Details for 75 SNP markers used in GAPS Chinook salmon baseline.
Updated 5/7/2009
To obtain aliquots of these assays for GAPS baseline work please contact Nate Campbell (camn@critfc.org)
Updates to this worksheet or suggestions for improvements can be sent to Christian Smith (christian_smith@fws.gov)

	Assay Name	Pub*	Pseudonyms	Forward Primer	Reverse Primer	VIC probe	FAM probe	GAPS allele names	
								VIC probe	FAM probe
1	Ots_113242-216			GAGGCCTAATGTCTCTTGTGACT	GACATCTTCAACAAGTGTTCATTCACC	ATTACCAACGGAGAACC	TTACCAACAGAGAACC	C	T
2	Ots_113457-40R			CCCAAGTGGTGAGTGTCAGT	ACTACAACAGGTGTTGATAATAGAATCATTCTC	ATATGGATTGGAGAATAG	CATATGGATTAGAGAATAG	C	T
3	Ots_123048-521			CTCAACAGTGCACCTCCCTTAATT	CCAAACACACCCTTCCATAATCTCT	TCACATCCAACTCAGTACT	CATCCAACGCAGTACT	A	C
4	Ots_128757-61R			CGTGTCCGGCTTCTTTTATTTCATT	GATGGGTATGTTAATCATATTACCAGCGTAA	TTGTGCATTTTCCCC	TGTGCATTTCCCCC	A	-
5	Ots_94857-232R			GGCACTCTCCCTGGCTAGA	CCCCATCACTTCTCTGGCTTTAAAT	CAGGATAATAACAAACAAG	CAGGATAATAACGAACAAG	T	C
6	Ots_94903-99R			CCGTCTGAGTAGGAGGATCAATACA	TTTGGATCCAGCTCTCCGTATAGA	CAAACCAGCAAACAT	ACAAACCAGAAAACAT	G	T
7	Ots_96222-525			GCTCTTGCCCATCTGTAGGAT	GGCGCAACATATGTATTAAGCAACT	TGTAGCTAATTTTAAGTTCTC	AGCTAATTTTAAATTCTC	C	T
8	Ots_96500-180			GATCATGTCAGATAGGATGCTGAAAGT	CAGGTCTGGTCTACATCGAACAC	AAAACAAATCATTTTTCG	AAAAACAAATAATTTTTCG	G	T
9	Ots_96899-357R			TCTCCTGAACTAATTTAGACCTCTGAATGT	CCTCATATTGCTTTCATCTGAAGAGAGA	CTGAATGTTTTTTTTTAATCTTT	CTGAATGTTTTTTTTTATCTTT	T	A
10	Ots_97077-179R			CCTGAACAAATACTTAACGCTCCAGTT	GTAATAATACTTCACACCATTGCCACTTC	TCACAAATGTATCCTAAAGC	CACAAATGTATACTAAAGC	G	T
11	Ots_AldB1-122			GCCATGGAGGACTGGATGA	GCCACCACTACTTGCTGAGAAAATA	ACCCACTTCGCCAACA	ACCCACTTCACCAACA	C	T
12	Ots_aldb-177M	4		GCGATCAGGTGACGCTAAAATGA	AGGAAGGTGATGCCTGAGAGA	CCAAATTGCTTAACCC	CCAAATTGCTTTATCC	TTG	ATA
13	Ots_AsnRS-60	2		CCGACGCCTCACTGAGT	TGGTTTTTCAGGTCATGGTTTCCA	TGAGTCCCTGACCAGC	AGTCCCCGACCAGC	T	C
14	Ots_aspat-196	4		CCTGAACAGGTACACACAAACGA	TCCAACTGATGAATATGACCAACATGAAT	CACACCCACTCTTTAT	CACACCCAGTCTTTAT	G	C
15	Ots_C3N3	1		CCGGATTCCATGGCCTACAC	GCCAAAATGATGTTCGGATGTAAAGT	CTAGAAAGGTTGATCCAATAA	AAAGGTTGAGCCAATAA	T	G
16	Ots_CD59-2			TGTTTATCTCTGAGTGAAAAAGGTGTGT	CATGTTACCCAGCTAAAAGTCTATAGCA	CTAAAATGTCATGTAAATAT	ACTAAAATGTCATATAAATAT	G	A
17	Ots_CD63			TGCATGTTTTCTAACTGTGTTTTTGTGT	TGAATGCCCCCCATCAACA	AGATCATGGGAATCATAT	ATCATGGGCATCATAT	A	C
