

Supplementary Material

Opisthorchis viverrini	-----MLRGE	5
Homo sapiens	MPDVNSGRPOLYGHLSRFLP-----EVRGLPDLSPDGGADPVAGSNAPHLSS--	50
Mus musculus	MPDVNSGRPOLYGHLSRLIP-----EVRRLQDLSPDGGAGVSVSMHLLSG--	51
Hymenolepis diminuta	-----MAS--QQNDP-LTFKFW-----GE	16
Hymenolepis microstoma	-----MAS--QQNDP-LTFKSW-----GE	16
Echinococcus granulosus	-----MAS--QLNDPSITFKAWG--SE	19
Mesocostoides corti	-----MAT--QLNDPSITFKAWG--SE	19
Taenia asiatica	-----	0
Dugesia japonica	-----MSTINST	7
Schmidtea mediterranea	-----MSTYNSS	7
Clonorchis sinensis	-----MISAAIILFQSVLSGADKLITVSDGEPDQFIRSHPI---DR	41
Fasciola hepatica	-----MTDKDIISVSTHFSYQFSPNMTLSMFOF	29
Schistosoma mansoni	-----NT	2
Schistosoma japonicum	-----MKYIPLSYKHSFKSLTYLF-----FVNTLTITWN---ALNVPDWIVEERDLT	46
Opisthorchis viverrini	AF-----DQFEAKRSSNGTSEQLSQIFKGLCFLSILFAALFGNAL	46
Homo sapiens	-----EVTASAPMTDAPPDMSGCG-E--QINYGREKVVIGSILTLTLTIAGNCL	101
Mus musculus	-----FPEVTASAPMTDAPPDMSGCG-E--QINYGREKVVIGSILTLTLTIAGNCL	104
Hymenolepis diminuta	NCPSLWGLLANGSIT-----QDQFLSCK--PQVDIGVGKVLTVLLSILLGTAGGNIL	69
Hymenolepis microstoma	NCTSLWELANGSIT-----KDQFLGCK--PQVDIGVGKVLTVLLSILLGTAGGNIL	69
Echinococcus granulosus	NCTLLDLINRSTP-----EEAFLAACK--PHADIVKSIILATVLLGLLTAGGNIL	72
Mesocostoides corti	NCTLLDLQVNRITIS-----EAFLEACK--PHADIDAGTVLAILTLTLGTAGGNIL	72
Taenia asiatica	-----NDAMPSTYLAATQ--ILSAAAPGSPLAVTFCTITAILTGHTLL	43
Dugesia japonica	NCTFYQLASKNN--S--AKQVP--FYCKF--SF--EF--EFLIIVLTFVLTAGGNIL	57
Schmidtea mediterranea	NCTLYQLASNSNIN--ALQVP--FYCKF--SF--DF--EFLIIVTFVLTAGGNIL	58
Clonorchis sinensis	MRLVLA--TEHHNIG--HGN--ITHMT--AYSPAI--SAILSLILPSTAVATIGGNFL	91
Fasciola hepatica	--RPTF--SSLSMAVIEP--WCISD--SYTPV--SGVIGFILVLAIGTAGGNFL	78
Schistosoma mansoni	ISQLDN--SSIKSTLS--MNSNT--SECTSE--NDSVLI--TGITFILSLVLAIGTAGGNFL	55
Schistosoma japonicum	APQLTI--SNHSTLS--VNHSSN--TECTSE--NTSASV--TGITFILSLVLAIGTAGGNFL	99
Opisthorchis viverrini	VFIAVQRFERLRVKTNIFLVSAMADFLVALVWMPFSACMSLHNGRWTFGNFCDVFNA	106
Homo sapiens	VTSVCVFVKLR--QPSNYLTVSLALADLSVAVAMPFVSVDLIGRWTFGHFCHVITA	160
Mus musculus	VWISCVFVKLR--QPSNYLTVSLALADLSVAVAMPFVSVDLIGRWTFGHFCHVITA	163
Hymenolepis diminuta	VIIATLIVKLR--SPTNLLIVLAVDTFLVSLVLPFAIAY--QIFEYWPQQAICDLYSI	127
Hymenolepis microstoma	VIIATLIVKLR--SPTNLLIVLAVDTFMVSLVLPFAIAY--QIFEYWPQQAICDLYSI	127
Echinococcus granulosus	VIIATLIVKLR--SPTNLLIVLAVDTFLVSLVLPFAIAY--QILGYWPFNQICDLYSI	130
Mesocostoides corti	VIIATLIVKLR--SPTNLLIVLAVDTFLVSLVLPFAIAY--QILGYWPFNQICDLYSI	130
Taenia asiatica	VISAVLWVKLR--CPSNFLIVSLAASDLVSTVMPFSYL--EYRGVGLGEVACDIFI	101
Dugesia japonica	VISSVAIVKLR--TSSNFLIVLACDPLVSLVLPFAVHQVYRGQWPFSEILCDIFIS	116
Schmidtea mediterranea	VIMSVAIVKLR--TPSNFLIVLACDPLVSLVLPFAVHQVYRGQWPFSEILCDIFIS	117
Clonorchis sinensis	VILAVTLVKLR--TPSNILTVSLAFSDFVGLVLPFAIAD--LLKGWPFNIEPLCDYIS	149
