagcggaaaaatctctcc	P	Alexander et al. 1996a
1	SW1957	tggccttgataatcatcagtg	agcttcccaccagattcc	P	Alexander et al. 1996a
1	SW1997	gtagaagtaaatgcatcaaaggc	aaattcatctgatgctcatactttg	P	Alexander et al. 1996a
1	SW2130	tccaagtacaatgtggttctg	aagctctccactctccagg	P	Alexander et al. 1996a
1	SW216	atctgggataattggacatcc	ccctaatcccaggetctttc	P	Rohrer et al. 1994
1	SW2184	ggaaatcagaaaacaagaaaacc	caaatcacacacacagccc	P	Alexander et al. 1996a
1	SW2551	agaatagctgagatgaggtggc	cagggcatctctgaggtctc	P	Alexander et al. 1996b
1	SW552	aagagccagatggggagg	actgataagacatgctgtgtgc	P	Rohrer et al. 1994
1	SW780	tctaccagctaattgctcactg	taggacctggaatatactcctg	P	Rohrer et al. 1994
1	SW781	caactacgtccttcttttggc	gatccttggctcggaaacttg	P	Rohrer et al. 1994
1	SW962	tgaatctcaagcagtagagcac	tcaagatgcccaactcactc	P	Alexander et al. 1996a
1	SW970	agtgggcaaaccaataatgc	gctgccacaagctgactga	P	Rohrer et al. 1994
1	SWR337	tctgctccacttatecagattct	ccgagttgctgtggctct	P	Alexander et al. 1996a
2	S0141	gatctggtctgtctgtctct	agacccaactctggtctcat	F	Jung et al. 1994
2	S0441	cagagggggagatagctg	ctgctatcataattgataattgtc	F	Grimm et al. 1997
2	SCAMP2	cagctccactcagactcct	ttgaagagtgaggactcactgc	F	Wen et al. 1998
2	SW1320	atgtagtggcttctcgacc	tggttaaaactattttcacac	F	Alexander et al. 1996a
2	SW1370	agagcagtggtctgctaagatg	gaattgcctaaattacttctcc	F	Alexander et al. 1996a
2	SW1450	cagggccttaacttctcagtcg	tcattgtctctctagacctgg	F	Alexander et al. 1996a
2	SW1466	agccctcagtaaccagc	gcagtttctgactgctttggg	F	Alexander et al. 1996a

Table 1 Microsatellite primers for constructing RH map

Chromosome	Marker name	Forward primer	Reverse primer	Mapping*	Reference
2	SW1650	caatttctgctgaacagcatag	gggtataaaattcttgggaagg	F	Alexander et al. 1996a
2	SW1844	ttttatggctgagtagcattcc	caacctacattccattgagagg	F	Rohrer et al. 1996
2	SW2134	aaaatgatatgtaccactctgaccc	gatccacacacatccagctctatac	F	Alexander et al. 1996a
2	SW2192	tggaaataatctctgaggagg	ctatatgccatggttgagc	F	Rohrer et al. 1996
2	SW2193	gcaccccttctctaaggacc	aagcaatgattggtgtgtgc	F	Alexander et al. 1996a
2	SW776	taatcegttcaccccag	ccatatgccacagtttcgg	F	Rohrer et al. 1994
2	SWC9	ggctcagggatcccacag	aagcacctgtaccccacag	F	Alexander et al. 1996b
2	SWR1342	ggcagctacagcttgattc	ttccatacccaagttgtccc	F	Alexander et al. 1996a
2	SWR2157	atcagtacttttagcaatgatagcc	aaagagacttaaggttcccag	F	Rohrer et al. 1996
2	SWR308	tccagtccttggctctcttg	ttagcctgggaacttccatg	F	Rohrer et al. 1994
2	SWR345	aacagctccgattcaacc	tactcagccttaaaaggaagg	F	Rohrer et al. 1994
2	SWR389	tttttagtgtgctgttttcg	gtaggccagcagccacag	F	Rohrer et al. 1994
2	SWR783	catacctgcacatctcttcagc	gcagctatagctccgattgg	F	Rohrer et al. 1994
2	S0010	ftaacatggctgtctggacc	gtccctgtccaacataaga	P	Fredholm et al. 1993
2	S0226	ggttaaacctttNccccaataca	gcacttttaactttcatgatgctcc	P	Robic et al. 1994
2	S0368	ctgtgtcaagccctagtttagacat	aattctgagcccagttattttcaa	P	Robic et al. 1997
2	S0378	tgggacctaatgttgagacag	actgagccacaatgaagagaac	P	Robic et al. 1997
2	SW14	ttctgcaccaaaggttattttg	aaaagcaaaacaaaaacaacc	P	Rohrer et al. 1994
2	SW1408	cagccctgtcacttgagtagc	ttctgctctacagcaaagcg	P	Alexander et al. 1996a
2	SW1517	caaatgattttatccatcctgc	tcttagtgatgattcttaagctg	P	Alexander et al. 1996a
2	SW1602	tctaatgtacagcatggagactatag	caatttaacacatccatcccc	P	Alexander et al. 1996a
2	SW1655	atcagaatcaattgttactaagacc	ggagcagaggtgacagttg	P	Alexander et al. 1996a
2	SW1860	cttttaataaatgtacttttaggggtg	ttctggctacaacactttacag	P	Alexander et al. 1996a
2	SWR2516	gtgcattatcgggaggtatg	acccgtgatgatactgtaactctgg	P	Alexander et al. 1996b
3	DG50	caaataaactgggccattgc	cgttgtttcaagtgtctttggg	F	Grimm et al. 1997
3	IL1B	tggcagtcctctgtccttg	gatctttcacagacactgtcgc	F	Moran et al. 1993
3	S0032	caaatgtctgattcacgcttgacat	cagcagtagcatccccatcct	F	Brown et al. 1994
3	S0034	gaaccaaggcatgatgagctcacag	gctgcacctcaattcaacccttag	F	Brown et al. 1994
3	S0165	gttaacgcttcgggatcctgg	gggaggttgcatcttagatgac	F	Ellegren, 1993
3	S0358	ggggccgtgtgccataatata	ccctccaacgagccctttca	F	Robic et al. 1994
3	S0397	ggctaattggagctgagaagca	agtgcagcatttccgataactctg	F	Robic et al. 1997
3	SW1066	gcaggatgaaccacctg	ctcttgaggcaacctgctg	F	Rohrer et al. 1994
3	SW142	agtttgacagcattcgattcc	atattctggcttgagtgacag	F	Rohrer et al. 1994
3	SW1436	aagtccaaagtctctgctttgc	tactccccctccagttccc	F	Alexander et al. 1996a
3	SW1693	gcgtaggtttccattctgtatag	tcaatattaccccaattacttgc	F	Alexander et al. 1996a
3	SW2141	ttgagatgcattagattcatacac	ccatttctaaggacaggagagc	F	Alexander et al. 1996a
3	SW236	aatgaacactttattggggcc	gacatctcactggctgaaagc	F	Rohrer et al. 1994
3	SW2618	gcttttctgtagtactagattg	atgttctcaagactctgacaaacc	F	Alexander et al. 1996b
3	SW271	ttccagtggtttctgtgc	cattcattcccagtgaaactg	F	Rohrer et al. 1994
3	SW274	cgcacagcgacatctttta	aagtgacagccctaaaagaca	F	Rohrer et al. 1994
3	SW314	cctccttgagcctacccttc	ccctagccctggaactctg	F	Rohrer et al. 1994
3	SW349	cctgtttaggctccatgag	ctaggagctggccctgaac	F	Rohrer et al. 1994
3	SW487	tgagcacctctgcttgagtc	acaccttcaaatggcagtgctg	F	Rohrer et al. 1994
3	SW833	ctgactgttttctgctgagtg	tccactgaggtctctactctc	F	Rohrer et al. 1994
3	SW836	tccagtgacaatgtcaggftc	ttagtactcttttggagcctc	F	Rohrer et al. 1994
3	SWR201	tggaaacactctggcataacc	ctccaactcagcccttagc	F	Rohrer et al. 1994
3	SWR85	ggctaagccaccaagagaac	acctctagctgggagcttc	F	Alexander et al. 1996a
3	KS1	caaaagttggctaaaggagg	tgcagctgtggaatgattg	P	Rohrer et al. 1998a
3	KS2	caaaagttggctaaaggagg	tgcagctgtggaatgattg	P	Rohrer et al. 1998a
3	S0100	ccttaggaagctgtgta	agccatgacaggaacgccagtag	P	Rohrer et al. 1994
3	S0164	tatgccgtttgctgagtccta	aggccaccaggggaactccatt	P	Ellegren et al. 1994b
3	S0167	aaactccaatttcataacatag	cttcataatgtgctaagactctc	P	Ellegren, 1993
3	S0216	tccaccactgccagtcactt	ctgggctttgaaccaca	P	Robic et al. 1995
3	S0372	caecatcttgctcatgcttcac	aaactacctctacccctaca	P	Robic et al. 1997
3	SW1327	agctcttgaagctcaagagc	catacttctccagaggaaaagc	P	Alexander et al. 1996a
3	SW1525	tattatctccatggcctcactg	ctgctatttccctctcg	P	Alexander et al. 1996a
3	SW160	tcttctgtcatacatgcc	actagacagccaggggtgg	P	Rohrer et al. 1994
3	SW1978	ctcgtttctacaaaftaagttaag	aatggctaaagagagaacatttgc	P	Alexander et al. 1996a
3	SW2021	gcgacacatgagataaaactgc	aatccacagcttactcagatg	P	Rohrer et al. 1996

