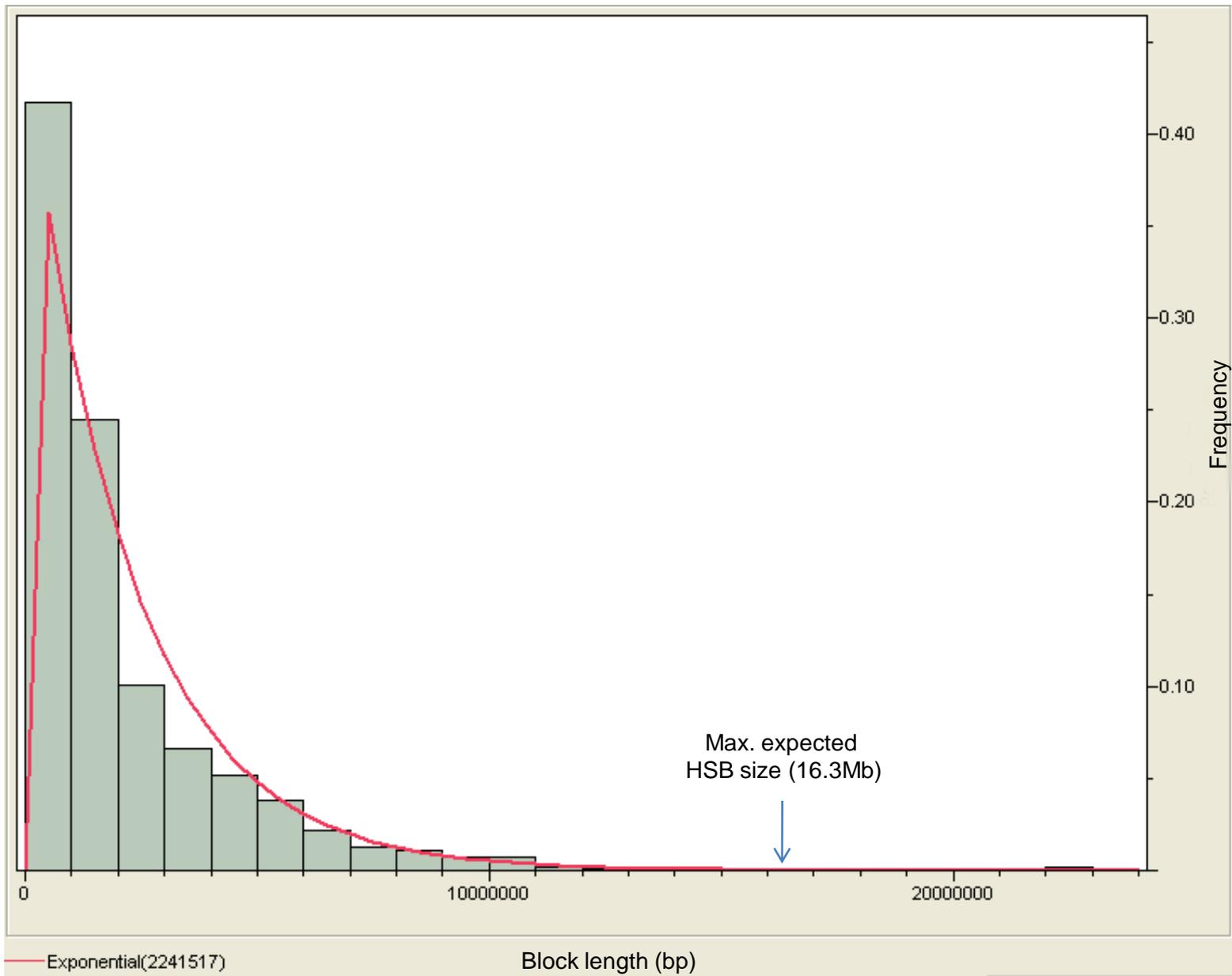
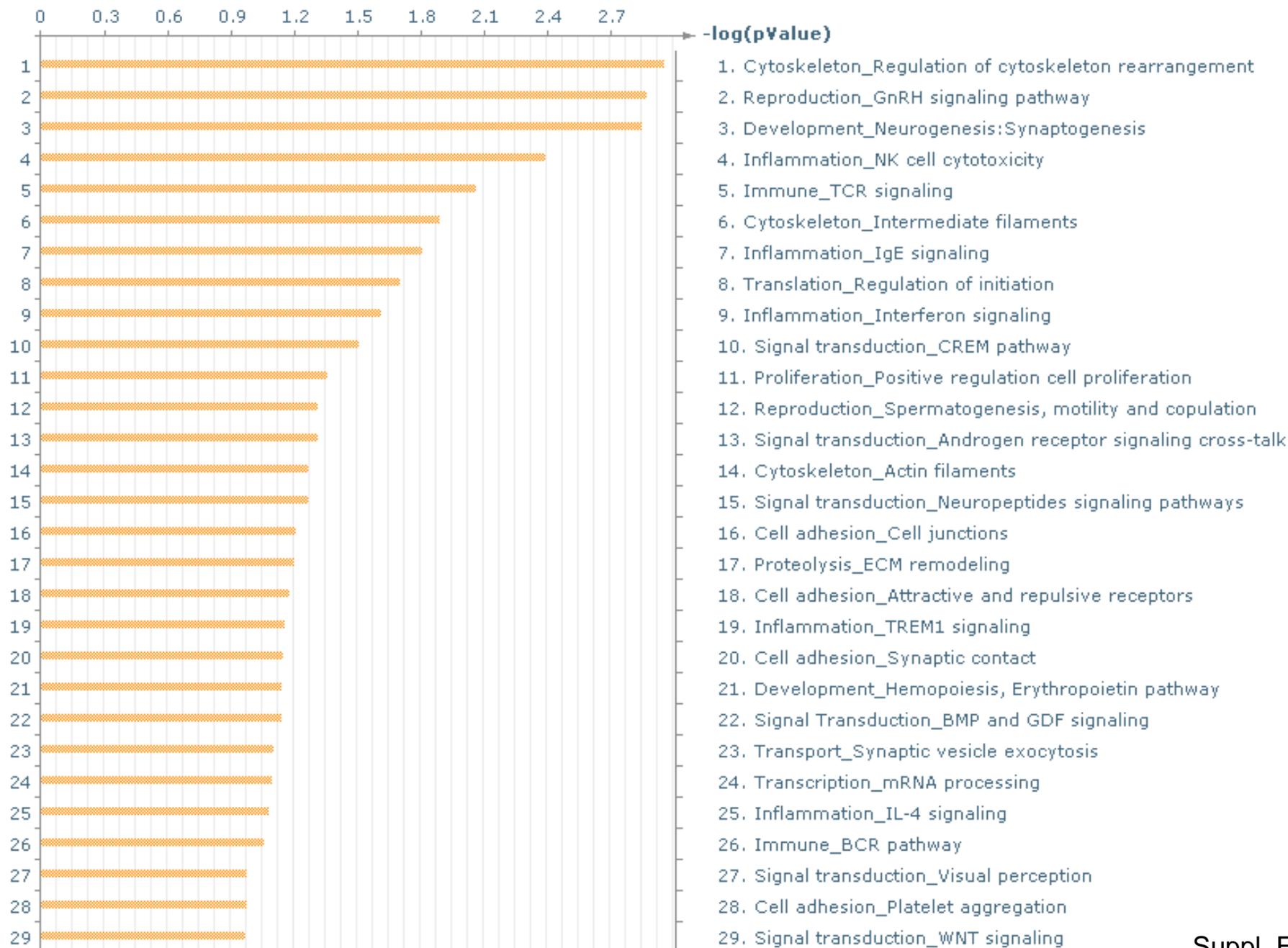


