Supplementary Table for Chapter 1

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List of Tables

Table 1: Genome versions of the assembled sequence data

Taxa	Assembly version	Release data
Dmel	Release 6 plus ISO1 MT	2014/08/01
Hsap	GRCh38.p13	2019/02/28
Ptro	Clint_PTRv2	2018/01/19
Ggor	Kamilah_GGO_v0	2019/08/28
Mmul	Mmul_10	2019/02/13
Mfas	Macaca_fascicularis_5.0	2013/06/12
Cjac	Callithrix jacchus-3.2	2010/01/22
Mmur	Mmur_3.0	2017/02/06
Mmus	GRCm38.p6	2017/09/15
Rnor	Rnor_6.0	2014/07/01
Pcat	ASM283717v2	2019/03/08
Btau	ARS-UCD1.2	2018/04/11
Chir	ARS1	2016/08/24
Oari	Oar_rambouillet_v1.0	2017/11/02
Sscr	Sscrofa11.1	2017/02/07
Ocun	OryCun2.0	2009/10/20
Cfam	CanFam3.1	2011/11/02
Fcat	Felis_catus_9.0	2017/11/20
Nmel	NumMel1.0	2017/06/01
Ggal	GRCg6a	2018/03/27
Xtro	Xenopus_tropicalis_v9.1	2016/07/13
Xmac	X_maculatus-5.0-male	2017/12/07
Drer	GRCz11	2017/05/09

Table 2: 5-HTR1A sequences

Species	Accession	Identity %
Hsap	NP_000515.2	100.0
Ptro	NP_001129094.1	99.3
Ggor	XP_004058839.1	99.8
Mmul	NP_001185629.1	98.1
Mfas	XP_015307022.1	98.1
Cjac	XP_008990253.1	96.9
Mmur	XP_012639503.1	93.1
Mmus	NP_032334.2	88.2
Rnor	NP_036717.1	89.8
Pcat	XP_007117799.1	92.2
Btau	XP_002696350.1	91.7
Chir	XP_005694706.1	91.2
Oari	XP_014956699.1	91.7
Sscr	XP_005672533.1	90.5
Ocun	NP_001185864.1	94.3
Cfam	NP_001012397.1	91.5
Fcat	XP_019690429.1	93.4
Nmel	XP_021237308.1	80.2
Ggal	NP_001163999.1	80.2
Xtro	XP_004910432.1	74.9
Xmac	XP_005794961.1	71.2
Drer a	NP_001116793.1	73.8
Drer b	NP_001139238.1	65.9
Dmel B	NP_725849.1	NA
Dmel C	NP_001356890.1	NA

Table 3: 5-HTR1B sequences

Species	Accession	Identity %
Hsap	NP_000854.1	100.0
Ptro	NP_001009102.1	100.0
Ggor	XP_004044362.1	99.5
Mmul	XP_014992296.1	98.2
Mfas	XP_005552571.1	98.2
Cjac	XP_002746791.1	97.2
Mmur	XP_012646617.1	96.4
Mmus	NP_034612.1	92.1
Rnor	NP_071561.1	92.8
Pcat	XP_007127285.1	90.3
Btau	XP_024852688.1	86.7
Chir	XP_005684499.1	86.9
Oari	XP_014952785.2	86.9
Sscr	NP_999463.1	94.9
Ocun	NP_001076259.1	93.1
Cfam	NP_001006949.1	94.9
Fcat	NP_001116344.1	94.1
Nmel	XP_021248499.1	82.9
Ggal	NP_001166252.1	82.1
Xtro	XP_002936251.2	76.1
Xmac	XP_023203248.1	66.2
Drer	NP_001122181.1	64.7
Dmel A	NP_523789.3	NA
Dmel D	NP_001163201.2	NA
Dmel E	NP_001137708.2	NA

