

Figure S10.

CHRM3-Human	1	MTLHNNSTTSPLFPNIISSSWIHSP--SDAGLPPGTVTHFGSYNVSRA---	45
CHRM3-Takifugu	1	-----MQEANLSYSS	10
CHRM3-Tetraodon	1	-----GDWTHHNVSHVLRSEGNMT-QS	21
CHRM3-Medaka	1	-----FTDFQ	5
CHRM3-Stickleback	1	MNLTSSSDSIHFLTNRSSVFMDSPLSVGGWKQHNVTHISRQGNFTDSP	50
CHRM3-Danio	1	SALCTEYATMNLTLSAEPLFLTN--SSPGMRANPVTAFMSHDLHPANDS	48
CHRM3-Eshark	-	-----	-

		67a	
		----- TM1 -----	
CHRM3-Human	46	AGNFSSPDGTTD DPLGGHTVWQVVFIAFLTGI LALVTTIIGNILVIVSFKV	95
CHRM3-Takifugu	11	ANGTWLPPSDSFDPLGGHTVWQV IIIIVFLTGSLSLITVVGNILVLLSFKV	60
CHRM3-Tetraodon	22	LNGTWLPPADSFDPLGGHTVLOV IIIIFLTGSLSLVTVVG NILVLLSFKV	71
CHRM3-Medaka	6	AGRMSVLPTEKTNGSGGDPLWQV IIIIVFLTGSLSVITVVG NILVLSFKI	55
CHRM3-Stickleback	51	VNGTLILPAEDFDPLGGHTVLOV IIIIVFLTGSLSLVTVVG NILVLSFKI	100
CHRM3-Danio	49	LHNTIQTPSVLSDPLGGHSLQVVMIALLCGISL LTIIGNITLVLLSFKL	98
CHRM3-Eshark	1	-----GPSLLKVILLIATITAI VSLVTIIGNILVIVSFKV	34

		TM2	
CHRM3-Human	96	NKOLKTVNNYFLLSLACADLIIGVISMNLF TTYIIMNRWALGNLACDLWL	145
CHRM3-Takifugu	61	NKALKTVNNYLLSLAFADLTIGTLSMNLY TTYIIMDQWALGPVVC DLWL	110
CHRM3-Tetraodon	72	NKALKTVNNYLLSLAFADLTIGTLSMNLY TTYIIMDQWALGPVVC DLWL	121
CHRM3-Medaka	56	NKTLKTVNNYLLSLAFADLIIGTLSMNLY TTYIIMGHWALGPVLC DLWL	105
CHRM3-Stickleback	101	NKALKTVNNYLLSLAFADLTIGTLSMNLY TTYIIMDQWALGPVVC DLWL	150
CHRM3-Danio	99	NKOLKTVNNYLLSLAFADLIIGVLSMNLY TTYIIMDQWALGNFACDLWL	148
CHRM3-Eshark	35	NSOLKTVNNYLLSLACADLIIGVFSMNLY TSYILVGHWSLGLTACDLWL	84

		166c	
		----- TM3 -----	
CHRM3-Human	146	AIDYVASNASVMNLLVIS-FDRYFSITRPLTYRAKRTTKRAGVMIGLAWV	194
CHRM3-Takifugu	111	AIDYVASNASVMNLLVIS-FDRYFSVTRPLTYRAKRTTKRAMTMI CLAWS	159
CHRM3-Tetraodon	122	AIDYVASNISVMNLLVISVLFDRYFSVTRPLTYRAKRTTKRAMTMI CLAWS	171
CHRM3-Medaka	106	AIDYVASNASVMNLLIIS-FDRYFSVTRPLTYRAKRTTKRTMAMIGLAWS	154
CHRM3-Stickleback	151	AIDYVASNASVMNLLVIS-FDRYFSVTRPLTYRAKRTTKRAMTMI GLAWS	199
CHRM3-Danio	149	AIDYVASNASVMNLLVIS-FDRYFSVTRPLTYRAKRTTKRAMTMI GLAWS	197
CHRM3-Eshark	85	ALDYVASNASVMNLLAIS-FDRYFSITRPLTYRAKRTPKRAAIMIGLAWM	133