Suppl. Figure 1. Histogram of msHSB lengths (N = 823, >1 Kbp) in the human genome fitted by an exponential distribution with a mean block length $L = 2.2$ Mbp. Total length of all msHSBs equals 1.8 Gbp. The random breakage model was tested according to Churchill et al. (1990) and Pevzner and Tesler (2003). The Kolmogorov-Smirnov test of goodness-of-fit to a uniform distribution was used to measure the largest difference between the observed and theoretical distribution (Pevzner and Tesler 2003). Following Pevzner and Tesler (2003) and Nadeau and Taylor (1984) we excluded msHSBs <1Mbp from the test. The computed Kolmogorov-Smirnov statistic was $D_{478} = 0.074$, which is smaller than the critical value of 0.075 ($\alpha=0.01$; Masey et al. 1951). If the smallest and largest msHSBs were excluded from the analysis, then $D_{475} = 0.073$ and the critical value ($\alpha=0.01$) is 0.075. The analysis suggests that the distribution of EBRs in amniote genomes cannot be explained by a random breakage model because of the presence of large msHSBs which significantly ($P<0.05$) exceed the expected maximum size of msHSBs calculated as $L[\gamma + \ln(n+1)] = 16.3$ Mbp, where L is mean fragment length and $\gamma = 0.5772$ is Euler's constant. See Supplementary Table 2 for the probabilities calculated as $\Pr(x(n)>S) = 1-\exp(-\exp(\ln(n)-S/L))$.

Suppl. Figure 2. Set of genes (N = 3,166) located outside msHSBs (>3 Mbp) and EBRs (<1 Mbp) show no enrichment for specific GeneGo process networks (FDR < 0.05).





Supplementary Table1. Coverage of the human genome in each pairwise compative map (HSBs > 500Kbp).

	Covered (bp)	Unmodified coverage (bp) ^a	Modified coverage (bp) ^b
cattle	2,625,221,118	87.0	89.4
chicken	2,421,484,646	80.2	82.4
chimp	2,904,774,520	96.2	98.9
dog	2,731,043,517	90.5	93.0
macaque	2,840,519,526	94.1	96.7
mouse	2,651,816,295	87.8	90.3
pig	2,649,628,939	87.8	90.2
opossum	2,449,684,618	81.1	83.4
rat	2,621,954,705	86.8	89.3
average		87.9	90.4
median		87.8	90.2

^aUnmodified coverage includes all human chromosomes except for HSAY.

^bModified coverage is equal to unmodified coverage exluding short arms of HSA13, HSA14, HSA15, HSA21, and HSA22.

Supplementary Table 2. Amniote multispecies HSBs >1 Kbp sorted by size and their probability to be found in the human genome under a Poisson process.

Genome	Chr.	Chr. start	Chr. end	Size	Probability of being found under a Poisson process
HSA35	6	169,924,033	169,925,081	1,048	1.0
HSA35	17	59,561,215	59,563,928	2,713	1.0
HSA35	14	38,964,665	38,971,371	6,706	1.0
HSA35	1	12,612,003	12,621,810	9,807	1.0
HSA35	8	42,516,225	42,527,272	11,047	1.0
HSA35	4	174,335,969	174,347,092	11,123	1.0
HSA35	15	62,947,252	62,960,212	12,960	1.0
HSA35	5	176,955,700	176,969,880	14,180	1.0
HSA35	6	117,081,923	117,096,646	14,723	1.0
HSA35	4	188,002,714	188,020,136	17,422	1.0
HSA35	6	33,371,897	33,389,967	18,070	1.0
HSA35	X	123,803,985	123,823,201	19,216	1.0
HSA35	17	24,895,628	24,918,168	22,540	1.0
HSA35	2	73,408,251	73,432,265	24,014	1.0
HSA35	6	39,980,626	40,010,151	29,525	1.0
HSA35	10	71,357,607	71,388,909	31,302	1.0
HSA35	5	96,136,139	96,169,398	33,259	1.0
HSA35	19	34,712,889	34,748,467	35,578	1.0
HSA35	3	10,302,091	10,337,855	35,764	1.0
HSA35	3	113,528,545	113,564,346	35,801	1.0
HSA35	X	109,328,850	109,367,612	38,762	1.0
HSA35	6	116,866,138	116,910,024	43,886	1.0
HSA35	3	52,409,547	52,454,083	44,536	1.0
HSA35	6	159,391,607	159,436,593	44,986	1.0
HSA35	4	89,078,631	89,125,145	46,514	1.0
HSA35	2	224,682,123	224,729,498	47,375	1.0
HSA35	1	15,543,886	15,596,096	52,210	1.0
HSA35	5	175,164,162	175,220,602	56,440	1.0
HSA35	17	46,490,374	46,547,494	57,120	1.0
HSA35	2	234,710,165	234,767,776	57,611	1.0
HSA35	1	40,375,684	40,435,017	59,333	1.0
HSA35	5	174,392,648	174,458,187	65,539	1.0
HSA35	5	138,733,304	138,803,065	69,761	1.0
HSA35	5	174,090,503	174,161,344	70,841	1.0
HSA35	6	2,658,944	2,730,977	72,033	1.0
HSA35	12	102,960,428	103,034,507	74,079	1.0
HSA35	6	84,571,977	84,651,332	79,355	1.0
HSA35	10	59,697,700	59,777,355	79,655	1.0
HSA35	9	33,157,236	33,238,564	81,328	1.0
HSA35	2	239,137,371	239,220,228	82,857	1.0
HSA35	4	75,533,350	75,619,512	86,162	1.0
HSA35	4	77,180,860	77,269,173	88,313	1.0
HSA35	7	149,851,182	149,939,853	88,671	1.0
HSA35	10	70,034,746	70,123,454	88,708	1.0
HSA35	5	70,899,402	70,988,981	89,579	1.0
HSA35	1	164,805,805	164,902,509	96,704	1.0
HSA35	2	139,164,529	139,262,979	98,450	1.0
HSA35	3	128,137,207	128,238,926	101,719	1.0
HSA35	2	190,165,770	190,271,119	105,349	1.0