Table 1 Microsatellite primers for constructing RH map

Chromosome	Marker name	Forward primer	Reverse primer	Mapping*	Reference
3	SW2429	tcttttagggtggaggatgg	catgtccctatgaactctgtg	P	Alexander et al. 1996a
3	SW248	ccatccacgttttataatgg	caacctaatgtccatcaatgg	P	Rohrer et al. 1994
3	SW2527	ctaccccaagataaattgattc	cacactgcactactattgttaagc	P	Alexander et al. 1996b
3	SW2532	ttcgacacacaggttttaggg	gtggaggcttctgaaatgtacc	P	Alexander et al. 1996a
3	SW2570	tggggctgagtattccagag	tcctagccctgtcactcactc	P	Alexander et al. 1996a
3	SW590	atttgctgagagataaggtgcc	gcattgaccagggtcagg	P	Rohrer et al. 1994
3	SW717	tctgctcatccaatacttggc	catcccctgaatggttcac	P	Alexander et al. 1996a
3	SW72	atcagaacagtgcgccgt	ttgaaaatggggtgtttcc	P	Rohrer et al. 1994
3	SW730	accaagtgcaggctaaatgc	gttacaggctgggagcaaag	P	Rohrer et al. 1994
3	SWR1395	agcctggaaacttccatgtg	gcaactggatgtctgggg	P	Alexander et al. 1996a
3	SWR2204	agctctgattcaaccctagc	ttttccaggagggtttctg	P	Alexander et al. 1996a
4	S0001	tggatgggtctcattctcag	tgattcctagcctgagaagc	F	Fredholm et al. 1993
4	S0067	gggagccacaacaaagaagg	ggcctggagtgtgggactag	F	Fredholm et al. 1993
4	S0097	gacctatctaattgtcattatag	ttcctctagagtgcacaaact	F	Ellegren et al. 1993
4	S0214	ccctgcaagcgttcatctca	ggctgtgccaagtccattag	F	Robic et al. 1995
4	S0217	tgtgatgcaggctggcag	gctcctcatctggggctc	F	Robic et al. 1994
4	SW1336	taaggctttctgcaatggg	gctttggggaaaacatgg	F	Alexander et al. 1996a
4	SW1996	cttggaaactgacaagagggg	cctgtatcctcactacactagtgg	F	Alexander et al. 1996a
4	SW2409	actggtgtccttacaagaagg	ctttgccataatcttcacatgg	F	Alexander et al. 1996b
4	SW2435	caaagcagatgcacagtttagg	cagagggtgtgtgtggg	F	Alexander et al. 1996b
4	SW2454	aagtacctacggagacaaaacc	tgccatgtcattattgttgagc	F	Alexander et al. 1996a
4	SW2509	tgctgagattgagaattctgc	tcgtcaggtacagccctag	F	Alexander et al. 1996b
4	SW286	ggtgacagaatacagttttccc	gatcttctatttgccctgtg	F	Rohrer et al. 1994
4	SW480	tgctggaaaaggtctgc	cttctctctgtgtgccctg	F	Rohrer et al. 1994
4	SW489	caagtgtgaaattgtgcgg	cgaagtgtctaactataagcagca	F	Rohrer et al. 1994
4	SW512	tatagtgcagttatctcaatacaaatg	tctgacattaatacaaccacccc	F	Rohrer et al. 1994
4	SW752	tcaagaataaaggacaggaacc	ctacctcccatttgatgctg	F	Rohrer et al. 1994
4	SW835	tggctcagagttttcactctg	cagaggtttaccagttttggc	F	Rohrer et al. 1994
4	SW841	aagcagagggacaagggc	gcaagtggttaaggaatgtgc	F	Alexander et al. 1996a
4	SW856	aggggggtgggtgattgtg	aactccccctactgtctg	F	Rohrer et al. 1994
4	SW969	agcctggaaacattttgagtg	ttcaattggttctctgtgcc	F	Rohrer et al. 1994
4	<i>V-ATPase</i>	ccacacactgctaacagaa	cactgcaataaatctggaagag	F	Pfeiffer et al. 1998
4	S0073	actgaaacaggaattcagatcc	tgaagtattatggcatcatgga	P	Fredholm et al. 1993
4	SW1089	tttcccctcactcaacc	gatcaaaagtccttactccgg	P	Rohrer et al. 1994
4	SW2049	tgttgtagtgctgggtcag	cttccatgatcatgggtgc	P	Alexander et al. 1996a
4	SW2404	tgacagcctctggttcc	agctgtcgtgtttttctctcc	P	Rohrer et al. 1996
4	SW2547	agatgccattagtgatgtgc	gaccttggtactccacttcc	P	Alexander et al. 1996a
4	SW445	cctccctggcactcattg	cacacacacaagcaggtgc	P	Rohrer et al. 1994
4	SW818	tctgataccacgagatggcc	ttaactctgtgagccatccg	P	Rohrer et al. 1994
4	SW871	atccctgttctccacctc	aattaaagccattcactgggg	P	Rohrer et al. 1994
5	<i>IGF1b</i>	catatftttctgcataactgaacct	gggtattgctagccagct	F	Moran et al. 1993
5	S0005	tccttccctctgtaacta	gcacttctgattctgggta	F	Fredholm et al. 1993
5	SW1071	agtgctgatatcaagcacaagc	tcacttcccacccttacac	F	Rohrer et al. 1994
5	SW1383	gcagattgcttctgttcc	caagtgcagagaattgcagc	F	Alexander et al. 1996a
5	SW1468	ctccagatgttacacatgtg	gaatattcagaatgtggcgtg	F	Alexander et al. 1996a
5	SW1904	ttggtgaaaaactaggactgc	ttgccaggctagaatcagac	F	Alexander et al. 1996a
5	SW2	tgccaatgggtgtgctataa	ccctgaaggctcagatggt	F	Rohrer et al. 1994
5	SW2003	catggaaaaatgtaattgtgg	caggaaacagggataaaagacac	F	Alexander et al. 1996a
5	SW378	attatgcccctactcccc	gatttcttcttgtttgtccc	F	Rohrer et al. 1994
5	SW436	ggacttctagcctccagaactg	aatttcaatcactaccaccgg	F	Rohrer et al. 1994
5	SW439	ttctagcctccagaactgagaa	cctcctcctcctcaccata	F	Rohrer et al. 1994
5	SW70	cccgtacagtcaccacc	cttttctgggttgagcaac	F	Rohrer et al. 1994
5	SW865	caaagactaccctactctcc	gaccagggtgaaatgtactgc	F	Alexander et al. 1996a
5	SW963	tctgtgttccaccaccg	tgtgcacctgacacatagactc	F	Rohrer et al. 1996
5	SWR1112	ctgggtttgtttctgttttg	tggttgggaactccatac	F	Rohrer et al. 1994
5	S0092	gggaaacacataaatcacttgccat	gggatcaagacttcactcccat	P	Ellegren et al. 1993
5	SW152	ggattttagggtgaatctgc	gatgacctgcaatgccc	P	Rohrer et al. 1994
5	SW191	atgatgggaactcctgctc	aattctcaatgtccacatgg	P	Rohrer et al. 1994
5	SW1982	cattatcagcgactcaaggc	tggcgtctctattggagt	P	Alexander et al. 1996a