Table 4: 5-HTR1D sequences

Species	Accession	Identity %
Hsap	NP_000855.1	100.0
Ptro	XP_009448699.1	99.5
Ggor	XP_004024922.1	98.9
Mmul	XP_028694131.1	97.3
Mfas	XP_015296501.1	97.3
Cjac	XP_008998852.1	97.1
Mmur	XP_012606320.1	85.8
Mmus	NP_001272411.1	90.2
Rnor	NP_036984.1	90.2
Pcat	XP_007117967.2	87.3
Btau	XP_015316318.1	90.5
Chir	XP_017911005.1	89.4
Oari	XP_014949175.2	89.4
Sscr	NP_999323.1	92.0
Ocun	NP_001164624.1	91.0
Cfam	NP_001003280.1	88.1
Fcat	XP_023114066.1	89.4
Nmel	XP_021231272.1	80.2
Ggal	XP_015153069.1	79.6
Xtro	XP_002938881.2	71.1
Drer	NP_001139158.1	66.5

Table 5: 5-HTR1E sequences

Species	Accession	Identity %
Hsap	NP_000856.1	100.0
Ptro	XP_016811460.1	100.0
Ggor	XP_004044419.1	100.0
Mmul	XP_001090804.1	98.6
Mfas	XP_005552471.1	98.6
Mmur	XP_012606416.1	96.2
Pcat	XP_007121265.1	93.4
Btau	NP_001106144.1	95.1
Chir	XP_005684765.2	93.7
Oari	XP_027828519.1	94.0
Sscr	XP_013848119.2	95.1
Ocun	XP_002714608.1	94.8
Cfam	XP_022282033.1	94.5
Fcat	XP_006931938.1	94.5
Nmel	XP_021245118.1	86.8
Ggal	XP_015140195.1	84.9
Xtro	XP_017949828.1	80.2
Drer	XP_021324262.1	64.6

Table 6: 5-HTR1F sequences

Species	Accession	Identity %
Hsap	NP_000857.1	100.0
Ptro	XP_016795502.1	100.0
Ggor	XP_018878691.1	98.9
Mmul	NP_001180612.1	97.3
Mfas	XP_005548455.1	97.8
Cjac	XP_017822700.1	97.3
Mmur	XP_012598480.1	95.4
Mmus	NP_032336.1	94.3
Rnor	NP_068629.2	92.3
Pcat	XP_007126419.1	93.2
Btau	NP_001193534.1	94.8
Chir	XP_014947888.1	94.5
Oari	XP_005674852.2	94.8
Sscr	NP_999266.1	93.4
Ocun	XP_002716805.1	95.6
Cfam	XP_022268858.1	94.3
Fcat	XP_023094638.1	95.1
Nmel	XP_021258396.1	82.1
Ggal	XP_004938393.1	82.1
Xtro	XP_002931817.1	77.7
Xmac	XP_005811928.2	54.8
Drer a	XP_021334563.1	58.8
Drer b	XP_005159986.1	57.3

Table 7: 5-HTR2A sequences

Species	Accession	Identity %
Hsap 1	NP_000612.1	100.0
Hsap 2	NP_001159419.1	72.7
Ptro X1	XP_522752.2	99.8
Ptro X2	XP_003314185.1	99.7
Ggor	XP_004054535.1	100.0
Mmul X1	XP_014976363.2	99.2
Mmul X2	XP_014976364.1	97.2
Mfas X1	XP_005585885.1	99.2
Mfas X2	XP_005585886.1	97.2
Cjac	XP_002742722.1	98.1
Mmur X1	XP_020145984.1	96.0
Mmur X2	XP_020145985.1	93.3
Mmus	NP_766400.1	91.5
Rnor	NP_058950.1	91.3
Pcat	XP_007102579.1	95.3
Btau	NP_001001157.1	94.3
Chir	XP_005687500.1	93.8
Oari	XP_004012115.1	94.1
Sscr	NP_999382.1	96.0
Ocun	XP_008272020.1	94.3
Cfam	NP_001005869.1	93.6
Fcat	XP_023107292.1	95.8
Nmel	XP_021231778.1	77.5
Ggal	NP_001305349.1	76.9
Xtro	XP_017947163.1	69.4
Xmac	XP_005813370.1	56.2
Drer	XP_009300470.1	55.1
Dmel A	NP_524223.2	NA
Dmel B	NP_730859.1	NA
Dmel F	NP_001163506.2	NA
Dmel H	NP_001097684.2	NA