HSA35	5	111,010,504	111,121,259	110,755	1.0
HSA35	3	51,394,030	51,505,823	111,793	1.0
HSA35	9	128,005,759	128,117,822	112,063	1.0
HSA35	10	81,842,287	81,955,308	113,021	1.0
HSA35	5	111,782,909	111,896,906	113,997	1.0
HSA35	10	73,665,622	73,784,875	119,253	1.0
HSA35	4	17,338,089	17,459,217	121,128	1.0
HSA35	3	58,133,015	58,255,499	122,484	1.0
HSA35	10	90,601,496	90,724,890	123,394	1.0
HSA35	9	124,907,893	125,031,619	123,726	1.0
HSA35	X	107,488,872	107,619,703	130,831	1.0
HSA35	2	70,043,999	70,175,867	131,868	1.0
HSA35	2	70,559,728	70,692,585	132,857	1.0
HSA35	16	15,589,418	15,723,131	133,713	1.0
HSA35	1	67,437,669	67,574,604	136,935	1.0
HSA35	13	51,338,367	51,483,631	145,264	1.0
HSA35	11	68,215,218	68,365,960	150,742	1.0
HSA35	3	33,734,852	33,886,198	151,346	1.0
HSA35	4	169,389,800	169,545,719	155,919	1.0
HSA35	10	69,505,019	69,666,767	161,748	1.0
HSA35	14	63,959,803	64,125,849	166,046	1.0
HSA35	12	86,925,644	87,093,978	168,334	1.0
HSA35	7	32,704,612	32,875,574	170,962	1.0
HSA35	X	100,113,247	100,285,259	172,012	1.0
HSA35	7	73,088,808	73,264,915	176,107	1.0
HSA35	7	23,087,963	23,267,279	179,316	1.0
HSA35	16	4,500,348	4,680,975	180,627	1.0
HSA35	4	122,975,781	123,163,850	188,069	1.0
HSA35	2	119,939,885	120,130,466	190,581	1.0
HSA35	2	61,483,523	61,677,052	193,529	1.0
HSA35	1	15,806,568	16,003,230	196,662	1.0
HSA35	5	137,306,335	137,503,031	196,696	1.0
HSA35	17	60,860,575	61,062,175	201,600	1.0
HSA35	2	26,324,164	26,530,402	206,238	1.0
HSA35	1	27,560,317	27,772,617	212,300	1.0
HSA35	22	36,280,222	36,495,016	214,794	1.0
HSA35	18	43,492,159	43,711,221	219,062	1.0
HSA35	12	53,707,486	53,928,262	220,776	1.0
HSA35	12	110,251,076	110,473,500	222,424	1.0
HSA35	2	10,780,696	11,004,948	224,252	1.0
HSA35	1	93,315,004	93,540,167	225,163	1.0
HSA35	15	70,259,560	70,487,424	227,864	1.0
HSA35	15	69,897,649	70,138,311	240,662	1.0
HSA35	4	122,201,618	122,443,081	241,463	1.0
HSA35	12	21,576,724	21,819,014	242,290	1.0
HSA35	13	20,931,423	21,174,187	242,764	1.0
HSA35	19	1,997,228	2,242,706	245,478	1.0
HSA35	2	231,815,329	232,064,111	248,782	1.0
HSA35	17	62,799,599	63,049,911	250,312	1.0
HSA35	14	90,789,161	91,046,575	257,414	1.0
HSA35	3	131,686,386	131,946,107	259,721	1.0
HSA35	5	149,412,883	149,674,876	261,993	1.0
HSA35	12	118,888,641	119,150,677	262,036	1.0
HSA35	1	11,019,814	11,282,251	262,437	1.0

HSA35	3	184,363,325	184,628,557	265,232	1.0
HSA35	17	46,140,262	46,406,953	266,691	1.0
HSA35	19	17,047,242	17,314,530	267,288	1.0
HSA35	X	69,436,251	69,713,453	277,202	1.0
HSA35	7	86,215,339	86,493,682	278,343	1.0
HSA35	4	76,812,413	77,092,543	280,130	1.0
HSA35	5	132,183,349	132,468,608	285,259	1.0
HSA35	8	27,171,843	27,457,716	285,873	1.0
HSA35	4	78,058,121	78,354,304	296,183	1.0
HSA35	10	15,155,664	15,453,064	297,400	1.0
HSA35	7	150,112,662	150,411,873	299,211	1.0
HSA35	10	102,269,585	102,579,687	310,102	1.0
HSA35	X	99,732,436	100,049,631	317,195	1.0
HSA35	3	185,461,953	185,782,897	320,944	1.0
HSA35	6	49,538,889	49,862,859	323,970	1.0
HSA35	11	106,064,976	106,394,381	329,405	1.0
HSA35	21	44,020,687	44,350,852	330,165	1.0
HSA35	10	98,708,653	99,042,420	333,767	1.0
HSA35	20	3,001,162	3,336,204	335,042	1.0
HSA35	3	27,135,992	27,473,249	337,257	1.0
HSA35	15	76,381,801	76,720,646	338,845	1.0
HSA35	16	55,535,294	55,877,040	341,746	1.0
HSA35	12	8,650,880	8,993,519	342,639	1.0
HSA35	1	159,561,112	159,904,530	343,418	1.0
HSA35	4	5,969,260	6,320,354	351,094	1.0
HSA35	1	7,979,602	8,338,483	358,881	1.0
HSA35	16	69,619,036	69,981,836	362,800	1.0
HSA35	1	10,414,467	10,790,973	376,506	1.0
HSA35	9	34,242,520	34,619,065	376,545	1.0
HSA35	1	11,649,005	12,026,366	377,361	1.0
HSA35	8	27,569,358	27,946,989	377,631	1.0
HSA35	22	27,509,836	27,888,875	379,039	1.0
HSA35	10	5,406,169	5,791,632	385,463	1.0
HSA35	12	109,432,609	109,821,103	388,494	1.0
HSA35	X	70,183,215	70,578,761	395,546	1.0
HSA35	9	127,573,433	127,970,295	396,862	1.0
HSA35	2	153,035,036	153,443,199	408,163	1.0
HSA35	12	108,377,822	108,789,206	411,384	1.0
HSA35	22	29,927,552	30,339,089	411,537	1.0
HSA35	7	86,673,760	87,085,328	411,568	1.0
HSA35	2	189,286,152	189,702,978	416,826	1.0
HSA35	16	20,660,907	21,078,263	417,356	1.0
HSA35	2	48,871,935	49,293,281	421,346	1.0
HSA35	15	77,551,697	77,976,398	424,701	1.0
HSA35	3	148,190,090	148,615,046	424,956	1.0
HSA35	5	114,989,621	115,416,410	426,789	1.0
HSA35	15	41,946,508	42,376,242	429,734	1.0
HSA35	22	31,295,795	31,727,201	431,406	1.0
HSA35	11	107,042,714	107,474,540	431,826	1.0
HSA35	5	148,910,850	149,347,149	436,299	1.0
HSA35	1	89,011,443	89,450,508	439,065	1.0
HSA35	12	25,152,535	25,597,445	444,910	1.0
HSA35	3	51,713,377	52,163,460	450,083	1.0
HSA35	4	57,209,507	57,661,444	451,937	1.0