Fasciola hepatica	VILAVTLVKLR--TPSNILTVSLAFSDFVGLVLPFAIAD--ALKGYWPFNIEPLCDYIS	136
Schistosoma mansoni	VILAVTLVKLR--TPSNILTVSLAFSDFVGLVLPFAIAD--ALQGYWPFNIEPLCDYIS	113
Schistosoma japonicum	VILAVTLVKLR--TPSNILTVSLAFSDFVGLVLPFAIAD--ALQGYWPFNIEPLCDYIS	157
Opisthorchis viverrini	NDVLFSTASILHLCCISMERYATINPLSYDRKHTKSRVTLMTTWTLSILSYLPIMS	166
Homo sapiens	MDVNCCTASIMTLVCSIDRYLGITRPLTPYPRQNGKCAKMLSVALLSASITLPLFG	220
Mus musculus	MDVNCCTASIMTLVCSIDRYLGITRPLTPYPRQNGKCAKMLSVALLSASITLPLFG	223
Hymenolepis diminuta	SDVLLCTLSILSLCTISIDRYMAITKPFQVAPKRTPKRMFIMLISWLLSAAISVSPIFG	187
Hymenolepis microstoma	SDVLLCTLSILSLCTISIDRYMAITKPFQVAPKRTPKRMFIMLISWLLSAAISVSPIFG	187
Echinococcus granulosus	SDVLLCTLSILSLCTISIDRYLAITKPLQAAKRTPKRMIMLISWLLSAAISVPPVFG	190
Mesocostoides corti	SDVLLCTLSILSLCTISIDRYLAITKPLQAAKRTPKRMIMLISWLLSAAISVPPVFG	190
Taenia asiatica	FDVLLCTASILNLCAISIDRYLAVTKPFYVYKRTPKRMIMLITFAWSIALISLPPTFG	161
Dugesia japonica	FDVLLCTSSILNLCAISIDRYLITRPLQVAVRTPARITGFWAISWTSALISLPPMFG	176
Schmidtea mediterranea	FDVLLCTSSILNLCAISIDRYLITRPLQVAVRTPARISLWIAWSIALISLPLPFG	177
Clonorchis sinensis	FDVLLCTASILNLCAISIDRYLITRPLTVYSKRTPKRMIAATWISALICLPPNIG	209
Fasciola hepatica	FDVLLCTASILNLCAISIDRYLITRPTVYSRTPCRMAEMIAAAWISALISLPPNIG	196
Schistosoma mansoni	FDVLLCTASILNLCAISIDRYLITKPLTYASRTPCRMAEMIAATWISALISLPPNIG	173
Schistosoma japonicum	FDVLLCTASILNLCAISIDRYLITKPLTYASRTPCRMAEMIAATWISALISLPPNIG	217
Opisthorchis viverrini	GIYTTAEYLAQRGSQHECFVNNIYAVVSSSTSFSTIPSIMVAVVYRIYIEARRQERK	226
Homo sapiens	W-----AQNVDDKVCILSQDGYTYTAVAFYIPHSVMLFHYQIYKAARSAK	272
Mus musculus	W-----AQNVDDKVCILSQDGYTYTAVAFYIPHSVMLFHYQIYKAARSAK	275
Hymenolepis diminuta	W-----EQQN--TPFFCINMMDLTFQIYATLTAFYIPLALMLVYKGLVLAKQIALV	238
Hymenolepis microstoma	W-----EQQN--APFFCINMMDLTFQIYATLTAFYIPLTVMLVYKGLVLAKQMAIA	238
Echinococcus granulosus	W-----EQQN--SPFYCGYSEELTYQIYATMTAFYIPLTVMLVYKGLVLAKQMASV	241
Mesocostoides corti	W-----EQQN--SPFYCGYSEELTYQIYATMTAFYIPLTVMLVYKGLVLAKQMAIA	241
Taenia asiatica	F-----KDFE--VPKQCSYQBFYQIYACFAGFYIPLTVMLVYGRIFKLAREMIRS	212
Dugesia japonica	L-----KETF--IPGQCSYSENLTYQIYATFGAFYIPLTVMLVYGRIFKLAREMAQH	227
Schmidtea mediterranea	W-----KETF--IPGQCSYSENLTYQIYATFGAFYIPLTVMLVYGRIFKLAREMAQH	228
Clonorchis sinensis	W-----KSPF--QEGRCESYEDGYQIYATFCAFYIPLTVMLVYKGLIFKLAREMSRN	260
Fasciola hepatica	W-----KTPF--EICKCEYSKNGYQIYATFCAFYIPLTVMLVYGRIFKLAREMSRA	247
Schistosoma mansoni	W-----KDPF--QKCACEYSKNGYQVATFFAFYIPLTVMLVYGRIFKLAREMSRS	224
Schistosoma japonicum	W-----KEPF--QKCACEYSKNGYQVATFFAFYIPLTVMLVYGRIFKLAREMSRS	268
Opisthorchis viverrini	IHLHLKSKLLTSSDATTYTE-----Q-----	249
Homo sapiens	HKFGPGF---RVEPDS-----	285
Mus musculus	HKFGSGP---RVQPES-----	288
