

TABLE S2. Conserved synteny among human chromosome 5, platypus chromosomes X2 and X3, and chicken chromosome 2

Human gene ^a	5d ^b	Human location	Platypus chromosome ^c	Platypus contig	Chicken location
<i>PLEKHG4B</i>	✓	5:140373-190085	X2	Ultra474	No orthologs
<i>LRRC14B</i>	✓	5:191626-195468	X2	Ultra474	2:56936272-56939758
<i>CCDC127</i>	✓	5:204872-218330	X2	Ultra474	2:87982791-87987029
<i>SDHA</i>	✓	5:218356-256815	X2	Ultra474	2:87966100-87981950
<i>PDCD6</i>	✓	5:271736-353971	X2	Ultra474	2:91241065-91247539
<i>AHRR</i>	✓	5:304291-438406	X2	Ultra474	2:91291773-91357661
<i>C5orf55</i>	✓	5:441645-443258	GENE NOT FOUND		No orthologs
<i>EXOC3</i>	✓	5:443273-472052	X2	Ultra474	2:91222769-91240806
<i>SLC9A3</i>	✓	5:473425-524447	?	447	2:56883843-56919270
<i>CEP72</i>	✓	5:612387-667283	?	1382	No orthologs
<i>TPPP</i>	✓	5:660883-693510	?	1382	2:56762874-56792551
<i>ZDHHC11</i>	✓	5:710471-851101	?	1382	No orthologs
<i>ZDHHC11B</i>	✓	5:710475-767067	GENE NOT FOUND		No orthologs
<i>BRD9</i>	✓	5:850406-892939	?	3845	2:56688507-56710641
<i>TRIP13</i>	✓	5:892758-919472	X3	Ultra43	2:56673157-56688338
<i>NKD2</i>	✓	5:1008944-1039058	X3	Ultra43	No orthologs
<i>SLC12A7</i>	✓	5:1050499-1112172	X3	Ultra43	2:56586378-56660224
<i>SLC6A19</i>	✓	5:1201710-1225232	X3	Ultra43	2:87994869-88015659
<i>SLC6A18</i>	✓	5:1225470-1246304	X3	Ultra43	2:88017784-88041572
<i>TERT</i>	✓	5:1253262-1295184	X3	Ultra43	2:88046748-88076214
<i>CLPTM1L</i>	✓	5:1317859-1345214	X3	Ultra43	2:88089596-88119806
<i>SLC6A3</i>	✓	5:1392909-1445545	X3	Ultra43	No orthologs
<i>LPCAT1</i>	✓	5:1456595-1524092	X3	Ultra43	2:88131365-88185988
<i>MRPL36</i>	✓	5:1798500-1801480	GENE NOT FOUND		2:88288566-88290305
<i>NDUFS6</i>	✓	5:1801514-1816719	X3	X3	2:88290443-88295386
<i>IRX4</i>	✓	5:1877541-1887350	GENE NOT FOUND		2:89430034-89435456
<i>IRX2</i>	✓	5:2745959-2752969	X3	X3	2:88764965-88925629
<i>C5orf38</i>	✓	5:2752245-2755508	GENE NOT FOUND		No orthologs
<i>IRX1</i>	✓	5:3596168-3601517	X3	X3	No orthologs
<i>ADAMTS16</i>	✓	5:5140443-5320417	X3	X3	No orthologs
<i>KIAA0947</i>	✓	5:5420777-5490347	X3	X3	2:56483022-56486550
<i>MED10</i>	✓	5:6371994-6378707	X3	X3	2:82138749-82142478
<i>UBE2QL1</i>	✓	5:6448736-6495022	X3	X3	2:82108101-82123122
<i>NSUN2</i>		5:6599352-6633404	?	3965	2:82065202-82082124
<i>SRD5A1</i>		5:6633456-6669675	X1	X1	2:82049800-82064935
<i>PAPD7</i>		5:6714718-6757161	X3	22	2:81985384-82031023
<i>ADCY2</i>		5:7396321-7830194	X3	22	2:81488366-81707583
<i>C5orf49</i>		5:7830491-7851603	GENE NOT FOUND		No orthologs
<i>MTRR</i>		5:7851299-7906138	X3	22	2:81428975-81461323
<i>FASTKD3</i>		5:7859272-7869150	GENE NOT FOUND		2:81462094-81468670
<i>SEMA5A</i>		5:9035138-9546187	X3	22	2:80865563-81117201
<i>TAS2R1</i>		5:9629109-9630463	?	Ultra450	No orthologs
<i>FAM173B</i>		5:10226442-10250009	X3	22	2:80506041-80513637