HSA35	3	37,383,245	37,835,941	452,696	1.0
HSA35	15	88,150,938	88,606,559	455,621	1.0
HSA35	11	6,177,992	6,633,656	455,664	1.0
HSA35	1	40,518,703	40,975,216	456,513	1.0
HSA35	3	13,436,809	13,896,619	459,810	1.0
HSA35	12	103,654,350	104,115,714	461,364	1.0
HSA35	12	4,284,777	4,752,153	467,376	1.0
HSA35	11	60,458,091	60,926,070	467,979	1.0
HSA35	12	54,317,884	54,793,353	475,469	1.0
HSA35	1	26,911,099	27,393,935	482,836	1.0
HSA35	17	345,156	829,760	484,604	1.0
HSA35	12	8,099,384	8,584,811	485,427	1.0
HSA35	9	88,849,478	89,342,442	492,964	1.0
HSA35	12	74,711,948	75,207,442	495,494	1.0
HSA35	1	203,210,931	203,706,701	495,770	1.0
HSA35	7	32,922,242	33,418,920	496,678	1.0
HSA35	7	75,162,890	75,660,946	498,056	1.0
HSA35	6	169,408,394	169,906,733	498,339	1.0
HSA35	18	43,821,476	44,320,302	498,826	1.0
HSA35	12	130,502,225	131,002,546	500,321	1.0
HSA35	2	128,000,274	128,501,863	501,589	1.0
HSA35	1	42,591,031	43,093,594	502,563	1.0
HSA35	12	131,073,926	131,576,610	502,684	1.0
HSA35	16	73,198,514	73,708,170	509,656	1.0
HSA35	15	37,676,957	38,187,882	510,925	1.0
HSA35	17	17,657,400	18,171,177	513,777	1.0
HSA35	2	233,466,780	233,986,312	519,532	1.0
HSA35	9	82,861,047	83,382,907	521,860	1.0
HSA35	1	222,376,783	222,902,526	525,743	1.0
HSA35	18	74,859,176	75,385,148	525,972	1.0
HSA35	9	120,684,760	121,211,279	526,519	1.0
HSA35	4	83,652,298	84,178,870	526,572	1.0
HSA35	3	14,160,180	14,689,167	528,987	1.0
HSA35	12	10,235,667	10,767,173	531,506	1.0
HSA35	6	166,990,177	167,523,040	532,863	1.0
HSA35	7	134,257,876	134,790,744	532,868	1.0
HSA35	17	26,648,377	27,190,166	541,789	1.0
HSA35	17	40,108,406	40,653,365	544,959	1.0
HSA35	1	53,099,455	53,645,179	545,724	1.0
HSA35	3	26,099,871	26,646,180	546,309	1.0
HSA35	10	60,244,080	60,792,358	548,278	1.0
HSA35	1	8,811,790	9,363,857	552,067	1.0
HSA35	3	135,022,220	135,576,059	553,839	1.0
HSA35	22	40,778,960	41,335,460	556,500	1.0
HSA35	2	235,187,230	235,746,356	559,126	1.0
HSA35	20	24,595,167	25,155,360	560,193	1.0
HSA35	15	49,137,933	49,702,241	564,308	1.0
HSA35	7	70,623,234	71,188,439	565,205	1.0
HSA35	12	75,692,650	76,259,261	566,611	1.0
HSA35	4	95,050,827	95,621,182	570,355	1.0
HSA35	4	128,995,529	129,566,550	571,021	1.0
HSA35	5	179,136,887	179,713,121	576,234	1.0
HSA35	1	223,231,930	223,812,561	580,631	1.0
HSA35	11	56,761,364	57,343,226	581,862	1.0

HSA35	15	38,300,613	38,886,954	586,341	1.0
HSA35	7	64,945,991	65,532,526	586,535	1.0
HSA35	9	97,337,953	97,924,912	586,959	1.0
HSA35	1	183,075,988	183,664,895	588,907	1.0
HSA35	10	30,064,736	30,655,755	591,019	1.0
HSA35	4	89,802,102	90,393,217	591,115	1.0
HSA35	12	119,228,312	119,820,878	592,566	1.0
HSA35	20	43,873,471	44,468,678	595,207	1.0
HSA35	6	36,464,144	37,061,927	597,783	1.0
HSA35	7	72,381,939	72,981,505	599,566	1.0
HSA35	9	33,437,594	34,038,947	601,353	1.0
HSA35	12	20,960,923	21,562,358	601,435	1.0
HSA35	16	24,139,063	24,743,697	604,634	1.0
HSA35	7	35,507,969	36,114,386	606,417	1.0
HSA35	11	17,367,440	17,974,785	607,345	1.0
HSA35	3	57,282,536	57,889,934	607,398	1.0
HSA35	2	27,176,214	27,785,362	609,148	1.0
HSA35	1	39,621,882	40,232,061	610,179	1.0
HSA35	9	110,269,596	110,879,920	610,324	1.0
HSA35	1	28,862,001	29,473,927	611,926	1.0
HSA35	10	71,576,442	72,190,664	614,222	1.0
HSA35	6	32,081,776	32,698,284	616,508	1.0
HSA35	2	4,442,199	5,061,582	619,383	1.0
HSA35	1	110,309,287	110,929,317	620,030	1.0
HSA35	1	40,996,892	41,619,390	622,498	1.0
HSA35	10	26,874,105	27,500,754	626,649	1.0
HSA35	10	129,140,764	129,774,155	633,391	1.0
HSA35	15	62,217,255	62,854,839	637,584	1.0
HSA35	14	49,431,233	50,069,126	637,893	1.0
HSA35	2	31,717,620	32,358,460	640,840	1.0
HSA35	2	9,496,404	10,145,561	649,157	1.0
HSA35	6	42,293,581	42,944,106	650,525	1.0
HSA35	11	86,061,004	86,712,216	651,212	1.0
HSA35	17	2,231,094	2,887,783	656,689	1.0
HSA35	5	71,538,609	72,207,346	668,737	1.0
HSA35	11	18,094,239	18,769,965	675,726	1.0
HSA35	3	52,463,098	53,139,503	676,405	1.0
HSA35	1	30,899,760	31,576,617	676,857	1.0
HSA35	3	135,776,551	136,461,353	684,802	1.0
HSA35	12	107,146,778	107,835,197	688,419	1.0
HSA35	16	67,426,943	68,118,794	691,851	1.0
HSA35	21	36,588,441	37,284,373	695,932	1.0
HSA35	2	42,197,305	42,895,737	698,432	1.0
HSA35	8	8,787,978	9,489,884	701,906	1.0
HSA35	3	15,618,071	16,320,112	702,041	1.0
HSA35	15	27,197,807	27,901,043	703,236	1.0
HSA35	16	19,619,949	20,323,560	703,611	1.0
HSA35	3	137,349,431	138,057,424	707,993	1.0
HSA35	8	32,741,561	33,450,206	708,645	1.0
HSA35	16	18,761,366	19,472,227	710,861	1.0
HSA35	1	115,946,097	116,659,436	713,339	1.0
HSA35	15	79,552,456	80,266,996	714,540	1.0
HSA35	5	126,200,603	126,918,671	718,068	1.0
HSA35	10	131,652,528	132,371,541	719,013	1.0