Hymenolepis diminuta	DAQTRKGSIDTQNRD--SSIPF-----GTCNRRSLYPGDNIC-----	275
Hymenolepis microstoma	DAQTARKSSIDTQNRN--SSLPF-----STDMRRSSLYPPGNIC-----	275
Echinococcus granulosus	DAQVGRKGSVDQTQRS--SSIPF-----EWNRRSLVAGSEY-----	275
Mesocostoides corti	NAQVARESTETQART--SSIPA-----YADNRNLSLYPTRESY-----	278
Taenia asiatica	DRVLPPPTPGDEKRNISIQNVAESQETDEGTSEDKTSLTCFCKICCHYQKRASLDSTD	272
Dugesia japonica	DAKLKIGISPNSSD-----KE-----QH-----	245
Schmidtea mediterranea	DAKNKIGISPNSSD-----RE--HQ-----	246
Clonorchis sinensis	EQRQMPPTQCNMLQHQTSQADQPMIL---N-----SQTL-----	293
Fasciola hepatica	EQRQMIASSGEVPPGTVTLKEDTIPTPKAD-----HITLY-----QSSAP-----	289
Schistosoma mansoni	GQSKMTAGIS-----	234
Schistosoma japonicum	GQSKVTPSTIRKSTGI-----SENVSMNSPVLE-----EK--L-----QRDLQ-----	304
Opisthorchis viverrini	-----PRGS--VEKET-----TVPE-----	262
Homo sapiens	-----V-----	286
Mus musculus	-----V-----	289
Hymenolepis diminuta	-----ANSQFNDLKDMN-----DTTAGDAKSQSVSVFSPSPV-----	309
Hymenolepis microstoma	-----ANSQFNDLKDMN-----EGAERGAKSQSVSVFSPSPV-----	309
Echinococcus granulosus	-----KASALYPLDKEH-----KGNRGDSKPSQSVSVFSPPTV-----	309
Mesocostoides corti	-----TSQKVYTEANDMWO-----ILEPMTDFKSRQSVSVFSPSPA-----	316
Taenia asiatica	KPVDPMPYINSSLGHSNPTPMVIFISGANDSPRLNPLIKGNICPTVPIHFSRL--PPPK	331
Dugesia japonica	-----SHLR--IVOSHLCNTP-----	259
Schmidtea mediterranea	-----PHLR--IVOSHLCSTP-----	260
Clonorchis sinensis	-----PRQV--ESPS-----EKCDND-----A-----	308
Fasciola hepatica	--FQDNELLAT-----ESTQRQV--MDDTFTFNMTTENNNNNNS-----S-----	327
Schistosoma mansoni	-----HDEHVTKATIN-----	245
Schistosoma japonicum	--ITDTN-----IA-EFVQ-----LNDEHVVTIETS-----	327
Opisthorchis viverrini	NLTNLMRASETNQPITH-----	281
Homo sapiens	I-----ALNGIVKLR-----KEVE-----	300
Mus musculus	I-----SLNGIVKLR-----KEVE-----	303
Hymenolepis diminuta	IM-----RTNREFTKR-----RKVYQMTFTGSRQSELTLMNGRSSEYG-----	347
Hymenolepis microstoma	VM-----RTNRPVKS-----RKVNIMHAFTRSQSDVMNGRSSEYS-----	347
Echinococcus granulosus	VM-----RMNRPP--YR-----GRK-----INSSPSALGNNGRSLEVS-----	340
Mesocostoides corti	IR-----PPGRQDVR-----GKFCCLFASHRASTEITNGNLSLEQT-----	354
Taenia asiatica	SCQSPPKENPNISDCELSLPGVGLFSPRRPHGLFTKQHR---VSLHPTGNPKHRSPL	388
Dugesia japonica	-----NGQ--MH---L-----SLY-----SG-----	270
Schmidtea mediterranea	-----NGQ--MH---L-----SLY-----SG-----	271
Clonorchis sinensis	FVNSVP--SGPIPGP--VD-----T---TGPHPLT-----NGKSEEDR-----	339
Fasciola hepatica	FCPMIIREITENIGN--TSSQNF-VINPPVTELS-----NGHSYAKS-----	368
Schistosoma mansoni	-----NGV--KKDEDT-----NDICKAR-----E--YD-----	264
Schistosoma japonicum	-----NGI--KNEGHI-----KAIPELK-----E--KD-----	346

Figure S1. Multiple sequence alignment of amino acid sequences of serotonin 5-HT7 receptors in cestodes, trematodes and planarian species with the annotated genome sequences.