Table 1 Microsatellite primers for constructing RH map

Chromosome	Marker name	Forward primer	Reverse primer	Mapping*	Reference
5	SW1987	tgagcagataggcagacttctg	ttaaggggcatgtttgagg	P	Alexander et al. 1996a
5	SW2034	gccttctaattggtgggc	attgcaggaaacaagcttcg	P	Alexander et al. 1996a
6	<i>NPPB</i>	accctaattgcatcctcaccc	tcaccatggaaaaaatgtgc	F	Muladno et al. 1996
6	S0003	gaagtgttaaggaagcctt	agcctcagtttctctaccta	F	Fredholm et al. 1993
6	S0035	ggcctcttatactctcagcata	ccaataaacacagcaggcagcct	F	Brown et al. 1995
6	S0099	ctgccaagagaggetcttctcaa	catccgcctggttccctccctat	F	Johansson et al. 1992
6	S0146	gatcctctctgtgataggagg	tgtggctgatcggcattgct	F	Jung et al. 1994
6	S0220	caagcaagttgaggagcccaga	agaggatcgaaggaacaagaggaa	F	Robic et al. 1994
6	S0228	ggcataggctggcagcaaca	agccccctcatcttatctacact	F	Robic et al. 1994
6	S0443	atgacatcccagatccagcaac	acccaaggaggttagagggac	F	Grimm et al. 1997
6	SW1038	cagctctgaacacagtctttca	gctgttggtgagagtcaatcc	F	Rohrer et al. 1994
6	SW1053	cccaccactgactcctg	tgtcggggagtagactcagg	F	Rohrer et al. 1994
6	SW1055	ctcttcgctgttctaacc	cactgtcccaggcttg	F	Rohrer et al. 1994
6	SW1329	gatctctctgtcttatctacac	aaacctgccttcttagcc	F	Alexander et al. 1996a
6	SW133	ggcctgaattacatattgtccc	aatgtgcaacaaaacaaaag	F	Rohrer et al. 1994
6	SW1353	tactgttacccttgccc	aagtacgcaggtcagctgag	F	Rohrer et al. 1996
6	SW1473	taaggctgaatccacgctg	atgcaaatgcccagattc	F	Alexander et al. 1996a
6	SW1647	gatctccatcagcatgtttg	tccatgttgcgcaatg	F	Alexander et al. 1996a
6	SW1818	agtctgttagcctgtaattgagc	aattgtggttcaactctcttcc	F	Alexander et al. 1996a
6	SW2098	acagaaggagctacttactgtttg	actagctctaaaattctatgttgc	F	Alexander et al. 1996a
6	SW2535	acctagctgtcttctcgacg	ctaccccaggcaatgctg	F	Alexander et al. 1996b
6	SW280	ctagtgtatccatgctgctgc	tcctatgctgcacacacag	F	Rohrer et al. 1994
6	SW322	cattcaacctggaatctggg	tccttggaaggctacacc	F	Rohrer et al. 1994
6	SW4	cacacatcctctgccc	cctgtgctcagtgagg	F	Alexander et al. 1996a
6	SW607	agcactggcacaggataac	gcaagaactggtttccagc	F	Rohrer et al. 1994
6	SW709	tctcaaggtcacacagcagg	aaggcagctggttaggcatg	F	Rohrer et al. 1994
6	SW824	ctaaactttgaatgcttgcgtg	accaaaagcctcgtttcaaga	F	Rohrer et al. 1994
6	SW917	aatcttggaacctatggccc	ccaacaatttcaatcaagttg	F	Rohrer et al. 1994
6	SW973	cacagttgcatgtgggtc	tagggggcccgttaaagtc	F	Rohrer et al. 1994
6	SWR1384	aacctccatagctgccc	tgacgactaaattgaaatctgcc	F	Alexander et al. 1996a
6	SWR1923	attaccacctagcctggg	gaaccacaacctcaggtgc	F	Alexander et al. 1996a
6	DG154	gtaattgctgtgcaaatgttagc	gaggtgtcacacagacagatg	P	Grimm et al. 1997
6	DG195	cggggtgcttagcattggg	gaactccatgagctttgacatg	P	Grimm et al. 1997
6	DG32	gggtaacattccattgtggg	cactccagtgctcagctgc	P	Grimm et al. 1997
6	DG53	gcaacctcatcgtttctagtgg	ccttaccattggtcagagttcg	P	Grimm et al. 1997
6	DG93	gttgagtgaacatccactctagcc	gacctcttccccactctg	P	Grimm et al. 1997
6	DG94	gccaaaggtatggaagcaatc	ccatgacattgcaaatgggag	P	Grimm et al. 1997
6	DG98	caccagaaaagcataatcagttg	gaactgccactaaaattctgg	P	Grimm et al. 1997
6	<i>FABP3</i>	ggctcacatgatatggaccaag	cggcatgcagctcaaattag	P	Gerbens et al. 1998
6	KS3	tcacaaggcatcgggtgaac	gaacctgatttagaggagggg	P	Rohrer et al. 1998b
6	KS4	tcacaaggcatcgggtgaac	gaacctgatttagaggagggg	P	Rohrer et al. 1998b
6	MN003	taacctgaacgacctgg	gcgtgatattgttttagtgc	P	Ambady et al. 1997
6	MN006	ctctcattcagagaatagaggc	caaaagtctaggtgcttate	P	Ambady et al. 1997
6	MN009	ccagttccatttaaatggg	gatgggcacaagacaatc	P	Ambady et al. 1997
6	MN10	ccaagaccagcatcagg	cgtgcagacatggaacg	P	Zhao et al. 1999
6	MN11	gtggtttggaggatgctg	cttgggtagataccaaggcc	P	Zhao et al. 1999
6	MN17	atacctgccagtgaggag	tgctatggtgtggtgaagg	P	Zhao et al. 1999
6	MN18	gggagagagtctgcaagg	ctgtgccctcagaggaag	P	Zhao et al. 1999
6	MN30	tgtcagcttgaggag	aggagcgggaaatgtctctg	P	Zhao et al. 1999
6	MN35	caatcccttattctccg	gcatgctactctgcctgc	P	Zhao et al. 1999
6	MN37	ccctcagtagagccattatc	gctgagcagcaattggctg	P	Zhao et al. 1999
6	S0059	cagggtagccaaaaagagtaaa	tgacacctgtgaacgtagt	P	Robic et al. 1995
6	S0087	gacaagetccaggaagcttctg	attgcctgtgacccaaggggca	P	Ellegren et al. 1993
6	S0121	ttgtacaateccagtggaatcc	aatagggcagtagggtgttga	P	Robic et al. 1994
6	S0299	ttctgttctgactattgg	agcatggctgacctcatca	P	Hoyheim et al. 1995b
6	S0333	gacctcatgccaacttcccgatg	acgaaacagctgttatctggacc	P	Groenen et al. 1995
6	SW1057	tcccctgtgtacagattgatg	tccaattccaagtccactagc	P	Rohrer et al. 1994
6	SW1108	gtcttctcacacggaatgc	ccccacctcacacatacatg	P	Rohrer et al. 1994
6	SW1841	ttctgaatctgacctgacac	agcttctactgataaggagctactg	P	Alexander et al. 1996a