HSA35	16	21,571,464	22,293,421	721,957	1.0
HSA35	14	53,956,682	54,681,879	725,197	1.0
HSA35	4	186,831,805	187,557,474	725,669	1.0
HSA35	17	24,965,904	25,691,792	725,888	1.0
HSA35	7	38,696,648	39,424,927	728,279	1.0
HSA35	11	68,612,568	69,343,129	730,561	1.0
HSA35	11	124,137,396	124,871,333	733,937	1.0
HSA35	6	35,572,693	36,308,541	735,848	1.0
HSA35	2	120,155,924	120,899,043	743,119	1.0
HSA35	1	23,860,026	24,608,810	748,784	1.0
HSA35	12	11,939,588	12,689,308	749,720	1.0
HSA35	X	150,540,581	151,290,398	749,817	1.0
HSA35	1	153,168,082	153,921,250	753,168	1.0
HSA35	3	35,810,991	36,564,500	753,509	1.0
HSA35	4	78,477,303	79,231,116	753,813	1.0
HSA35	16	65,772,014	66,528,254	756,240	1.0
HSA35	12	87,477,420	88,236,243	758,823	1.0
HSA35	19	16,106,037	16,870,516	764,479	1.0
HSA35	1	9,609,194	10,375,920	766,726	1.0
HSA35	7	100,865,833	101,636,889	771,056	1.0
HSA35	3	186,253,088	187,025,514	772,426	1.0
HSA35	16	22,835,572	23,609,189	773,617	1.0
HSA35	11	99,732,683	100,506,465	773,782	1.0
HSA35	3	38,431,471	39,209,089	777,618	1.0
HSA35	2	201,554,920	202,332,949	778,029	1.0
HSA35	5	137,906,802	138,694,946	788,144	1.0
HSA35	9	35,048,330	35,837,231	788,901	1.0
HSA35	4	177,298,797	178,089,044	790,247	1.0
HSA35	2	25,477,110	26,271,973	794,863	1.0
HSA35	1	237,220,202	238,023,335	803,133	1.0
HSA35	14	52,689,750	53,493,362	803,612	1.0
HSA35	12	129,232,449	130,036,604	804,155	1.0
HSA35	17	70,277,084	71,082,884	805,800	1.0
HSA35	3	170,970,385	171,786,560	816,175	1.0
HSA35	2	68,965,606	69,782,500	816,894	1.0
HSA35	10	68,529,072	69,348,147	819,075	1.0
HSA35	1	158,660,530	159,481,893	821,363	1.0
HSA35	2	36,689,928	37,512,115	822,187	1.0
HSA35	15	81,253,127	82,078,495	825,368	1.0
HSA35	9	113,063,122	113,892,040	828,918	1.0
HSA35	11	129,307,864	130,137,896	830,032	1.0
HSA35	10	89,496,142	90,332,927	836,785	1.0
HSA35	12	128,057,728	128,905,331	847,603	1.0
HSA35	9	94,536,789	95,384,411	847,622	1.0
HSA35	16	56,256,293	57,105,023	848,730	1.0
HSA35	1	92,265,276	93,139,007	873,731	1.0
HSA35	17	11,987,872	12,862,049	874,177	1.0
HSA35	12	110,913,663	111,799,402	885,739	1.0
HSA35	13	112,290,482	113,176,585	886,103	1.0
HSA35	X	108,158,497	109,046,932	888,435	1.0
HSA35	18	52,469,503	53,363,849	894,346	1.0
HSA35	15	87,137,668	88,035,012	897,344	1.0
HSA35	8	10,323,808	11,223,062	899,254	1.0
HSA35	X	32,487,932	33,387,273	899,341	1.0

HSA35	12	6,354,976	7,255,342	900,366	1.0
HSA35	17	9,635,305	10,541,570	906,265	1.0
HSA35	15	31,376,320	32,289,515	913,195	1.0
HSA35	17	1,306,294	2,220,160	913,866	1.0
HSA35	2	149,743,629	150,658,343	914,714	1.0
HSA35	17	71,174,864	72,093,524	918,660	1.0
HSA35	15	68,933,552	69,860,327	926,775	1.0
HSA35	22	39,087,250	40,023,463	936,213	1.0
HSA35	5	147,802,592	148,739,031	936,439	1.0
HSA35	17	23,708,600	24,645,262	936,662	1.0
HSA35	1	220,946,053	221,886,681	940,628	1.0
HSA35	6	43,445,194	44,389,041	943,847	1.0
HSA35	3	172,109,128	173,054,342	945,214	1.0
HSA35	11	109,139,656	110,089,122	949,466	1.0
HSA35	22	26,521,085	27,478,027	956,942	1.0
HSA35	17	22,732,669	23,698,160	965,491	1.0
HSA35	1	168,347,014	169,312,628	965,614	1.0
HSA35	17	52,553,608	53,521,810	968,202	1.0
HSA35	5	9,433,058	10,401,652	968,594	1.0
HSA35	6	54,823,475	55,795,997	972,522	1.0
HSA35	9	92,976,125	93,951,691	975,566	1.0
HSA35	11	124,959,731	125,938,022	978,291	1.0
HSA35	19	7,245,011	8,233,302	988,291	1.0
HSA35	8	30,160,601	31,150,818	990,217	1.0
HSA35	10	15,801,776	16,799,071	997,295	1.0
HSA35	20	257,079	1,257,826	1,000,747	1.0
HSA35	12	48,705,493	49,706,409	1,000,916	1.0
HSA35	17	54,124,415	55,127,254	1,002,839	1.0
HSA35	5	131,160,608	132,164,473	1,003,865	1.0
HSA35	9	95,468,535	96,473,949	1,005,414	1.0
HSA35	12	2,846,034	3,852,801	1,006,767	1.0
HSA35	2	190,361,061	191,372,041	1,010,980	1.0
HSA35	X	64,037,614	65,053,731	1,016,117	1.0
HSA35	8	28,104,584	29,121,131	1,016,547	1.0
HSA35	12	66,933,651	67,951,290	1,017,639	1.0
HSA35	3	197,027,458	198,047,662	1,020,204	1.0
HSA35	22	43,957,323	44,979,738	1,022,415	1.0
HSA35	10	31,360,860	32,385,221	1,024,361	1.0
HSA35	3	41,256,938	42,281,399	1,024,461	1.0
HSA35	11	57,704,425	58,732,636	1,028,211	1.0
HSA35	9	81,533,150	82,563,463	1,030,313	1.0
HSA35	3	39,298,190	40,328,919	1,030,729	1.0
HSA35	2	47,622,011	48,654,175	1,032,164	1.0
HSA35	6	41,119,830	42,152,957	1,033,127	1.0
HSA35	6	24,775,102	25,809,981	1,034,879	1.0
HSA35	4	175,091,403	176,127,647	1,036,244	1.0
HSA35	16	54,466,783	55,504,850	1,038,067	1.0
HSA35	1	16,043,801	17,083,716	1,039,915	1.0
HSA35	4	56,125,107	57,168,453	1,043,346	1.0
HSA35	5	113,860,096	114,908,490	1,048,394	1.0
HSA35	17	32,023,972	33,077,600	1,053,628	1.0
HSA35	9	99,063,779	100,117,782	1,054,003	1.0
HSA35	3	43,367,634	44,425,941	1,058,307	1.0
HSA35	15	72,071,744	73,130,119	1,058,375	1.0