Table 8: 5-HTR2B sequences

Species	Accession	Identity %
Hsap 1	NP_000858.3	100.0
Hsap 2	NP_001307687.1	91.3
Ptro X1	XP_001144172.1	99.6
Ptro X3	XP_016806173.1	99.5
Ggor X1	XP_004033390.1	99.8
Ggor X2	XP_018877825.1	99.8
Mmul X1	XP_014966817.1	97.9
Mmul X2	XP_028687039.1	84.0
Mfas X1	XP_005574629.1	98.1
Cjac X1	XP_002749929.1	98.1
Cjac X2	XP_008997935.1	84.4
Mmur X1	XP_012604841.1	89.1
Mmur X2	XP_012604842.1	82.5
Mmus	NP_032337.2	83.2
Rnor	NP_058946.1	81.5
Pcat	XP_007108057.2	87.5
Btau	NP_001192377.1	88.2
Chir	XP_005676728.1	79.6
Oari X1	XP_012003880.1	79.2
Oari X2	XP_012003889.1	90.7
Sscr X1	NP_001157491.1	91.3
Sscr X2	XP_013840017.1	92.5
Ocun	XP_017198680.1	84.9
Ocun	XP_008257523.1	72.6
Cfam	NP_001019804.1	75.2
Fcat	XP_003991297.4	87.7
Nmel	XP_021252773.1	71.8
Ggal	NP_001277476.1	73.4
Xtro	XP_004914439.1	61.3
Xmac	XP_023195709.1	54.7
Drer	NP_001038208.1	56.8
Dmel E	NP_001262373.1	NA
Dmel F	NP_001287238.1	NA

Table 9: 5-HTR2C sequences

Species	Accession	Identity %
Hsap 1	NP_001243689.1	100.0
Ptro X1	XP_009437821.1	99.8
Ggor	XP_004064785.1	99.6
Mmul X1	XP_028697795.1	98.7
Mfas X1	XP_005594463.1	98.7
Cjac	XP_002763216.1	98.0
Mmur X1	XP_012605023.1	94.2
Mmus X1	NP_032338.3	90.0
Rnor	NP_036897.2	90.0
Pcat	XP_023983885.1	94.3
Oari	XP_014960567.2	94.3
Chir	XP_005700316.1	95.0
Sscr	XP_020935136.1	95.2
Ocun	XP_017205494.1	93.0
Cfam	NP_001006649.1	94.8
Fcat	XP_019679749.1	94.3
Nmel X1	XP_021261787.1	58.1
Nmel X2	XP_021261788.1	45.4
Ggal X1	XP_004940707.1	57.7
Ggal X2	XP_004940708.1	45.0
Xtro	XP_017951833.1	56.4
Drer	NP_001123365.1	48.3

Table 10: 5-HTR4 sequences

Species	Accession	Identity %
Hsap a	NP_001035259.1	100.0
Hsap b	NP_000861.1	90.0
Hsap c	NP_001273339.1	86.4
Hsap d	NP_001035262.2	92.8
Hsap g	NP_955525.1	91.4
Hsap i	NP_001035263.1	81.9
Ptro X1	XP_001162339.1	99.7
Ptro X2	XP_016809501.1	99.7
Ptro X3	XP_024212541.1	91.8
Ptro X4	XP_001162258.1	99.8
Ggor X1	XP_004042828.1	99.8
Ggor X2	XP_004042827.1	99.7
Mmul X1	XP_028705660.1	98.5
Mmul X2	XP_028705661.1	98.4
Mmul X3	XP_028705662.1	97.0
Mfas X1	XP_015307597.1	87.0
Mfas X2	XP_005558258.1	98.5
Mfas X3	XP_015307598.1	98.4
Mfas X4	XP_015307600.1	92.6
Cjac X1	XP_008985741.1	98.2
Cjac X2	XP_002744394.1	97.9
Mmur X1	XP_012597049.1	87.6
Mmur X2	XP_012597051.1	96.6
Mmur X3	XP_012597052.1	96.6
Mmur X4	XP_012597054.1	96.8
Mmus 1	NP_032339.2	93.3
Mmus 2	NP_001351885.1	84.5
Mmus 3	NP_001351886.1	94.1
Mmus 4	NP_001351887.1	91.8
Mmus 5	NP_001351888.1	90.2
Rnor X1	XP_008770311.2	93.3
Rnor X2	XP_006254855.1	93.8
Pcat X1	XP_023983828.1	91.5