CCT5	5:10250033-10266524	X3	22	2:80497716-80505714
CMBL	5:10275987-10308138	X3	22	2:80448704-80455278
MARCH6	5:10353815-10435491	X3	22	2:80359033-80400010
ROPN1L	5:10441636-10472141	X3	22	2:80347518-80353846
ANKRD33B	5:10564442-10650308	X3	22	2:80234551-80247583
DAP	5:10679342-10761384	X3	22	2:80172659-80218073
CTNND2	5:10971952-11904155	X3	22	2:79796404-80089401
DNAH5	5:13690440-13944652	X3	22	2:78506658-78616795
TRIO	5:14143811-14532235	X3	22	2:78186717-78368832
FAM105A	5:14581884-14615073	X3	22	2:78141456-78154083
FAM105B	5:14664773-14699820	X3	22	2:78108741-78120417
ANKH	5:14704910-14871887	X3	22	2:77989746-78093015
FBXL7	✓ 5:15500305-15939900	X3	X3	2:77575673-77581526
MARCH11	✓ 5:16067248-16180871	X3	X3	2:77494808-77525938
ZNF622	✓ 5:16451628-16465901	X3	X3	2:77430792-77437335
FAM134B	✓ 5:16473147-16617167	X3	X3	2:77364777-77426979
MYO10	✓ 5:16665395-16936372	X3	X3	2:77249405-77349707
BASP1	✓ 5:17217669-17276943	X3	X3	2:76998742-76999476
CDH18	5:19473060-20575982	X3	X2	2:75786318-75963608
CDH12	5:21750777-22853731	X3	X2	2:74675423-74831325
PRDM9	5:23507264-23528706	GENE NOT FOUND		No orthologs
C5orf17	5:23951457-24178372	GENE NOT FOUND		No orthologs
CDH10	5:24487209-24645087	X3	X2	2:73523999-73621549
CDH9	5:26880709-27121257	X3	X2	2:72557369-72626948
CDH6	5:31193857-31329253	X3	X2	2:70478950-70593731
DROSHA	5:31400604-31532303	X3	X2	2:70380481-70449443
C5orf22	5:31532373-31555165	X3	X2	2:70369275-70380493

^a Protein-coding genes that have symbols assigned by HUGO Gene Nomenclature Committee (<http://www.genenames.org/>) and are found in 31.5 MB terminal region of the p-arm of chromosome 5 are listed. All chicken orthologs of these genes are located on chicken chromosome 2. The genes downstream of this region on the p-arm have their chicken orthologs localized on the chromosome Z. Genes which orthologs are not in current platypus genome assembly are shown in grey ink.

^b Genes are shown in the Figure 5d.

^c Chromosomal locations determined previously [1, 2] and in this work (genes indicated by yellow background) are listed. Question marks indicate platypus genes that have not yet been localized to chromosomes.

1. Rens W, O'Brien PCM, Grützner F, Clarke O, Graphodatskaya D, Tsend-Ayush E, Trifonov VA, Skelton H, Wallis MC, Johnston S, et al: **The multiple sex chromosomes of platypus and echidna are not completely identical and several share homology with the avian Z.** *Genome Biol* 2007, **8**:R243.
2. Veyrunes F, Waters PD, Miethke P, Rens W, McMillan D, Alsop AE, Grützner F, Deakin JE, Whittington CM, Schatzkamer K, et al: **Bird-like sex chromosomes of platypus imply recent origin of mammal sex chromosomes.** *Genome Res* 2008, **18**:965-973.