HSA35	19	18,104,521	19,163,938	1,059,417	1.0
HSA35	4	4,423,254	5,486,684	1,063,430	1.0
HSA35	1	188,886,599	189,952,713	1,066,114	1.0
HSA35	11	75,531,342	76,603,623	1,072,281	1.0
HSA35	10	49,314,486	50,393,008	1,078,522	1.0
HSA35	4	170,306,139	171,386,102	1,079,963	1.0
HSA35	1	166,434,837	167,519,618	1,084,781	1.0
HSA35	11	127,897,371	128,985,572	1,088,201	1.0
HSA35	14	50,169,532	51,267,195	1,097,663	1.0
HSA35	7	33,968,724	35,066,482	1,097,758	1.0
HSA35	1	24,745,067	25,843,573	1,098,506	1.0
HSA35	1	163,676,219	164,776,726	1,100,507	1.0
HSA35	3	44,931,199	46,038,443	1,107,244	1.0
HSA35	17	58,142,132	59,250,408	1,108,276	1.0
HSA35	8	97,693,173	98,807,711	1,114,538	1.0
HSA35	5	132,976,154	134,091,398	1,115,244	1.0
HSA35	X	35,241,923	36,359,839	1,117,916	1.0
HSA35	18	57,373,345	58,500,989	1,127,644	1.0
HSA35	15	70,662,877	71,793,903	1,131,026	1.0
HSA35	17	14,052,714	15,185,624	1,132,910	1.0
HSA35	14	92,723,186	93,859,426	1,136,240	1.0
HSA35	5	134,115,740	135,252,223	1,136,483	1.0
HSA35	2	27,798,158	28,937,456	1,139,298	1.0
HSA35	2	232,089,141	233,230,949	1,141,808	1.0
HSA35	8	120,701,290	121,843,850	1,142,560	1.0
HSA35	17	10,669,681	11,813,856	1,144,175	1.0
HSA35	7	31,153,778	32,303,246	1,149,468	1.0
HSA35	13	19,499,402	20,651,218	1,151,816	1.0
HSA35	4	164,611,353	165,763,665	1,152,312	1.0
HSA35	7	39,520,955	40,673,597	1,152,642	1.0
HSA35	20	17,536,638	18,692,557	1,155,919	1.0
HSA35	2	150,856,781	152,016,462	1,159,681	1.0
HSA35	2	121,048,187	122,210,698	1,162,511	1.0
HSA35	3	160,030,206	161,196,507	1,166,301	1.0
HSA35	18	44,421,944	45,594,249	1,172,305	1.0
HSA35	17	5,227,242	6,400,587	1,173,345	1.0
HSA35	1	74,910,755	76,090,944	1,180,189	1.0
HSA35	5	175,731,779	176,914,114	1,182,335	1.0
HSA35	10	102,714,879	103,900,078	1,185,199	1.0
HSA35	9	36,667,678	37,853,322	1,185,644	1.0
HSA35	11	44,062,145	45,264,446	1,202,301	1.0
HSA35	2	202,471,244	203,674,721	1,203,477	1.0
HSA35	11	3,661,152	4,868,402	1,207,250	1.0
HSA35	20	42,272,845	43,488,296	1,215,451	1.0
HSA35	16	84,981,016	86,197,542	1,216,526	1.0
HSA35	16	86,542,580	87,777,863	1,235,283	1.0
HSA35	6	108,502,628	109,739,768	1,237,140	1.0
HSA35	4	6,891,293	8,128,996	1,237,703	1.0
HSA35	9	19,776,926	21,019,319	1,242,393	1.0
HSA35	12	76,286,591	77,529,562	1,242,971	1.0
HSA35	18	11,871,921	13,115,047	1,243,126	1.0
HSA35	2	236,858,652	238,104,820	1,246,168	1.0
HSA35	14	91,403,610	92,651,980	1,248,370	1.0
HSA35	16	3,213,128	4,464,897	1,251,769	1.0

HSA35	X	68,037,931	69,292,893	1,254,962	1.0
HSA35	9	86,198,932	87,454,584	1,255,652	1.0
HSA35	1	165,029,718	166,287,379	1,257,661	1.0
HSA35	2	53,925,730	55,189,615	1,263,885	1.0
HSA35	7	10,916,522	12,183,258	1,266,736	1.0
HSA35	4	119,631,525	120,907,749	1,276,224	1.0
HSA35	18	31,331,953	32,614,016	1,282,063	1.0
HSA35	2	32,443,305	33,736,013	1,292,708	1.0
HSA35	7	128,447,332	129,740,084	1,292,752	1.0
HSA35	5	74,361,618	75,661,645	1,300,027	1.0
HSA35	2	16,726,918	18,035,851	1,308,933	1.0
HSA35	X	33,656,388	34,967,250	1,310,862	1.0
HSA35	21	42,590,421	43,903,802	1,313,381	1.0
HSA35	11	87,548,249	88,864,301	1,316,052	1.0
HSA35	1	147,259,257	148,576,071	1,316,814	1.0
HSA35	12	115,638,563	116,961,671	1,323,108	1.0
HSA35	3	88,289,803	89,613,972	1,324,169	1.0
HSA35	15	23,764,694	25,091,497	1,326,803	1.0
HSA35	15	78,217,776	79,551,440	1,333,664	1.0
HSA35	17	8,237,504	9,573,143	1,335,639	1.0
HSA35	3	132,119,063	133,454,936	1,335,873	1.0
HSA35	10	13,699,644	15,036,061	1,336,417	1.0
HSA35	21	35,013,314	36,354,553	1,341,239	1.0
HSA35	12	26,123,273	27,464,733	1,341,460	1.0
HSA35	1	175,175,212	176,516,983	1,341,771	1.0
HSA35	9	90,484,662	91,848,694	1,364,032	1.0
HSA35	20	29,536,368	30,901,871	1,365,503	1.0
HSA35	9	131,642,479	133,026,115	1,383,636	1.0
HSA35	3	133,474,045	134,863,388	1,389,343	1.0
HSA35	9	111,325,862	112,716,821	1,390,959	1.0
HSA35	17	72,218,623	73,613,925	1,395,302	1.0
HSA35	5	121,391,528	122,786,937	1,395,409	1.0
HSA35	11	8,084,228	9,485,567	1,401,339	1.0
HSA35	2	38,516,066	39,918,028	1,401,962	1.0
HSA35	X	122,348,328	123,753,835	1,405,507	1.0
HSA35	14	37,085,927	38,494,363	1,408,436	1.0
HSA35	10	79,459,265	80,875,389	1,416,124	1.0
HSA35	12	4,791,132	6,217,688	1,426,556	1.0
HSA35	3	109,292,445	110,721,041	1,428,596	1.0
HSA35	1	17,125,971	18,555,605	1,429,634	1.0
HSA35	22	23,917,959	25,351,186	1,433,227	1.0
HSA35	12	68,070,842	69,505,625	1,434,783	1.0
HSA35	1	19,282,048	20,723,309	1,441,261	1.0
HSA35	11	76,634,458	78,088,099	1,453,641	1.0
HSA35	12	37,587,499	39,049,351	1,461,852	1.0
HSA35	17	55,824,368	57,291,053	1,466,685	1.0
HSA35	8	21,702,292	23,175,450	1,473,158	1.0
HSA35	5	108,551,272	110,030,946	1,479,674	1.0
HSA35	12	120,153,278	121,634,139	1,480,861	1.0
HSA35	2	118,306,183	119,791,199	1,485,016	1.0
HSA35	10	20,609,125	22,099,172	1,490,047	1.0
HSA35	18	40,898,771	42,406,270	1,507,499	1.0
HSA35	4	84,734,175	86,244,723	1,510,548	1.0
HSA35	6	56,927,363	58,439,081	1,511,718	1.0