Table 1 Microsatellite primers for constructing RH map

Chromosome	Marker name	Forward primer	Reverse primer	Mapping*	Reference
6	SW193	tgccatcctttttcattacg	tcaacttgaggggtcctgac	P	Rohrer et al. 1994
6	SW2052	actcactgtttccggaggc	ccctgtgcatacatagtgc	P	Alexander et al. 1996a
6	SW2406	aatgtcaccttaagacgtggg	aatgcgaaactcctgaattag	P	Rohrer et al. 1996
6	SW2415	atacgtctaagccccttggc	tagagaaaaccaccagtggg	P	Troyer et al. 1996
6	SW2419	agggcgtgctcttctaactg	tgactcagcatctcctgcc	P	Troyer et al. 1996
6	SW2466	ccttccccacacaatctc	tgagtgaaccgtggttagg	P	Alexander et al. 1996a
6	SW316	ttctccagccatcatgagtg	aatgaccattcctgaggctg	P	Rohrer et al. 1994
6	SW446	ggtttctgtctgtaaaatggg	atccctggctgggaactc	P	Rohrer et al. 1994
6	SW71	gatcaccttatccccatc	tagaaaaccatcatcattca	P	Rohrer et al. 1994
6	SW782	tcttcacatatgacaccaacc	cggaaacaagaggaaagtgagtg	P	Rohrer et al. 1994
6	SWR1211	tagaccctcctctgttcttcc	catatgctgtggggaatggc	P	Rohrer et al. 1994
6	SWR2149	taacctgctgagccacaatg	tttggggggttaaaatgcc	P	Alexander et al. 1996a
7	<i>BAT1</i>	ttctccccatcctcattctg	agcggcccaagaaatgac	F	Peelman, LJ .et al. 1995
7	<i>NFKB1A</i>	gatccagccaacatttcac	atggagaactgctggtttgc	F	Alexander et al. 1996a
7	<i>RYR3a</i>	gtgactttgtggtgtgtgtg	ggctccaggtaatacaga	F	Leeb et al. 1999
7	<i>RYR3b</i>	ccctagtctctgctcactg	ccatctccagagtttctcag	F	Leeb et al. 1999
7	S0064	tgagctggaggttagctacc	tgtcagaaaactgcttgcg	F	Fredholm et al. 1993
7	S0066	acatttaagggtgaagcagcaagt	tgtcatcaacattgagaattggtg	F	Fredholm et al. 1993
7	S0101	gaatgcaaagagttcagtgtagg	gtctccctcacactaccgcag	F	Ellegren et al. 1994b
7	S0102	gtcaagcaaaactccacgtct	attttgtgccaaatgcattgtg	F	Ellegren et al. 1994b
7	SW1083	ccttgctggcctcctaac	catactccaaaatttctatgtga	F	Rohrer et al. 1994
7	SW1303	gtatgctgcgaggaggcc	gagggccacaaagtacagcc	F	Smith et al. 1995
7	SW1354	gagccagattaatgcagttgc	cctagtccccgagcgtaatc	F	Smith et al. 1995
7	SW1409	gttgtccaattttgtaatc	cctgggatagaccatgatgg	F	Smith et al. 1995
7	SW1418	cccctctctatggggtgtg	ttcctgaggacagccag	F	Smith et al. 1995
7	SW1614	tgaaggtttctttgtggtgg	caaacatacaggctactgaaagc	F	Smith et al. 1995
7	SW1681	ttgattgcaatgtggtgc	gatcatgatggaacatagtatgc	F	Smith et al. 1995
7	SW1701	aggttaactcaggtgtcagatagc	tctagttaaaaagcctgaatgc	F	Smith et al. 1995
7	SW1856	tcattccaaacacacagagtc	ttgatggtatcctgtgatgcc	F	Alexander et al. 1996a
7	SW2019	atgatgcgaacctggaactc	tatgtgaacttggtcccatgc	F	Alexander et al. 1996a
7	SW2108	tgctcctgtctggagttatcg	aaacatgtggcaaggaagg	F	Rohrer et al. 1996
7	SW2428	aggttcttgggaggtgtgtg	ttatgaatgggatattgtcgtg	F	Smith et al. 1995
7	SW252	ctctgggtccatccatttg	ttatgatgcaaaacatggaagc	F	Rohrer et al. 1994
7	SW2537	cagactgttctgaggctccc	cagagcctccctgctcac	F	Alexander et al. 1996b
7	SW2564	tgacttagcctcatgtgtccc	gctgtgtacagttacctgcagg	F	Rohrer et al. 1996
7	SW472	aaaatgaaccctctccagtttc	tctgaacactacagcccgc	F	Rohrer et al. 1994
7	SW581	ccccagattgactctgactcgc	catgatggagataatgtggg	F	Rohrer et al. 1994
7	SW632	tgggttgaagatttcccaa	ggagtcagtaactttgcttga	F	Rohrer et al. 1994
7	SW732	gcaaatgaatgacaaaaagg	cattttcaattggattggttc	F	Rohrer et al. 1994
7	SWR1343	gatctggcattccatgtgc	ctcctagcctgggaacc	F	Rohrer et al. 1996
7	SWR1928	tagggtcagtgcatccttcc	acgagaactcccgaacctg	F	Alexander et al. 1996a
7	SWR2036	tgggaaattactgtgtctacc	agctctgattagaccccaagc	F	Smith et al. 1995
7	SWR2152	gctacagctccaattcagcc	tcataaatattctgtttgtgatg	F	Alexander et al. 1996a
7	<i>TNFAb</i>	tttttaggttccctttcttc	aaccaaggcagcccttatg	F	Moran et al. 1993
7	<i>TNFB</i>	ctggtcagccaccaagattt	ggaaatgagaagtgtggagacc	F	Ellegren et al. 1993
7	<i>TNFBa</i>	atgcactctggtcagccaccaaga	ttagaggattttgcaacaacca	F	Yerle et al. 1996
7	S0025	tetcccttccctccatctct	ctccatcagccaaaaacatt	P	Coppieters et al. 1993
7	S0029	tgcccaaggagatgttacta	aaggtcatggaggctgaaat	P	Peelman et al. 1996
7	SW1380	gaggtgccacctgctgag	ctcagttgctggtgtgccc	P	Smith et al. 1995
7	SW1437	tgctgtattatacaaacaccgc	tgccctactttatcctctgaggc	P	Smith et al. 1995
7	SW147	ttgcctttctccatgtgact	acaacctaaccattgtcacagg	P	Rohrer et al. 1994
7	SW1667	tgccgtaatccatggag	tgtgggcagttttgtgtgac	P	Smith et al. 1995
7	SW175	tcacacctgtataagagatgca	tgttgggcataaactgtaatt	P	Rohrer et al. 1994
7	SW1816	agctcagctctgcaactaggc	taaccagttgggagcagaag	P	Alexander et al. 1996a
7	SW1959	caacaacatagtgtagtaaggcac	atctccctctctctcattctattcc	P	Alexander et al. 1996a
7	SW2040	ttgacattgtctctgttaacc	gaaggaaggaagaaagaaggg	P	Smith et al. 1995
7	SW255	tgtacagctctagttgacccc	tctgcttagctgccaactt	P	Rohrer et al. 1994
7	SW263	tcagaaaatcctcttgccca	gatccttaggctcaaacagca	P	Rohrer et al. 1994
7	SW352	gccccattctcaattcac	gatcaagctcccctcttcg	P	Rohrer et al. 1994