Pcat X2	XP_028349152.1	94.8
Pcat X3	XP_028349153.1	94.6
Btau X1	XP_024849639.1	91.8
Btau X2	XP_015327776.1	91.8
Btau X3	XP_015327778.1	95.1
Btau X4	XP_015327779.1	95.1
Chir X1	XP_017905670.1	91.5
Chir X2	XP_017905671.1	91.8
Oari	XP_027826431.1	82.9
Sscr	NP_001001267.1	88.8
Ocun X1	XP_008253444.1	96.4
Ocun X2	XP_008253447.1	96.6
Cfam X1	XP_022273538.1	85.6
Cfam X2	XP_022273539.1	86.3
Cfam X3	XP_022273540.1	88.7
Fcat X1	XP_023116395.1	93.5
Fcat X2	XP_023116396.1	96.9
Fcat X3	XP_023116398.1	97.2
Nmel X1	XP_021266119.1	80.5
Nmel X2	XP_021266120.1	89.1
Nmel X3	XP_021266121.1	84.7
Ggal X1	XP_015149144.1	88.9
Ggal X2	XP_015149145.1	84.7
Xtro	XP_002939852.1	82.7
Xmac X1	XP_023183909.1	51.9
Xmac X2	XP_023183910.1	52.8
Xmac X3	XP_023183911.1	63.9
Xmac X4	XP_023183912.1	70.6
Drer X1	XP_009289337.1	68.7
Drer X2	XP_021336835.1	68.8

Table 11: 5-HTR5A sequences

Species	Accession	Identity %
Hsap	NP_076917.1	100.0
Ptro	XP_519477.3	98.9
Ggor	XP_004046586.1	99.2
Mmul	NP_001182753.1	98.0
Mfas	XP_005551309.1	98.0
Mmur	XP_012641705.1	87.6
Mmus	NP_032340.2	88.0
Rnor	NP_037280.1	88.2
Pcat	XP_007124727.1	88.8
Btau	NP_001179771.1	84.9
Chir	XP_013819077.2	85.2
Ocun	XP_002715071.1	92.7
Cfam	XP_013975457.1	90.0
Fcat	XP_003983301.1	91.3
Nmel	XP_021241082.1	79.3
Ggal	XP_425970.1	79.3
Xtro	XP_002932543.2	74.5
Xmac	XP_005798642.1	75.6
Drer	NP_001007122.1	75.9

Table 12: 5-HTR5B sequences

Species	Accession	Identity %
Ptro	XP_016805065.2	100.0
Ggor	XP_004031711.2	96.2
Mmul	XP_001082104.3	90.8
Mfas	XP_005573016.1	91.4
Cjac	XP_002749560.1	91.4
Mmur	ENSMICT000000175	86.2
Mmus	NP_034613.2	86.2
Rnor	NP_077371.1	85.7
Btau	XP_005202603.1	85.6
Chir	XP_017917471.1	85.0
Fcat	XP_003990760.1	86.8

Table 13: 5-HTR6 sequences

Species	Accession	Identity %
Hsap	NP_000862.1	100.0
Ptro	NP_001029264.1	99.3
Ggor	XP_004024852.2	98.2
Mmul	XP_014985257.1	97.7
Mfas	XP_005544632.1	97.7
Cjac	XP_002750423.1	97.5
Mmur	XP_012643136.1	93.0
Mmus	NP_067333.1	87.8
Rnor	XP_017449097.1	89.3
Pcat	XP_007104675.1	87.7
Btau	NP_001192646.1	89.8
Chir	XP_017910373.1	87.2
Oari	XP_012012813.3	88.2
Sscr	XP_003356221.2	88.2
Cfam	XP_544528.5	84.3
Fcat	XP_023114000.1	88.6
Nmel	XP_021272930.1	59.9
Ggal	XP_024998319.1	57.8
Xtro	XP_002942005.2	58.3
Xmac X1	XP_014330597.1	45.0
Xmac X2	XP_023194196.1	42.0
Drer	XP_009295353.1	45.5