18	Ots_cox1-241	4		CACTGAACTGTAAGCCATTGTGATT	GTAAATGTAGTATACAGTATAGGCATCGTAGGT	CACTACGGTAAGACCAT	CACTACAGTAAGACCAT	C	T
19	Ots_EndoRB1-486			CCTTTGGGTCTGCTTGAGGTT	GGAGCCAAATCCTAATGCTGAAGTA	TCCTTCTCACGCTTCT	CTCCTTCTCATGCTTCT	G	A
20	Ots_EP-529			GCCCTGCCTGCAACTTC	GAAACCAACGTCTTGATGTAGACCTA	CAGTGTCATTTTCGGC	ATCAGTGTCATCTTCGGC	A	G
21	Ots_ETIF1A			TCTGAACTCACCAAAGGAACACTTG	GAGAGAAAAGGAGAAATGATTGCCATT	CAACTGAAGAAAATAATATG	CTGAAGAAAAGAATATG	A	C
22	Ots_FARSLA-220	3		GTTCGTGGGATTGTTCAATGTTCAT	CTTGGACAGGCTCACATTACCATA	CCTTGGATGGGATGTG	CCTTGGATAGGATGTG	G	A
23	Ots_FGF6A			TCAAAAATGTCTATCCAACAAATACTCTGAAAAATATTG	CTTGTGCGCACCTTGCA	CACGATTAGCAATGAACAA	CACGATTAGCAATTAACAA	G	T
24	Ots_FGF6B_1			GAGACAAAGGTTTGCAGGTTCATG	GGGAGCCATGCACTAATATATTGGA	CCTGTTATCAGACCCAAAT	CTGTTATCAGCCCCAAAT	A	C
25	Ots_GDH-81x	4		CTTTTCTGAATTAGTGCTGTGCTTGT	CCAACTTCTTCAACTCTGTCAGTGA	TGTTACGGGACATACT	TCTGTTACGGACATACT	C	-
26	Ots_GH2	1	Ots_GH2_1	GCGTACTGAGCCTGGATGACA	CCCCCAGGTTCTGGTAGTAGTTC	TGACTCTCAGCATCT	TGACTCTCTGCATCTG	A	T
27	Ots_GnRH-271	2		CAGATGAAAAATAAATAATTGGGCCATTAGGAA	CAGAGAGACTGAGACCATATGATGTAGT	CAATGAATACAATATCTAACCTAAT	AATGAATACAATATCTAATCTAAT	C	T
28	Ots_GPDH-338			CACTAAATATTCCTTATCATTTCATACTAAGTCTGAAGAA	AGCTGATACACAATCAAAACACAAAACAT	CCACTACTTAACGTGCTTT	CCACTACTTAACATGCTTT	G	A
29	Ots_GPH-318	3		GGTGATAACAGGTGTTGCACCAA	TCAGGTGGTGGTGGACAAC	ATCAAGCTGACGAACCA	CAAGCTGACAAACCA	C	T
30	Ots_GST-375	3		CAGCCCGTCCCAAAATCAAG	CAGGAATATCACTGTTTGCCATTGC	TTTCTTGTAGGCGTCAGAG	TCTTGTAGGCATCAGAG	C	T
31	Ots_GTH2B-550			TGACTACCCGTTGTACCAATGAAC	CACAGGAAGGACGTGTTTTGATG	TTAATGCTGCAGATGTTAT	ATGCTGCACATGTTAT	C	G
32	Ots_HSP90B-100	3		CACCTTAGTTCCACGCAACATG	CTGCGTGTATTGTAGTGGTGACA	TCTATGGTGTGATTCATT	TTCTATGGTGTAATTCATT	C	T
33	Ots_IGF-I.1-76	2		GGTAGGCCGTCAGTGTAAAATAAGT	GATGGAGGCCACTGTGTTCTTA	CTGCCTAGTTAAATAAAATA	CTGCCTAGTTAAATTAAATA	A	T
34	Ots_Ikaros-250	2		GAGGCTGACTTGGACTTTGC	GGCCTGTCAGCCAAGGA	ACAGAAGATTTTCGGCTGC	ACAGAAGATTTTCGACTGC	G	A
35	Ots_IL11			CCTCCAGATGAGACCCACTCT	CAAAATGGTGCTCAAACGACTTCA	AGTCCGCATGGAGCT	TCCGCGTGGAGCT	T	C
36	Ots_IL8R_C8			CGTGGTGTTCGCCTTCCT	TGTCGGCCATCACTGTCATG	CTGGACGCCGTTACA	TGGACGCCATTACA	C	T
37	Ots_MHC1	1		GTCCACATTCTCCAGTACATGTATGG	CAAACCCCTCTGTCTGTTCAGT	CATCATCCCGTGAGCAG	TCATCATCCCATGAGCAG	G	A
38	Ots_MHC2	1		GTCCTCAGCTGGGTCAAGAG	GTAGTGGAGAGCAGCGTTAGG	CTGGAGCGTTTCTGTA	CTGGAGCGTGTCTGTA	T	G
39	Ots_mybp-85			CAAGGGATGTGACAAATTAATCAAACACATAA	AAGAGGTCTAATAAATCTCCAATGTAAAAACGT	AGAGCATGTAGTTTTG	AGCATGTAATTTTG	C	T