Table 1 Microsatellite primers for constructing RH map

Chromosome	Marker name	Forward primer	Reverse primer	Mapping*	Reference
7	SW764	tagcagattgttagcctctgtg	aagcatcttttctaagcacaaca	P	Rohrer et al. 1994
7	SW859	ttcagtttggtagc	cagggtggccctaaaaagg	P	Rohrer et al. 1994
7	SWR1078	gctggggagtagccagt	ccctcctcgcaaatctttt	P	Smith et al. 1995
7	SWR946	atcaggggtgtcaatttgtg	cctgggcacttccatg	P	Smith et al. 1995
8	S0069	tgcaaaactaatgttgtgtg	catatgccacaggtgtgacctaaa	F	Fredholm et al. 1993
8	S0086	gcacagtctattgatactggcgtc	ctgagaacttccatgctcctgg	F	Ellegren et al. 1993
8	S0098	aaaaactgagcagtaaaagtgaac	cgactttctgaacgtgagcacca	F	Ruyter et al. 1994b
8	SW1029	atgtcaggtcatgtgaattacg	agggtcagccctaaaaggac	F	Alexander et al. 1996a
8	SW1070	cttgacagcactccttaggc	tctatgtgcctggagtgagg	F	Rohrer et al. 1994
8	SW1080	gggaaatttgatttgaattg	tcctgtcactgtaacttggc	F	Rohrer et al. 1994
8	SW1085	caggctccctgactcagac	taggtccatccatgtttctgc	F	Rohrer et al. 1994
8	SW1117	agggccataacttggatcc	aaaaacaaaaagaccctgtg	F	Rohrer et al. 1994
8	SW149	tcatgttcacagaaccttcc	agttacgggtgggtcgtaatcc	F	Rohrer et al. 1994
8	SW1551	tttacttgggaaaccctcc	gatcaaccacaaattctggc	F	Alexander et al. 1996a
8	SW1679	gccaaagagggaagcctatagc	caaatccatttagatgtaggc	F	Alexander et al. 1996a
8	SW1924	gtcaactttgcaaatgttatgtg	ttgacaaaactgagtaaacatgg	F	Alexander et al. 1996a
8	SW205	cacaggtccatcacctcatg	gggtatctaattgacatcagg	F	Rohrer et al. 1994
8	SW2174	acgtttctgcctctgtagg	gatcttaaatatagcaccctc	F	Alexander et al. 1996a
8	SW29	agggtggcctaaaaagaaaagg	atcaaatcttacctctgcage	F	Rohrer et al. 1994
8	SW31	aaccaggaagccttctgc	ccattgggcagtagaatttc	F	Rohrer et al. 1996
8	SW368	acattaaataggattatataatgc	ttcatttttttaaaagtcagttatctca	F	Alexander et al. 1996a
8	SW444	atagttcgggttggcccag	cttaagcctcaagctaacaggc	F	Rohrer et al. 1994
8	SW7	taaccatgctttcctaggtgg	ccagagctgagtaaaaaggctca	F	Rohrer et al. 1994
8	SW905	atcccaaccttcttcaagg	tccagtgccagaaacatg	F	Rohrer et al. 1994
8	SW916	ggaggtggcaataaccagg	ctgccaggctgttaagag	F	Rohrer et al. 1994
8	SW933	acatafactccgacagcccc	aagagcttggtaattgagagc	F	Rohrer et al. 1994
8	SWR1921	tgctcgggttgttaacctc	ccttctatagcctttcaatttatg	F	Alexander et al. 1996a
8	S0017	ctaggagaaaatctgaggtt	gtttgaatggaggtgctgta	P	Coppieters et al. 1993
8	S0285	tagcctgcctcaaaagacct	tgccctaaaaatccccgttc	P	Davies et al. 1994
8	SW1345	cctgtgccagttccatc	cattgactccaggtagagctccc	P	Alexander et al. 1996a
8	SW1649	cacaggtccatcacctcatg	tgggtatctaatgtacatcagg	P	Alexander et al. 1996a
8	SW1702	acctccatatactcaagcg	taccagtcgagttcgctgac	P	Alexander et al. 1996a
8	SW171	cagattgttagcctctgtgtg	catctttccaatgacaacatg	P	Rohrer et al. 1994
8	SW374	agtaatcccatcctcccag	tgctctccagccctcaag	P	Rohrer et al. 1994
9	S0081	aacagaatacaaaagcatagtatac	cctcttactcttaatttcttgcac	F	Ellegren et al. 1993
9	S0163	ggaaacctccatagccataggttt	ggatccttcccaggcttttgggta	F	Ellegren . 1993
9	S0384	ctaattttgtatcatggtgg	acatgtctcagagcataggc	F	Robic et al. 1997
9	SW1349	atttaattgtttcattgtgccg	cttcatgatgcccacactgg	F	Alexander et al. 1996a
9	SW174	gccaaaatagctattggacagc	tcatgtatattgttccagatg	F	Rohrer et al. 1994
9	SW21	cgattttaatgtgcagccg	caggagctgacctatctgggtg	F	Rohrer et al. 1996
9	SW2116	cagtgtttgtgtggatgggtg	cataaatagggctcagtgacc	F	Alexander et al. 1996a
9	SW2495	aaccagaagctatcccctaacc	ggggagttttgtgtagtctc	F	Alexander et al. 1996b
9	SW749	ttcccaaccaaccaagag	aggaaactgccaaaatcag	F	Rohrer et al. 1994
9	SW779	tacatgtgcagaaaacagagcc	tgttggctccacttctc	F	Rohrer et al. 1994
9	SW866	agtgtggtgtgactgatttgg	catgcagggaaaggagagag	F	Rohrer et al. 1994
9	SWR1950	cacaggtgtggcctaaaaag	acgtctctggactacatttcttc	F	Alexander et al. 1996a
9	SWR2140	ttgctgtggctctggtgtg	cccattgggcaagaatg	F	Alexander et al. 1996a
9	SWR250	cactcaatgtctcgaatcaagc	ctgggctgtggtgtagg	F	Rohrer et al. 1994
9	SWR915	ttcatgtttccctattacagca	gctatagctccaattcgacc	F	Rohrer et al. 1994
9	S0095	gfttgatccccagctcagcacagt	ggggtttcacagaaagcatgcagg	P	Ellegren et al. 1993
9	SW1006	acaggcaaaagactagaacattgg	atagagccaggaataatcatgtgtg	P	Alexander et al. 1996a
9	SW1434	atcgcttaaatctggtgacatg	aagtctcatcagcacattttag	P	Alexander et al. 1996a
9	SW1435	caggaaacttccatgctgc	gtgttgagggtcttctctg	P	Alexander et al. 1996a
9	SW2093	atgcacctgctcagaggc	gtctgttggccatggg	P	Alexander et al. 1996a
9	SW2571	aaggcatcaaaagtgcagg	tccatgtgcacacactcatg	P	Alexander et al. 1996b
9	SW383	gaattgcctcaggtttaggc	ttacaaccaggtctgactgtgc	P	Alexander et al. 1996a
9	SW539	cccatccacgctaagaagag	tcaacgggaacactgaag	P	Rohrer et al. 1994
9	SW54	tccaccttctctgctcc	tcacagaccaagagctgtgg	P	Rohrer et al. 1994
9	SW727	atctctctggtttcagattttagg	ggcctgttccattaggg	P	Rohrer et al. 1994

Table 1 Microsatellite primers for constructing RH map

Chromosome	Marker name	Forward primer	Reverse primer	Mapping*	Reference
9	SW944	ctccagttcattgcagttcc	tcttcatgtatcacaaacctgc	P	Rohrer et al. 1994
9	SWR123	tcttccaaaatagtttagtcttttg	gtgttgcttggtctgatgtag	P	Alexander et al. 1996a
9	SWR1357	ccacatgccagaggtgtg	tcatatgtgaggttttgtgtg	P	Alexander et al. 1996a
9	SWR1939	ctggacttaacacattgaatgc	tgctgcaggtatgactctaaac	P	Alexander et al. 1996a
10	S0039	aggcaagttggttacaacgg	cactcagccccagacacc	F	McQueen et al. 1994
10	S0070	ggcgagcatttcattcacag	gagcaaacagcatcgtgagc	F	Fredholm et al. 1993
10	S0366	tectggattggtctccctctg	ccNctccaaggtcatgtttctact	F	Robic et al. 1997
10	SW1405	ttctaagaacttttcaacagcc	gatctcactgtgagtgaate	F	Alexander et al. 1996a
10	SW305	agctttcatttttaaccatc	tcacctttcaaccatcacc	F	Rohrer et al. 1994
10	SW830	aagtaccatggagagggaaatg	acatgggtccaaaagacctgtg	F	Rohrer et al. 1994
10	SW920	catggagctgaactgcaaa	atcaagcccaacttaagaataca	F	Rohrer et al. 1994
10	SWR158	tccaattcaactcctggctc	gaatgtgcacataccatgc	F	Rohrer et al. 1994
10	SWR1849	cctgttctgcctctagcctg	ctgagaagcctgtgcatcag	F	Alexander et al. 1996a
10	SWR334	caagtcaaagacagatactctgtg	tgtggcatagtttcagatgagg	F	Rohrer et al. 1994
10	SWR493	atatttaaccattgcagcatg	ctgcagctccacttagaccc	F	Rohrer et al. 1994
10	DG36	gagttccatgaagctatgctg	ttgcttctaaaaaacacacc	P	Grimm et al. 1997
10	SW1041	atcagaaaaatgtcaacagttca	ggagaattcccaaagttaatagg	P	Rohrer et al. 1994
10	SW1103	tctctggatgtgagatgctagg	tgcaagggttcaggaactc	P	Alexander et al. 1996a
10	SW1991	ctcttgcaaaactccacctc	accacatagatataaccccc	P	Alexander et al. 1996a
10	SW2000	ttccctctgaaaacctc	cactcagccccagacacc	P	Alexander et al. 1996a
10	SW2043	catattgggataaatcatttcatca	ggttttaaattggcaagcca	P	Alexander et al. 1996a
10	SW951	ttcacaaactctggaccag	gatcgtgccccaaatggac	P	Rohrer et al. 1994
10	SWR1829	ctgatggagcataaattctccg	tttctgctgtacagcaaagg	P	Alexander et al. 1996a
11	S0071	gacatgggaatcaggttgcata	ccagaagcaggttttgatgata	F	Fredholm et al. 1993
11	S0230	aacagccccagtgcccatt	tccccctccactctcttc	F	Robic et al. 1994
11	S0382	gcgggtggtggaatacaag	tgaccagggactgaagtg	F	Riquet et al. 1995
11	S0385	ctattaggctggaggggtg	agttcagaagctgttctg	F	Riquet et al. 1995
11	S0391	ctccattcttttcatggc	tgccgtgttatttgacga	F	Riquet et al. 1995
11	S0392	tagcagatcgtctagcact	cgctcacctcctactccc	F	Riquet et al. 1995
11	S0395	gcagttggactaaggtttatg	tcacactttgctcctctcc	F	Riquet et al. 1995
11	SW1135	tgctgtggttcccaatttg	tgtaggagccttgctggg	F	Rohrer et al. 1994
11	SW1377	ttcaaggttggaagacagtc	atgaggagttgaaactattggg	F	Rohrer et al. 1996
11	SW1460	tccaattacgactctatctaaagg	caagctggacagatatacttggc	F	Alexander et al. 1996a
11	SW1486	cccactgtttcttacattgc	actccaaagcccacattctg	F	Alexander et al. 1996a
11	SW2008	caggccagagtagcgtgc	cagtctcccaaaaataacatg	F	Alexander et al. 1996a
11	SW435	atcatgtgagaaaaagaacatagt	tgcaagagaactccggc	F	Rohrer et al. 1994
11	SW486	gcaaaacttggtggccg	tccatttgctaataaagactga	F	Rohrer et al. 1994
11	SW903	tttctttgacagttgtcaagg	tgaactacagcagcactg	F	Rohrer et al. 1994
11	SWR2071	tgggatgagggaaactc	gaggataagaccgcctacc	F	Alexander et al. 1996a
11	SWR811	gcgggtatagctccgattc	tctaaacctgttatgcaatt	F	Rohrer et al. 1994
11	S0381	caacctgccccattactcac	tgttgcctctgctcgggctg	P	Riquet et al. 1995
11	SW13	tcttagccagtgacggcac	gatcaatctcaaaactgaaggtgtg	P	Rohrer et al. 1994
11	SW1415	aatggctaaggaacttctgcc	ctagttattgctgtggcc	P	Alexander et al. 1996a
11	SW1465	ctgctctggaataatgaac	tgtgtcgtagctgctgtcc	P	Alexander et al. 1996a
11	SW1494	ttcgacatgctgtgggtg	aaatagacaggtaacaggacctc	P	Alexander et al. 1996a
11	SW151	ttcccctatgatgatggc	ggtgtggccctcaaaagg	P	Rohrer et al. 1994
11	SW1827	agtttacctggatactcgactcag	ggggtgtgttatatttctactg	P	Alexander et al. 1996a
11	SW2413	aaagaccgggtcctctg	cattccatccgcctacc	P	Alexander et al. 1996b
11	SW703	aagatgaagcaggaactcaagg	cttgatggctttactgttcacc	P	Rohrer et al. 1994
11	SW878	ctgggagcacaacagatagtg	caagcaataaacttctaagg	P	Rohrer et al. 1994
12	<i>INHBB</i>	gcgggtgctacagctccgattca	gcctgcgactgtcaagaattcac	F	Ellegren. 1993
12	S0106	gcggccaccgctcaaggctgtgc	ctcaggagctccgcccagttg	F	Ellegren . 1993
12	SW168	gcactttctcccttacc	cagtgtaaagcatggaagatgc	F	Rohrer et al. 1994
12	SW2180	aatccccaataaagcctgg	ctaatagccccacccc	F	Alexander et al. 1996a
12	SW467	tatacctttagcgcctacgagc	ctcagccgttgataactc	F	Rohrer et al. 1994
12	SWR1021	cgccacaagtgaactcc	ccgcggtccagctatag	F	Rohrer et al. 1994
12	SWR1802	gatcaccctggaaattct	ctccatagctcgggtg	F	Alexander et al. 1996a
12	S0090	ccaagactgcctgtaggtgaata	gctatcaagtattgtaccattag	P	Ellegren et al. 1993
12	S0147	agctgcagctccagatcatct	gctgtaagcagattaacac	P	Jung et al. 1994