Table 14: 5-HTR7 sequences

Species	Accession	Identity %
Hsap a	NP_000863.1	100.0
Hsap b	NP_062874.1	97.1
Hsap d	NP_062873.1	89.8
Ptro	NP_001289364.1	99.8
Ptro X1	XP_016817927.1	97.2
Ptro X2	XP_001143930.1	100.0
Ggor X1	XP_018890791.1	98.4
Ggor X2	XP_018890792.1	98.4
Mmul X1	XP_015003150.1	99.6
Mmul X2	XP_015003151.1	99.5
Mmul X3	XP_015003153.1	95.6
Mfas X1	XP_005565986.1	99.6
Mfas X2	XP_005565987.1	99.5
Mfas X3	XP_015311863.1	95.6
Cjac X1	XP_002756435.1	98.7
Cjac X2	XP_009008197.1	99.1
Cjac X3	XP_009008199.1	94.8
Cjac X4	XP_017834616.1	87.4
Mmur X1	XP_012620995.1	90.4
Mmur X2	XP_012621004.1	97.1
Mmur X3	XP_012621012.1	97.2
Mmus 1	NP_032341.2	94.6
Mmus 2	NP_001334371.1	88.5
Mmus 3	NP_001347247.1	97.2
Rnor	NP_075227.1	96.1
Rnor X1	XP_006231369.1	95.3
Rnor X2	XP_017445180.1	88.6
Pcat	XP_028337715.1	96.1
Btau X1	XP_024841711.1	86.4
Btau X2	XP_005225481.1	94.2
Chir	XP_017897212.1	94.0
Oari	XP_004020077.2	94.0
Sscr	NP_999250.1	95.8

Sscr X1	XP_020927765.1	92.9
Sscr X2	XP_005671333.1	95.9
Ocun X1	XP_008268406.1	81.4
Ocun X2	XP_002718549.1	94.4
Cfam X1	XP_534958.2	94.6
Cfam X2	XP_005637586.1	95.2
Fcat X1	XP_023096479.1	95.5
Fcat X2	XP_023096480.1	94.4
Fcat X3	XP_019669635.2	95.9
Nmel	XP_021255690.1	79.9
Ggal X1	XP_015143879.1	78.3
Ggal X2	XP_015143880.1	79.9
Ggal X3	XP_015143881.1	71.2
Xtro	XP_017951558.1	62.3
Xmac	XP_023183676.1	62.7
Drer	XP_003199632.2	67.8
Dmel A	NP_524599.1	NA

Table 15: $G_{\alpha i1}$ sequences

Species	Accession	Identity %
Dmel	NP_477502.1	77.7
Hsap	NP_002060.4	100.0
Ptro	XP_001159548.1	100.0
Mmus	NP_034435.1	100.0
Rnor	NP_037277.1	99.7
Ggal	NP_990734.1	98.0
Xtro	NP_001090865.1	98.0
Drer	NP_957265.1	96.9

Table 16: $G_{\alpha i2}$ sequences

Species	Accession	Identity %
Hsap	NP_002061.1	100.0
Ptro	NP_001267066.1	99.7
Mmus	NP_032164.2	98.3
Rnor	NP_112297.1	98.6
Ggal	NP_990733.1	95.2
Xtro	NP_989250.1	94.4
Drer	NP_001001818.1	87.3

Table 17: $G_{\alpha i3}$ sequences

Species	Accession	Identity %
Hsap	NP_006487.1	100.0
Ptro	XP_513624.1	100.0
Mmus	NP_034436.1	98.3
Rnor	NP_037238.1	98.6
Ggal	NP_989580.1	94.9
Xtro	NP_001011471.1	93.5
Drer	NP_001104720.1	90.7