HSA35	5	6,431,639	7,954,233	1,522,594	1.0
HSA35	1	31,722,378	33,255,223	1,532,845	1.0
HSA35	12	77,912,742	79,452,247	1,539,505	1.0
HSA35	6	109,937,065	111,483,559	1,546,494	1.0
HSA35	18	53,617,268	55,177,463	1,560,195	1.0
HSA35	7	139,329,925	140,903,441	1,573,516	1.0
HSA35	12	27,800,494	29,378,272	1,577,778	1.0
HSA35	1	114,014,140	115,592,899	1,578,759	1.0
HSA35	17	43,264,727	44,847,241	1,582,514	1.0
HSA35	3	128,792,248	130,378,203	1,585,955	1.0
HSA35	8	65,658,735	67,253,380	1,594,645	1.0
HSA35	11	111,247,416	112,851,103	1,603,687	1.0
HSA35	6	37,557,260	39,163,497	1,606,237	1.0
HSA35	12	117,004,560	118,610,938	1,606,378	1.0
HSA35	22	28,021,058	29,628,365	1,607,307	1.0
HSA35	15	74,150,245	75,775,530	1,625,285	1.0
HSA35	1	107,665,249	109,296,777	1,631,528	1.0
HSA35	22	32,640,964	34,274,543	1,633,579	1.0
HSA35	18	61,699,155	63,332,855	1,633,700	1.0
HSA35	22	41,369,847	43,017,532	1,647,685	1.0
HSA35	4	87,280,999	88,936,468	1,655,469	1.0
HSA35	18	901,048	2,561,470	1,660,422	1.0
HSA35	10	17,053,922	18,722,710	1,668,788	1.0
HSA35	5	72,503,076	74,184,238	1,681,162	1.0
HSA35	12	30,740,018	32,422,078	1,682,060	1.0
HSA35	12	79,739,177	81,432,211	1,693,034	1.0
HSA35	10	52,053,743	53,747,140	1,693,397	1.0
HSA35	7	45,535,952	47,252,477	1,716,525	1.0
HSA35	6	451,898	2,172,278	1,720,380	1.0
HSA35	12	121,778,983	123,504,677	1,725,694	1.0
HSA35	10	126,470,427	128,200,000	1,729,573	1.0
HSA35	6	84,679,795	86,409,746	1,729,951	1.0
HSA35	17	63,942,389	65,687,776	1,745,387	1.0
HSA35	5	96,390,496	98,144,789	1,754,293	1.0
HSA35	1	204,611,322	206,367,874	1,756,552	1.0
HSA35	6	33,772,317	35,542,859	1,770,542	1.0
HSA35	13	105,985,338	107,757,366	1,772,028	1.0
HSA35	5	1,880,570	3,654,516	1,773,946	1.0
HSA35	1	150,925,401	152,717,263	1,791,862	1.0
HSA35	5	135,318,622	137,117,654	1,799,032	1.0
HSA35	14	100,822,978	102,624,704	1,801,726	1.0
HSA35	11	93,956,511	95,766,375	1,809,864	1.0
HSA35	9	76,351,884	78,174,561	1,822,677	1.0
HSA35	22	37,203,945	39,043,853	1,839,908	1.0
HSA35	5	124,108,704	125,958,756	1,850,052	1.0
HSA35	6	18,095,692	19,948,893	1,853,201	1.0
HSA35	4	154,615,104	156,469,806	1,854,702	1.0
HSA35	10	33,287,204	35,144,140	1,856,936	1.0
HSA35	12	368,673	2,235,148	1,866,475	1.0
HSA35	12	12,874,176	14,740,696	1,866,520	1.0
HSA35	22	34,343,901	36,216,107	1,872,206	1.0
HSA35	12	22,109,869	23,993,904	1,884,035	1.0
HSA35	2	398,602	2,305,323	1,906,721	1.0
HSA35	1	13,561,538	15,469,928	1,908,390	1.0

HSA35	7	137,260,305	139,173,275	1,912,970	1.0
HSA35	3	120,831,341	122,748,178	1,916,837	1.0
HSA35	5	171,547,865	173,468,785	1,920,920	1.0
HSA35	14	61,787,237	63,710,371	1,923,134	1.0
HSA35	11	45,643,748	47,572,479	1,928,731	1.0
HSA35	3	111,122,750	113,066,239	1,943,489	1.0
HSA35	10	86,268,249	88,217,156	1,948,907	1.0
HSA35	1	155,346,467	157,306,125	1,959,658	1.0
HSA35	21	37,367,264	39,340,590	1,973,326	1.0
HSA35	16	82,557,437	84,552,762	1,995,325	1.0
HSA35	2	222,262,515	224,258,329	1,995,814	1.0
HSA35	6	3,059,173	5,089,210	2,030,037	1.0
HSA35	11	72,530,739	74,594,945	2,064,206	1.0
HSA35	3	150,578,244	152,659,195	2,080,951	1.0
HSA35	2	114,230,630	116,316,706	2,086,076	1.0
HSA35	1	160,057,205	162,145,976	2,088,771	1.0
HSA35	12	104,282,687	106,383,883	2,101,196	1.0
HSA35	3	10,466,546	12,574,841	2,108,295	1.0
HSA35	12	62,902,312	65,018,225	2,115,913	1.0
HSA35	7	105,116,978	107,237,755	2,120,777	1.0
HSA35	13	49,106,009	51,232,130	2,126,121	1.0
HSA35	1	89,771,236	91,899,300	2,128,064	1.0
HSA35	2	6,942,234	9,094,474	2,152,240	1.0
HSA35	9	125,075,839	127,249,717	2,173,878	1.0
HSA35	15	97,103,031	99,282,998	2,179,967	1.0
HSA35	10	99,320,950	101,505,878	2,184,928	1.0
HSA35	7	87,471,098	89,660,805	2,189,707	1.0
HSA35	1	111,733,175	113,940,534	2,207,359	1.0
HSA35	6	132,314,147	134,537,695	2,223,548	1.0
HSA35	15	38,894,059	41,126,278	2,232,219	1.0
HSA35	13	108,515,940	110,756,079	2,240,139	1.0
HSA35	21	32,298,248	34,539,133	2,240,885	1.0
HSA35	1	20,733,250	22,986,388	2,253,138	1.0
HSA35	15	84,330,797	86,590,959	2,260,162	1.0
HSA35	9	455,252	2,719,757	2,264,505	1.0
HSA35	4	80,217,736	82,483,394	2,265,658	1.0
HSA35	1	117,376,453	119,648,793	2,272,340	1.0
HSA35	1	179,530,245	181,803,397	2,273,152	1.0
HSA35	7	134,870,189	137,144,058	2,273,869	1.0
HSA35	1	85,235,429	87,523,271	2,287,842	1.0
HSA35	3	23,606,326	25,903,003	2,296,677	1.0
HSA35	14	34,414,604	36,711,306	2,296,702	1.0
HSA35	2	29,082,735	31,401,566	2,318,831	1.0
HSA35	17	67,634,147	69,958,314	2,324,167	1.0
HSA35	12	50,928,976	53,268,710	2,339,734	1.0
HSA35	1	200,827,771	203,174,212	2,346,441	1.0
HSA35	6	49,952,768	52,327,262	2,374,494	1.0
HSA35	8	40,007,468	42,382,570	2,375,102	1.0
HSA35	9	133,244,526	135,622,461	2,377,935	1.0
HSA35	12	100,383,239	102,762,787	2,379,548	1.0
HSA35	3	139,960,883	142,350,150	2,389,267	1.0
HSA35	9	104,769,991	107,172,854	2,402,863	1.0
HSA35	20	14,266,270	16,680,809	2,414,539	1.0
HSA35	7	89,684,199	92,107,863	2,423,664	1.0