Table 1 Microsatellite primers for constructing RH map

Chromosome	Marker name	Forward primer	Reverse primer	Mapping*	Reference
12	SW1350	aacatgctttgagattgtaaacac	tgggtggggcagagctag	P	Alexander et al. 1996a
12	SW1553	gtgttgaagcctgggtgc	agctcctaaaagcaaattggc	P	Alexander et al. 1996a
12	SW1956	agtcaccctcctccaggg	cagcatcggtctcaaaaactg	P	Alexander et al. 1996a
12	SW1962	agtcaaatagtggaagaagtgaag	aacatttggtaacttatctgcttgc	P	Alexander et al. 1996a
12	SW2559	gccaaaggagatgaagtatgtg	ttgaattcaggatggacagg	P	Alexander et al. 1996a
12	SW37	ctttgtacacgctggctcct	gaagccccaccctacaatca	P	Rohrer et al. 1994
12	SW60	tccgtatgctgtggatgtatc	catgttctgcaaatggc	P	Rohrer et al. 1994
12	SW605	agccttctgtgcagaaaagc	ccccaggttctctgctctc	P	Rohrer et al. 1994
12	SW62	ccagggtgtgcttttagtc	ggctcacttggcacatg	P	Alexander et al. 1996a
12	SW874	aaaagaaccaactacagcagc	tttatgagggtatcctgacacc	P	Rohrer et al. 1994
12	SWC23	taccctcagagtaccag	caaaggagcatgtttatggatg	P	Alexander et al. 1996b
12	SWR390	cgagcaaaaaagacacaaaa	ctgggaacctccatgtgc	P	Alexander et al. 1996a
13	S0219	ccgccaatgccattccaa	caatcggtagtgtttacattgat	F	Robic et al. 1994
13	S0282	aacttccatgcccacaggtgc	agtggaaacagaatggagagccc	F	Davies et al. 1994
13	S0289	aggagcatttggccacgtctg	tgttgacctctgtgatggggc	F	Davies et al. 1994
13	SW1030	aactggggaagtagaagagcg	tcatctcatgctgtgtctaaa	F	Rohrer et al. 1994
13	SW129	ttgtttagaagtttgggttgc	ttgcatgaactttcaactctg	F	Rohrer et al. 1994
13	SW344	agcttctgtgtgcaggag	gtagtgtccaagagagtgcc	F	Rohrer et al. 1994
13	SW38	acgtctgttcggtcct	gaggctcctgatagcagcc	F	Rohrer et al. 1994
13	SW398	aagtccaatgctttgtcc	cggaggagaaataagggtagc	F	Rohrer et al. 1994
13	SW482	ggagaaaagaatgattatgcaaa	ccagatgtcgggtctttgt	F	Rohrer et al. 1994
13	SW520	gccaccggtgtgactctaaa	ctttcccaagttcacttagca	F	Rohrer et al. 1994
13	SW698	atacaaacatagccatggacc	gatccgatttcaggccttaa	F	Rohrer et al. 1994
13	SW769	ggatgacaaaaagctctggg	tctgctatgtgggaagaatgc	F	Rohrer et al. 1994
13	SW864	ttgcacagatgctaattcttc	ttaagactgtcttggcattcc	F	Rohrer et al. 1994
13	SW873	tccatctacactgacccaaatg	acagtagccaagatatggaagc	F	Rohrer et al. 1994
13	SW882	tgggtctccatcatcatgtg	ttttccggggaaacagaac	F	Rohrer et al. 1994
13	SW935	gtggtgtgttgcctcttatagc	atataagggaataatctgaaagagta	F	Rohrer et al. 1994
13	SW937	gtggagaacaccaaagtcg	tggaaacttgaacctgacacc	F	Rohrer et al. 1994
13	SW955	ctgctcaaagttatcttcccc	gtcactccaactctgtcttccc	F	Rohrer et al. 1994
13	SW960	tctatgagccatgctatgaacg	agtggcgccaacattaatc	F	Rohrer et al. 1994
13	SW992	ttatcccttcccccttgg	catgttctgcaagtggc	F	Alexander et al. 1996a
13	SWR1008	acagccaccaacagtgtttg	gaacttccatgctgcaagtg	F	Rohrer et al. 1994
13	SWR1218	tgtgactatggcataggtcc	gectattcagaatgttctctgg	F	Rohrer et al. 1994
13	SWR1941	agaagaacatttgattgcataatc	acaaggacctactgtatagcacagg	F	Alexander et al. 1996a
13	SWR2054	ttggagttactgttgggtgg	aaagcccaacaactgtaaatc	F	Alexander et al. 1996a
13	SWR2114	ctccaagctattctaattggacttg	agctctgattagacccaagc	F	Alexander et al. 1996a
13	SWR2189	agcactgtttatggcatcc	tacagctccagttgacccc	F	Alexander et al. 1996a
13	SWR926	tagcagaccagagtttttgc	ttgaccctaacctgggag	F	Rohrer et al. 1994
13	SWR950	ctccatgtgtgcaggtg	ccaaacactcccctgcac	F	Rohrer et al. 1994
13	S0291	ggagggaccatctgacagga	ttttgtgggacgctctgac	P	Davies et al. 1994
13	SW2412	gtggagcaaggtactcctgtg	tttaataaagccctccccc	P	Alexander et al. 1996b
13	SWR1306	ttcatttctgccacaacgg	tgggtctgttttcaaaagtgc	P	Alexander et al. 1996a
14	S0116	aacctgatgtgtgatggctgga	ggattgaatgctaaggacaatcc	F	Groenen et al. 1995
14	SW1081	aaactgtagaaccagctggagc	gacctgtagcattaggactgg	F	Rohrer et al. 1994
14	SW2038	gccgagaaaccttcacc	tagcctgttcagtccacc	F	Alexander et al. 1996a
14	SW245	tgggtctagcagaacctgtg	aaacctggcaacacagcag	F	Rohrer et al. 1994
14	SW2607	tacgatacatttctgcccc	aataagcaaacccccctccag	F	Alexander et al. 1996a
14	SW2612	agcattttccgggattag	ggcctctctctgtcctg	F	Alexander et al. 1996b
14	SW342	gggttctgtgtagtgactgc	tcattccacaacagcagaacc	F	Rohrer et al. 1994
14	SW510	gttccataagctcatcactca	atattctgcaactgtcagccc	F	Rohrer et al. 1994
14	SW540	tcagtggaggcgaataaac	ccaaatctgccaacacag	F	Rohrer et al. 1994
14	SW6	gcctgggaacttcgatgc	gtgagaagagcctagtccagcc	F	Alexander et al. 1996a
14	SW761	ctttgctccccattaagctg	tctagcaaatgtctgagatgcc	F	Rohrer et al. 1994
14	SW77	atcagaccgagggttgc	gaaatctgatgtctcaagtg	F	Rohrer et al. 1994
14	SW857	tgagaggtcagttacagaagacc	gatcctctccaatcccat	F	Rohrer et al. 1994
14	SWC27	ctgagactgtgctgctactg	ccattttccaaaacatggg	F	Alexander et al. 1996b
14	SWR1042	tcaaaactcacatcttggctg	gcctgggaacctctataacc	F	Rohrer et al. 1994
14	SWR84	ttcagattcagagccactctg	atctgacattgctgtgctg	F	Rohrer et al. 1994