Table 18: $G_{\alpha o}$ sequences

Species	Accession	Identity %
Hsap a	NP_066268.1	100.0
Hsap b	NP_620073.2	100.0
Ptro X1	XP_510976.3	100.0
Ptro X2	XP_009429118.1	100.0
Mmus a	NP_034438.1	98.0
Mmus b	NP_001106855.1	97.7
Rnor	NP_059023.1	98.6
Ggal	NP_001264479.1	98.3
Xtro	XP_012816612.1	92.1
Drer	NP_957081.1	95.8
Dmel a	NP_523684.2	82.2
Dmel b	NP_724934.1	83.1
Dmel c	NP_724935.1	82.2
Dmel d	NP_788304.1	83.1
Dmel e	NP_788305.1	83.1
Dmel f	NP_788306.1	83.1
Dmel g	NP_788307.1	83.1
Dmel h	NP_995802.1	83.1
Dmel i	NP_995801.1	82.2

Table 19: $G_{\alpha z}$ sequences

Species	Accession	Identity %
Hsap	NP_002064.1	100.0
Ptro	XP_016795016.1	100.0
Mmus	NP_001345777.1	98.3
Rnor	NP_037321.1	98.3
Ggal	XP_001232445.1	97.2
Xtro	XP_012821008.1	96.3
Drer	XP_005155690.2	94.4

Table 20: $G_{\alpha t}$ sequences

Species	Accession	Identity %
Hsap	NP_000163.2	100.0
Ptro	XP_001167971.1	100.0
Mmus	NP_032166.1	99.4
Rnor	NP_001102250.2	99.1
Ggal	NP_990022.1	96.6
Xtro	NP_001096278.1	94.9
Drer	NP_571943.1	93.1
Drer	NP_571944.1	76.3

Table 21: $G_{\alpha q}$ sequences

Species	Accession	Identity %
Dmel	NP_725195.1	83.6
Dmel	NP_725192.2	72.9
Hsap	NP_002063.2	100.0
Ptro	XP_016816477.1	100.0
Mmus	NP_032165.3	99.7
Rnor	NP_112298.1	99.4
Ggal	NP_001026598.1	98.6
Xtro	NP_001037982.1	96.7
Drer	NP_001138271.1	92.8

Table 22: $G_{\alpha 11}$ sequences

Species	Accession	Identity %
Hsap	NP_002058.2	100.0
Ptro	XP_016792519.1	100.0
Mmus	NP_034431.1	98.1
Rnor	NP_112295.1	96.7
Ggal	NP_989565.1	97.2
Xtro	NP_989150.1	92.8
Drer	NP_001038501.1	78.9
Drer	NP_001007774.1	90.8

Table 23: $G_{\alpha 14}$ sequences

Species	Accession	Identity %
Hsap	NP_004288.1	100.0
Ptro	XP_528331.2	99.7
Mmus	NP_032163.3	96.9
Rnor	NP_001013169.1	97.5
Ggal	XP_429163.2	91.0
Xtro	NP_001083750.2	90.7
Xtro	NP_001089856.1	89.3
Drer	NP_001003753.1	65.9

Table 24: $G_{\alpha 15}$ sequences

Species	Accession	Identity %
Hsap	NP_002059.3	100.0
Ptro	XP_016792520.1	100.0
Mmus	NP_034434.1	84.8
Rnor	NP_445994.1	86.1
Drer	NP_001003626.2	56.3
Drer	NP_001038454.1	39.7

Table 25: $G_{\alpha s}$ sequences

Species	Accession	Identity %
Hsap g	NP_001070957.1	100.0
Ptro g	XP_016793682.2	100.0
Mmus g	NP_001350959.1	99.7
Rnor g	NP_001346796.1	97.9
Ggal	XP_024998121.1	93.1
Xtro	XP_012810204.1	91.8
Drer 2	XP_005172181.1	90.0
Hsap f	NP_001070956.1	100.0
Ptro f	XP_016793681.2	100.0
Mmus f	XP_006498837.1	99.7
Hsap SL	NP_000507.1	100.0
Ptro SL	XP_016793678.2	100.0
Mmus SL	NP_001297012.1	99.7
Rnor SL	NP_062005.1	99.7
Hsap SS	NP_536351.1	100.0
Ptro SS	XP_024207805.1	100.0
Mmus SS	NP_001070978.1	99.7
Dmel A	NP_477506.1	73.0
Dmel B	NP_477505.1	72.5