		TM4	TM5	
CHRM3-Human	195	ISFVLWAPAILFWQYFVVGKRTVP PGEFCFIQFLSEPTITFGTAIAAFYMPV		244
CHRM3-Takifugu	160	ISFILWAPAILFWQYIVGERTVQPN ECYIQFLSEPIITFTCTAIAAFYLPV		209
CHRM3-Tetraodon	172	ISFILWAPAILFWQYIVGERTVQPN ECYIQFLSEPIITFTCTAIAAFYLPV		221
CHRM3-Medaka	155	ISFVLWAPAILFWQYVVGERTVPP EECYIQFLTEPVTTFCTAIAAFYLPV		204
CHRM3-Stickleback	200	ISFILWAPAILFWQYIVGERTVQPN ECYIQFLSEPIITFTSTAVAAFYLPV		249
CHRM3-Danio	198	ISFILWAPAILFWQYFVVGERTV EPDKCYIQFISEPITTFCTAIAAFYLPV		247
CHRM3-Eshark	134	ISFILWAPAILCWOYLVGERTV PSSDCIQIQFLSEPIITFTGTAIAAFYIPV		183

		282c	
CHRM3-Human	245	TIMTILYWR IYKETEKRTEKELAGLQASGTEAETENFVHP-TGS-----	286
CHRM3-Takifugu	210	TIMAILFWKIYOETEKRAKEVQGLK GSGAGHGPTQPKNQGGGAASGREG--	257
CHRM3-Tetraodon	222	TIMAILFWKIYOETEKRAKEVQGLK GSGTGNGPTQPKKQQRSS-----	264
CHRM3-Medaka	205	TVMAFLFWKIYOETEKRAKDIQSLK GS-----	231
CHRM3-Stickleback	250	TIMSFLFWKIYOETEKRVKDMOGLK ASGSGDSQSQSQKQSGSKGRASGEI	299
CHRM3-Danio	248	TIMTVLYWR IYKETEENRSREL AGLKASGNVEEESV VVVVPPQTGS-----	290
CHRM3-Eshark	184	SVMTILYCR IYKETERRTKDLAE LQGSNLGSENEIASASKKTL-----	226

CHRM3-Human	287	-----SRSCSSYELOQSMKRSNRRKY---G---RCH	312
CHRM3-Takifugu	258	ANNSQKDTSSVQCQGSOTCSSHDINQPAAEKSNSKSNEANAER-----KHG	302
CHRM3-Tetraodon	265	-----SOTCSSYDLDPASEKKSNEA-NAEG-----KHG	293
CHRM3-Medaka	232	-----CASTNLNQTVMSESE-----GVG	249
CHRM3-Stickleback	300	ATNSQKDSSAIS---SOSCSSELNQLASDKNSKKNAGIPGGTGSKARCG	346
CHRM3-Danio	291	-----SRSHSSYELOQPAAPMRKTKT-----RRL	313
CHRM3-Eshark	227	-----FRSCFGCE---GHKRSNRE-----RCQ	245

CHRM3-Human	313	-FWFTTKSWKPSSEQMDQDHSSSDSWNNNDAAASLENSASS-----DEE	355
CHRM3-Takifugu	303	TFWQRISF-----MFLSHRSKAKRSANNVTSGCEAEQSSYD-----SSN	340
CHRM3-Tetraodon	294	AFWLRISL-----LCFSHRSGKRPGNVAAACDRRKVAVTILLKSALQ	336
CHRM3-Medaka	250	EGSIKSNQRNTSVKHLHVRTSSSRKLC HQDGPARDPRGSDF-----DSA	293
CHRM3-Stickleback	347	ASCFQFSL-----LLSDRNASKRSVNSTTTIVGETEQS-----SCD	382
CHRM3-Danio	314	WFWSRGDV-----ERSSDSWNNNETAISIDQ-----SDD	343
CHRM3-Eshark	246	VSWSSSRSTTVTLRTHAQSVVDEWSKSDKAGSFASYPS-----SDD	288

		361b		383b	
CHRM3-Human	356	DIGSETRAIYSIVLKLKLP-----GHSTILNSTKLPSSDNLQVPEEELGMVD			400
CHRM3-Takifugu	341	NVEVCATGDHS---GSE-----EELNGESPSTFYIHMNAAV-----FY			375
CHRM3-Tetraodon	337	EISQVQRNWLVRVH-----QQVRHYHLPTLFVCI IYKNNTCLLSALY			379
CHRM3-Medaka	294	SQSPTVCLFEFE-----			304
CHRM3-Stickleback	383	SLNNNQAGEQS---GSE-----DESDGADPTKAPT-----			409
CHRM3-Danio	344	DEEEDAHEIYTI-----			355
CHRM3-Eshark	289	E EKPTTKSVFSVSFKTQANNQKEEFNSEEDKKISLEDHPMINDYENSNCL			338