Table 1 Microsatellite primers for constructing RH map

Chromosome	Marker name	Forward primer	Reverse primer	Mapping*	Reference
14	SWR925	agctccaattgaccccag	ctccaaattcttctgctcaagg	F	Rohrer et al. 1994
14	S0063	accctagcctggaaacttc	ggcagtgccaggagtttacc	P	Fredholm et al. 1993
14	S0089	catgtactgttaaatagtaagta	ctgtagtctgctgggtcctgaga	P	Ellegren et al. 1993
14	SW104	ttgcccgactatttcacc	atctgcaccatattcactg	P	Rohrer et al. 1994
14	SW1125	tagatgtatatacttccatgtgtg	atgttgagctcttaattttataca	P	Rohrer et al. 1994
14	SW1557	tgctetaatctaccggggtc	ccaccctaccctctctg	P	Rohrer et al. 1996
14	SW210	tcataccatcataccaagatg	aattctccaagaagagagcc	P	Rohrer et al. 1994
14	SW2515	ccatctcatccagaacaatcc	aggatgctgaggtgttaggc	P	Rohrer et al. 1996
14	SW295	acctgccagagttgtggc	aagagtttcatttcccatcc	P	Rohrer et al. 1994
14	SW328	gatccaaactgccattctattg	caggggtggcgtagaag	P	Rohrer et al. 1994
14	SW55	aaaggaacaggggcatcag	ccgtatttcttacctgtggagc	P	Alexander et al. 1996a
14	SW59	aatcagactgcctgatactccc	agggtgcagaatgagcctttg	P	Alexander et al. 1996a
14	SW69	tcagcttcgtgaacaagg	acctccctcatcagctattcc	P	Rohrer et al. 1994
14	SWR1113	atggaacctgggtgcttc	tgacgtctgattgcgtc	P	Rohrer et al. 1994
14	SWR346	tgaacctgcaccacatg	tggaagctccttacaccac	P	Alexander et al. 1996a
15	S0355	tctggctctacactccttctgatg	ttgggtgggtgctgaaaaatagga	F	Robic et al. 1994
15	SW1111	aggctctactgtccatcacagg	gaagcagagttggcttacagtg	F	Rohrer et al. 1994
15	SW1118	atcaccttctactcagaatcc	gtctgtgctatcatgcac	F	Rohrer et al. 1994
15	SW1316	aagcagagttccagagaagagg	atccctatgtatatttctgagctc	F	Alexander et al. 1996a
15	SW1339	cctctgcagagacctgtgc	agggaagagagccgcttg	F	Alexander et al. 1996a
15	SW15	gggtcggccctaaaagac	ctcaaatcttgccaactatccc	F	Rohrer et al. 1994
15	SW1673	ctctatgtctgtctatctgtctttac	gtgggaggtggaacagttc	F	Alexander et al. 1996a
15	SW1683	gtgcaagagagtgccatttatg	caataatctggcttctctgcc	F	Alexander et al. 1996a
15	SW1865	cccctctcttacacaatctac	aaaagtacctctgtgctcc	F	Alexander et al. 1996a
15	SW1892	gatcagagaaaagccaaggc	ttaccatctcaccattc	F	Alexander et al. 1996a
15	SW1935	gcaataattcagagtgagcgc	cctttcagatgtctactgggtg	F	Alexander et al. 1996a
15	SW1983	gcaggttcggccttaaaag	ccatagctccctgctacc	F	Rohrer et al. 1996
15	SW2083	aaattttgtgagttttgtgtggg	acacctgagagtgctctgtagc	F	Alexander et al. 1996a
15	SW2129	ccaatgccagaccactgac	gggtgtggccctaaaatgac	F	Alexander et al. 1996a
15	SW936	tctggagctagcataagtgcc	gtgcaagtacacatgcaggg	F	Rohrer et al. 1994
15	SWR1485	ctccgattagaccctagcc	cgactagtgggtgtgttttg	F	Alexander et al. 1996a
15	SWR1533	atttcttcttcttcttctgtgtg	ctgggaagctccatattcca	F	Alexander et al. 1996a
15	SWR283	tgggacttaattgtattctgtg	gatttgaccctagcctcg	F	Rohrer et al. 1994
15	<i>CHRI-4</i>	ggctggcagctgtagctc	taacttatgagcacaattgtcttcc	P	Miller et al. 1993
15	SW120	ttttaagatgtggctgtgttgg	gatcacctgctaagtgaagtea	P	Rohrer et al. 1994
15	SW1204	attttgaacatgagtaattccgtg	tgatgctctgtttctgtatgtg	P	Rohrer et al. 1994
15	SW1217	gatctgcttactctgtgtgtgtg	ctaataaacaaccaccaaac	P	Alexander et al. 1996a
15	SW1262	ttggggctcacaagtcac	ttgtaatttccgtatgctgc	P	Rohrer et al. 1994
15	SW1309	tccaagttaaatggcacttctg	gcattcttctactgaagggg	P	Alexander et al. 1996a
15	SW1945	gagtggtacatcattgttttgg	gttaggcatcagtgaaaagcc	P	Alexander et al. 1996a
15	SW2072	aacaagcacggagtatgatgg	aagatgaaccccaagctcc	P	Alexander et al. 1996a
15	SW2131	atagagcagcaataaagagcc	tatttggcagaattttccgg	P	Alexander et al. 1996a
15	SW2608	gcttgaggaattggcaaatg	gagcttgtgagacaggaatgg	P	Rohrer et al. 1996
15	SW964	gtggttctctatgcagagtc	atgtgatgaaacatgatggagg	P	Rohrer et al. 1994
15	SWR1002	caaggagatcttttcacagca	ctgggaacttcataagcca	P	Rohrer et al. 1994
15	SWR2121	cgaggagatggagagctttg	tggaactgtaaaggctccc	P	Alexander et al. 1996a
16	<i>FSTa</i>	agtagctttctgcctagtggatgc	ctacagaaaagtaacatgaggaat	F	Ellegren. 1993
16	S0026	aaccttcccctccaatcac	cacagactgcttttactcc	F	Coppieters et al. 1993
16	S0111	tcagttatttctgctatcatctc	ttgatgtagaccaccagctagtg	F	Ruyter et al. 1994a
16	S0298	acataacatcgtaaatcagc	ctccatcagactgtctaca	F	Hoyheim et al. 1995a
16	SW1035	tatgggggcctaaaaagac	aacggccttaacctctcag	F	Alexander et al. 1996a
16	SW1454	caatgccctcacctgtatcc	ttgtcttgacgttacatcccc	F	Alexander et al. 1996a
16	SW1645	tcttctcttcttgggg	gegctgtgtacacctccag	F	Alexander et al. 1996a
16	SW1809	aggtagcatccctagttttgg	cccacatcaagccttagcc	F	Alexander et al. 1996a
16	SW208	aacaaaatatttaaaatactctgtgtg	gcaagaataatacaacaatctaacc	F	Rohrer et al. 1994
16	SW2411	cctggactcattctgctttg	ttctattctgtctgcttgg	F	Alexander et al. 1996a
16	SW2517	atactatgtgcttgcgtgcg	aaggaaacctgagagctactgg	F	Alexander et al. 1996b
16	SW403	gtgtatgttcatgcatgggtg	gtctctgcttctgtcatg	F	Rohrer et al. 1994
16	SW5	tcaagttccatcctgtttgc	agtgccacagatggatgaatg	F	Rohrer et al. 1994