40	Ots_Myc-366			CCTTAGCTGCTCTTTGAAGTTGACT	GGCTATAGAGTGTATTTACAGCATGCA	TCTCTGCTCATCTGTC	CTCTGCTCGTCTGTC	T	C
41	Ots_myo1a-384	4		CTCCCCCCTGGACTTTGG	GCTCTATTGCACCGTGTTCTG	ACAGATCCATCCACCACT	AGATCCAGCCACCACT	A	C
42	Ots_myoD-364	4		GTGTGTGTGTGTGTGTGTCATC	TTTACACATATACAAAAATGGTCCTCTATTGTCAT	TCATCTTTTGTTATTTCCTTG	ATCTTTTGTTCTTTCCTTG	T	G
43	Ots_nkef-192	4		CATTTAGCAGACACTCTTATCTTAGTGTCA	CGAATGTCCACCTCAGATGTTACAA	AATAGGCCGACATCAA	AAATAGGCCAACATCAA	C	T
44	Ots_NOD1			GTGCTGCAGGAACCATGTG	CTGTGTGGACTGCTGTCTAAGG	CCAACGGCGACTTG	CCAACGCCGACTTG	C	G
45	Ots_nramp-321	4		GGCCATCTTTCAGGACGTACAG	GCATGCTCTGCAATACGTTGAG	CTAACGGGCATGAACGA	ACGGGCATGAATGA	G	A
46	Ots_LWSop-638	2	Ots_OPLW173_1	CAATTACTCTTTCTCAGCCCTGTGT	GCGGTAAGATGCAGTTTTACATGGA	TTTAACAAGAAAATTATACATTTC	CAAGAAAGTTATACATTTC	T	C
47	Ots_Ots311-101x	4		AAATGAGGCCGTCCTTTACACT	GCAATACAAGCCCTTGATAATGAAGT	CTGAGATCACTTTGAGCAC	ACTGAGATCACTGAGCAC	AA	--
48	Ots_P450	1		TGAGCGAGATTTATCAAACTGTCAAAGA	CCCAAGCGGGAGAACTTACAG	CCCCGAAGTACTTTT	CCCGAAGAACTTTT	T	A
49	Ots_P53	1		GGAACTTCCTCTCCCGTTCTG	GCACACACACGCACCTCAA	CTGGGTCGGCGCT	TGGGTCGACGCTC	G	A
50	Ots_PGK-54			CTCATACTTTGTACCTGTGTGTTCCA	CGACCCAAGTGGCTCATCAG	CCACCATCAAGCACTG	CCACCATCATGCACTG	T	A
51	Ots_Prl2	1		CCTGGTCTGTTTGTGATCAAGATG	GGTTAACTCAAATAGAACATACTCTGACACA	ATGTATTGTTCATTTAATG	TGTATTGTTCGTTTAATG	A	G
52	Ots_RAG3			CATTTCCACGAAAAGCCAGATGAC	ACAGAATAAAGTATCTTCCTCTTACATCACTACTAAT	CTCTACAGTATGAACTATG	CTCTACAATATGAACTATG	C	T
53	Ots_RFC2-558	2		GTAAGGTCTACTCCGGTTGTATTCG	CAATACGACAGTACCGGTGTTAAACT	TGCATGTAACAAATAACAT	TGCATGTAACATAACAT	A	-
54	Ots_S7-1			TGCCATCATAAACAACCTAACAAGTAACT	CCTGGTTTAAAAACGGCCAACTG	TACAGGAGATAAGGTCGCA	CAGGAGATAGGGTCGCA	T	C
55	Ots_SClkF2R2-135	2	Ots_SClkF2R2-13	CCAAATACAGACCAGCTACTTGTGT	CTTCAAGTCCCTGAATAATGGTACGT	ATTCAAAGTCAAATTTT	ATTCAAAGTCTAATTTT	A	T
56	Ots_SERPC1-209	3		CTAAGTTCTTCCTGCCTAATGTGGAT	CCAAGATTGAGACTTACTATACATTTACAAGTACA	CATTCAGCTTTTTTTC	ATTCAGCATTTTTTC	A	T
57	Ots_SL	1		AATATTGGCTTTCTGAGAATGCATTTGG	CCAAGATACTTCCTTTAACTTCTCTGTCA	TCAAAGATATGATTCAATTAA	AAGATATGGTTCAATTAA	A	G
58	Ots_SWS1op-182	2		TCAAAGACATCGAACACAAGAACGA	GCAGGTAAATTCAAACGTCATCATAAGAA	ATGTACTTTAACGATTCATTT	ATGTACTTTAACGTTTCATTT	T	A
59	Ots_TAPBP			TTTCTCATCCTTCTCTCTTCCAGTCT	GGACAAACCAGCACTCCAGAA	CTGGACAGCTGGTCC	CTGGACAACTGGTCC	C	T