		402b			
CHRM3-Human	401	LE-RKADKLAQAKSVDDGGSF PKSF SKLPIQLES AVDTAKTSDVNSSVGK			449
CHRM3-Takifugu	376	LDDKCKRMKKNKDRKRSSRSRQO-----DSQTNHQGSPESTVSTA			416
CHRM3-Tetraodon	380	LDDKCYRKMKNKDRQSSSRQO-----GLQSNHQGSAENAASAA			420
CHRM3-Medaka	305	---KSVEEENKDLEQTSITIKRQ-----HGSP LFKASSS			335
CHRM3-Stickleback	410	-DAKKSGRVKNKDKHSSNKSGKG-----SQSNPVNSSTA			443
CHRM3-Danio	356	---EKQDLEAKPSKFGV-----SKSSTL			375
CHRM3-Eshark	339	VSPAKCQKQDKKCVSYKFNKLT I-----TNSSFQPTTPDSSNGCT			378

		470c			
CHRM3-Human	450	STATLPLSFKE--ATLAKRFALKTRSOITKRRMSLVK EKKA AOTLSAIL			497
CHRM3-Takifugu	417	TDRSGGITL-----KAKVEINKRKNEKKANDKKAARTLSAIL			453
CHRM3-Tetraodon	421	ADRSGGITMKD--AAMAKRFASKAKVEINKRKNEKKANDKKAARTLSAIL			468
CHRM3-Medaka	336	NLPGLTMTIKD--AALAKRFALRAKPEINKHKNEKKANEKKAARTLSAIL			383
CHRM3-Stickleback	444	DQSTAAITIKD--ATMAKRFASKAKTEVNKRKNEKKANEKKAARTLSAIL			491
CHRM3-Danio	376	DSKDQPV-----KSARKTNKRKLSLVKEKKA AOTLSAIL			410
CHRM3-Eshark	379	QIKITPCSSSTDSEAPFIKNLDQNLKNQITKRRMVLVKERKAAOTLSAIL			428

		TM6		TM7	
CHRM3-Human	498	LAFITTWLPYNIMVLVNTFCDS CIPKTFWNLGYWLCYINSTVNPVCYALC			547
CHRM3-Takifugu	454	FAFITTWLPYNIMVLVNTFCDCIPQTLWALGYWLCYVNSTVNPVCYALC			503
CHRM3-Tetraodon	469	FAFITTWLPYNIMVLVNTFCDCIPETLWALGYWLCYVNSTVNPVCYALC			518
CHRM3-Medaka	384	LAFMTTWLPYNIMVLINTFCQNCIPEALWALGYWLCYVNSTVNPVCYALC			433
CHRM3-Stickleback	492	FVFITTWLPYNIMVLVNTFCDCIPETLWALGYWLCYVNSTINPICYALC			541
CHRM3-Danio	411	LAFITTWLPYNIMVLLNAFCDCGCIPE TLWALGYWLCYVNSTVNPVCYALC			460
CHRM3-Eshark	429	LAFITTWLPYNIMVLVNTFCSNCPVSLWHLGYWLCYVNSTVNPVCYALC			478

CHRM3-Human	548	NKTFRTTFKMLLLCQCDKRRKQOYQORQSVIFHKRAPEQAL	590
CHRM3-Takifugu	504	NKTFRTTFRDILMCOWNQKK-NKPKFOERKN--FPPK-----	537
CHRM3-Tetraodon	519	NKTFRTTFRDILMCOWNQKK-NKPKFOERLTVSFHKRAGEIPK	560
CHRM3-Medaka	434	NKTFRTTFRAILMCOWNGRK--KPHPHORQA--FOTKNVRKAR	472
CHRM3-Stickleback	542	NKTFRTTFRDILMCOWNQKK-NQPNFPQKAVAFKKKDPI---	580
CHRM3-Danio	461	NKTFRTTFRSILLCQWRKKLNKAQIQKRAPAATYRKHTQSL-	502
CHRM3-Eshark	479	NKTFRTTFKMLLLCQWKNKR-NEEKLN-----WYSQHP----	510