Table 1 Microsatellite primers for constructing RH map

Chromosome	Marker name	Forward primer	Reverse primer	Mapping*	Reference
16	SW557	tgccactgtagatgaatgg	ctttgaatgtctttttcccc	F	Rohrer et al. 1994
16	SW742	aattctacttctggggagaggg	ctttgggaacattttctgcc	F	Rohrer et al. 1994
16	SW813	agttgattaaatgtgtgcca	aatatttcaaaaaaggaaatgcg	F	Rohrer et al. 1994
16	SWR1106	gatcaaggtagtctgacattaataa	tgacgtcccaattcgacc	F	Alexander et al. 1996a
16	SWR2080	aaaagacttccattttgaatgg	tagggcatgttttcttcttcc	F	Alexander et al. 1996a
16	S0061	aagcagaaggatctctcta	gctgtttctgggttctctta	P	Fredholm et al. 1993
16	S0105	accatcgtccaggtgacctg	cggacatcttctctgtaaaa	P	Ellegren . 1993
16	SW1341	ggcttttaagaagctatttgg	atcctgtttcaattcttcagg	P	Alexander et al. 1996a
16	SW1638	cactacttgtgaatgctctggg	tgccaagaacataatacatttgc	P	Alexander et al. 1996a
16	SW1897	gtgccgtggcaggaactc	actgccattgttttcaaagtg	P	Alexander et al. 1996a
16	SW419	aatgggaaataggctctaagcc	tcacctccatatacatgtgc	P	Rohrer et al. 1994
16	SW977	gatcaaggtagtctgacattaa	cgtcaaatgctgacgtctta	P	Rohrer et al. 1994
17	S0292	ttggcatcctgttgaaaacc	ttcatatgctcagggtgtggc	F	Davies et al. 1994
17	S0332	tggtttctcaccagaagaagtc	cccaaggagctacagcaaggcaag	F	Groenen et al. 1995
17	SW1031	atcaccagacaaaacaatctc	tatgtcaaccccaaacccc	F	Rohrer et al. 1994
17	SW2427	gcatgtattgagttgatgtgtagg	tcggaattccagaaaattgg	F	Alexander et al. 1996b
17	SW2431	cttcccaggatgttctctaaac	catgggtcacacttagtggg	F	Rohrer et al. 1996
17	SW840	cctggaaacaacctaagtgtcc	ttcacattagttccgggac	F	Rohrer et al. 1994
17	SWR1004	tgggaacacctgcttcatc	tcctatgccccaaagtgtg	F	Rohrer et al. 1994
17	SWR1120	caaatggaaccattacagtc	actcctagcccaggagcttc	F	Rohrer et al. 1994
17	SWR2417	ggcctcactcgcagtatatg	ggtgtaagccagcgggtg	F	Alexander et al. 1996b
17	SW1920	gatccgtatctatagccacctg	atgaaagctaccaaccccttc	P	Alexander et al. 1996a
17	SWR1133	ggggattgttaccactgagc	tcctatgggtgaaaaaagatg	P	Alexander et al. 1996a
18	SW1984	tttttagtgtccaaggaggctcc	ggagcactaatagaccaccacc	F	Rohrer et al. 1996
18	SW787	ctggagcaggagaaaagtaagttc	ggacagttacagacagaagaagg	F	Rohrer et al. 1994
18	SWR169	aatccattttgagttgatttgg	tacagctcagattggacccc	F	Rohrer et al. 1996
18	S0062	aagatcatttagtcaaggtcacag	tctgatagggaacataggataaat	P	Fredholm et al. 1993
18	S0177	ttactgggatgggtgtgacat	atccacagagtttactcagac	P	Ellegren et al. 1994b
X	S0117	caggaagctgaagctgagatttga	ctgctcaggagctagtttactca	F	Groenen et al. 1995
X	SW1044	atctccctagcctccccc	gtgatgcaacatgaggagg	F	Alexander et al. 1996a
X	SW1346	gatccatgaacaataacaagtttc	tcttttagtgttctcatttctgc	F	Alexander et al. 1996a
X	SW1426	tgggtgtcacagtttattggg	tcctatcttctaagtctagtagg	F	Alexander et al. 1996a
X	SW154	cagaggggcagcagaataac	gatccatgaactgacatgtg	F	Rohrer et al. 1994
X	SW1549	gatctgaaaaggagcggatg	gatcaaaaggagcggatg	F	Alexander et al. 1996a
X	SW1565	gcgcatgggtcaaattc	cacttgagacggaacatgatg	F	Alexander et al. 1996a
X	SW1943	attcccctgacacattaatgg	tatggctgagtagtattccatttg	F	Rohrer et al. 1996
X	SW1994	tetccagggtccatccatattg	tgaacctcaggttaattgtgg	F	Alexander et al. 1996a
X	SW2126	cctaatagtccatctataaatgaatgac	cattattttgcttttaataagctgag	F	Rohrer et al. 1996
X	SW2137	cattgacacagtcccctgg	ggtaaatacacaaacctccacg	F	Alexander et al. 1996a
X	SW2156	caagtgccatcaacacttg	tcactcttgggtccatctacg	F	Alexander et al. 1996a
X	SW707	acgtgctttctttgagctg	aaaaacgctaaagaacaaagcg	F	Rohrer et al. 1994
X	SWR17	gtttaagccacctggtctatgg	atcctgactgtcttatggctg	F	Rohrer et al. 1994
X	SWR1861	tacagctccggttggtcc	tagctcttagtgcacttgccg	F	Rohrer et al. 1996
X	S0022	ctgggcagctctataatate	ttaccttttactctgtgc	P	Coppieters et al. 1993
X	S0218	gtgtaggctggcggttgt	ccctgaaacctaaagcaaaag	P	Robic et al. 1994
X	SW1325	cattcattttgttcttctgcc	cacaccttcttcttacttcc	P	Alexander et al. 1996a
X	SW1411	gccaaggatgtttcactg	atgacctggctgtgaaaagc	P	Alexander et al. 1996a
X	SW1522	ctacctcccagagtacccc	tagcaactttcttttacttccc	P	Rohrer et al. 1996
X	SW1608	ctaattgtgactgattaatgggc	tgaagcttctacttaaggaagaatc	P	Rohrer et al. 1996
X	SW1835	gaagcaacctaataatgtccattg	gtccaaccagggttttaatcc	P	Alexander et al. 1996a
X	SW1903	ttctctgatgccacagttg	tcaaccgtgtactgtgtctg	P	Alexander et al. 1996a
X	SW2059	gctgtctgctttggacag	actaagtccaggcactcagac	P	Alexander et al. 1996a
X	SW2434	aattcccctatttttaattctgc	atcatttacaatgaccaagattcg	P	Rohrer et al. 1996
X	SW2476	gagagggacagagctgagagc	cttgagglttgatggcacg	P	Alexander et al. 1996a
X	SW2534	tgagtgaaggccttaccag	taactgatagacccaagtccg	P	Rohrer et al. 1996
X	SW2588	tgtcttctccccctccc	aaagcctggtgaggaccc	P	Rohrer et al. 1996
X	SW259	cctttcatgctgtatttaacc	cagagaacagaagtggggg	P	Rohrer et al. 1994
X	SW980	ctfcagtgtagtccaagtggc	gatgttttctgtataggaagg	P	Rohrer et al. 1994

*F: Framework marker, P: Placed marker.