60	Ots_TGFB			GCCTCACATTTTACTGATGTCACTTC	GAGCAGATCTCTTCAGTAGTGGTTT	CTTCCGAGAGCTAGGCT	CTTCCGAGAACTAGGCT	C	T
61	Ots_TLR3			TGCACCTGCGAGAGCAT	CTGGCGTTTGTTCCGTTCAG	CTGTGGTTTGTGGCGTG	CTGTGGTTTGTAGCGTG	C	T
62	Ots_Tnsf	1		GCCAATACGGGTTCTGAACTGT	CGGAATAGTCATAGTAGGGCTCGTT	TGCTCCAGATCTC	TGCTCCAGGTCTC	A	G
63	Ots_u07-07.161			GTCAACAAATGCAGGTAACATAAATGGT	GATGCAAACACCTGTGAAATTGTGA	ATCAGTGACATAAGTTGTCCA	TCAGTGACATAAATTGTCCA	C	T
64	Ots_u07-18.378			GGAAACCAGCTAGGATTCAGGAA	CGTTATATGGTTTGCTTGTTTGCGATA	ATATGGTATGTAGAGGCTAGTTA	TATGTAGAGGCAAGTTA	A	T
65	Ots_u07-25.325			AGACAATCATGGTGTTTTGAGTCTTTCT	GCCTAGGCTTGATGGAGTCA	CCGCTTGAAAGTTTGA	CGCTTGAAGGTTTGA	T	C
66	Ots_u07-49.290			GCTGAGGAAGGATTCTGTATTTGCT	TCGGACAGAGCGCATCC	CTTTCCCCGTGTTGGT	ACTTTCCCTGTGTTGGT	G	A
67	Ots_u07-53.133			AGCTAGGCTGTAAATGCAAGGAT	CAGTGCTTTCAATTCATGCTGTCAA	TAACACATGTTGGAGGTC	AACACATGTTAGAGGTC	C	T
68	Ots_u07-57.120			GGTTTGAGCCAATCAGTTGTGTT	CGGTCTAATGTCCATTGCTCATGTT	CAACCCCTACCTTGTCAC	CCCCTACCATGTCAC	A	T
69	Ots_u202-161	2		CACTTTTGACTTTACATGGAACTTAACTCAT	GGGACTTCACTTTCTACAAACATGTCA	ATTAGCTGCTAAGCACTAG	ATTAGCTGCTATGCACTAG	T	A
70	Ots_u211-85	2		TGGTGAGAGCAGCTTTAAATGTCTT	ACCCATTCTTCTGTCTGGTTTAAGC	TCCCAAAGTCGAGTGTG	CCCAAAGTCAAGTGTG	C	T
71	Ots_u4-92	2		ATCCAAGGAGCCCCATTAAAGATTT	CGTACCAGAGTTGTAGAAGCATCT	CTGTGTTGAATTTAACATAAT	TCTGTGTTGAATTTAACGTAAT	T	C
72	Ots_u6-75	2		GAAAAAGTAAAGTAAAAGTAAAGTATTATACCACTAAAGACAAT	GATCCACACTGTTGGTCTACTACAA	TTAGTCAACTGTTGTTTTT	TTAGTCAACTGTTATTTTT	C	T
73	Ots_unk526		Ots_unk5261	TCAAGACTGTGCTGTAGTTGTCTAC	CCTCCCCCTTTTCCACATCAG	CAACATTCCAGTCTGAAAC	CATTCCAGCCTGAAAC	A	G
74	Ots_zP3b-215	2	Ots_zP3b-1	TGCTGAGGACCATCTGCAATTC	AGGTCCATGAATAACTGAAAATGTACAAGT	CCAAATATCCTACCCGTGATG	CAAATATCCTACCAGTGATG	G	T
75	Ots_ZR-575			GCCTACCAGAAAGTACCAATTGTGA	ACTTTTCACTGTCCTATTACAATTAGTATTTGTGATAT	CCGACACAATTTTGT	CCGACATAATTTTGT	G	A

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[2] Smith CT, Elfstrom CM, Seeb JE, Seeb LW (2005) Use of sequence data from rainbow trout and Atlantic salmon for SNP detection in Pacific salmon. Molecular Ecology 14:4193-4203.

[3] Smith CT, Antonovich A, Templin WD, Narum SR, Elfstrom CM, Seeb LW (2007) Impacts of marker class bias relative to locus-specific variability on population inferences in Chinook salmon; a comparison of SNPs to STRs and allozymes. Transactions of the American Fisheries Society 136:1674–1687.

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