HSA35	10	91,170,733	93,615,012	2,444,279	1.0
HSA35	11	64,564,618	67,015,150	2,450,532	1.0
HSA35	9	83,488,592	85,944,637	2,456,045	1.0
HSA35	7	19,538,631	22,006,593	2,467,962	1.0
HSA35	X	100,736,966	103,207,853	2,470,887	1.0
HSA35	5	138,842,476	141,318,811	2,476,335	1.0
HSA35	11	61,014,084	63,500,590	2,486,506	1.0
HSA35	5	156,125,623	158,645,617	2,519,994	1.0
HSA35	4	66,364,275	68,940,175	2,575,900	1.0
HSA35	11	100,959,869	103,540,317	2,580,448	1.0
HSA35	20	39,186,541	41,778,536	2,591,995	1.0
HSA35	2	85,926,843	88,524,164	2,597,321	1.0
HSA35	X	37,292,941	39,905,165	2,612,224	1.0
HSA35	14	66,718,268	69,333,707	2,615,439	1.0
HSA35	7	102,179,347	104,802,075	2,622,728	1.0
HSA35	20	44,608,374	47,238,311	2,629,937	1.0
HSA35	20	57,856,161	60,496,454	2,640,293	1.0
HSA35	16	70,168,496	72,818,387	2,649,891	1.0
HSA35	5	99,950,341	102,642,260	2,691,919	1.0
HSA35	X	130,935,506	133,656,755	2,721,249	1.0
HSA35	4	151,536,188	154,258,443	2,722,255	1.0
HSA35	13	22,797,304	25,523,169	2,725,865	1.0
HSA35	21	39,496,305	42,246,826	2,750,521	1.0
HSA35	14	54,927,773	57,688,654	2,760,881	1.0
HSA35	3	16,530,226	19,291,666	2,761,440	1.0
HSA35	5	14,924,876	17,688,363	2,763,487	1.0
HSA35	7	130,638,645	133,406,188	2,767,543	1.0
HSA35	16	11,852,896	14,631,567	2,778,671	1.0
HSA35	1	176,578,591	179,373,706	2,795,115	1.0
HSA35	4	123,192,698	125,989,280	2,796,582	1.0
HSA35	4	10,324,539	13,148,686	2,824,147	1.0
HSA35	11	14,477,974	17,309,114	2,831,140	1.0
HSA35	16	79,620,428	82,507,286	2,886,858	1.0
HSA35	15	49,800,514	52,708,094	2,907,580	1.0
HSA35	20	54,406,721	57,334,441	2,927,720	1.0
HSA35	4	45,967,010	48,905,021	2,938,011	1.0
HSA35	4	71,897,299	74,851,375	2,954,076	1.0
HSA35	12	112,199,107	115,177,863	2,978,756	1.0
HSA35	15	45,853,711	48,845,191	2,991,480	1.0
HSA35	11	130,412,358	133,408,823	2,996,465	1.0
HSA35	X	96,660,461	99,661,022	3,000,561	1.0
HSA35	13	45,654,386	48,681,917	3,027,531	1.0
HSA35	4	41,541,917	44,569,540	3,027,623	1.0
HSA35	4	141,706,387	144,748,883	3,042,496	1.0
HSA35	9	121,627,361	124,719,565	3,092,204	1.0
HSA35	X	139,312,745	142,449,116	3,136,371	1.0
HSA35	10	637,480	3,817,455	3,179,975	1.0
HSA35	21	14,677,380	17,861,135	3,183,755	1.0
HSA35	4	52,623,935	55,845,467	3,221,532	1.0
HSA35	14	41,443,498	44,698,352	3,254,854	1.0
HSA35	9	128,175,905	131,436,209	3,260,304	1.0
HSA35	20	31,701,498	35,013,590	3,312,092	1.0
HSA35	1	228,192,558	231,517,841	3,325,283	1.0
HSA35	11	30,316,344	33,646,276	3,329,932	1.0

HSA35	X	135,300,118	138,639,967	3,339,849	1.0
HSA35	12	81,587,236	84,945,983	3,358,747	1.0
HSA35	8	23,209,736	26,571,607	3,361,871	1.0
HSA35	16	76,026,512	79,395,676	3,369,164	1.0
HSA35	6	128,263,896	131,646,366	3,382,470	1.0
HSA35	9	23,816,335	27,205,421	3,389,086	1.0
HSA35	6	44,525,608	47,955,515	3,429,907	1.0
HSA35	5	167,927,961	171,366,482	3,438,521	1.0
HSA35	2	216,772,027	220,225,470	3,453,443	1.0
HSA35	4	95,943,810	99,421,569	3,477,759	1.0
HSA35	X	146,738,157	150,248,403	3,510,246	1.0
HSA35	6	155,673,864	159,210,804	3,536,940	1.0
HSA35	11	82,122,419	85,667,426	3,545,007	1.0
HSA35	5	75,954,996	79,534,628	3,579,632	1.0
HSA35	17	73,640,083	77,250,819	3,610,736	1.0
HSA35	3	123,036,616	126,655,505	3,618,889	1.0
HSA35	5	11,122,720	14,746,507	3,623,787	1.0
HSA35	16	7,703,341	11,353,121	3,649,780	1.0
HSA35	11	26,550,244	30,211,923	3,661,679	1.0
HSA35	3	95,328,320	99,000,054	3,671,734	1.0
HSA35	20	19,651,543	23,350,083	3,698,540	1.0
HSA35	4	13,353,606	17,052,814	3,699,208	1.0
HSA35	10	61,336,314	65,051,977	3,715,663	1.0
HSA35	1	193,825,192	197,561,486	3,736,294	1.0
HSA35	7	122,871,883	126,626,718	3,754,835	1.0
HSA35	7	107,967,163	111,724,893	3,757,730	1.0
HSA35	13	57,138,833	60,899,416	3,760,583	1.0
HSA35	15	32,883,596	36,644,224	3,760,628	1.0
HSA35	14	57,909,391	61,676,094	3,766,703	1.0
HSA35	2	11,918,129	15,721,823	3,803,694	1.0
HSA35	12	123,873,214	127,703,538	3,830,324	1.0
HSA35	8	51,867,942	55,705,947	3,838,005	1.0
HSA35	14	69,568,836	73,421,915	3,853,079	1.0
HSA35	8	82,695,271	86,548,526	3,853,255	1.0
HSA35	5	150,446,890	154,326,721	3,879,831	1.0
HSA35	7	118,874,215	122,768,594	3,894,379	1.0
HSA35	1	54,801,250	58,724,473	3,923,223	1.0
HSA35	1	232,372,957	236,314,782	3,941,825	1.0
HSA35	3	53,265,056	57,209,320	3,944,264	1.0
HSA35	10	82,039,375	85,991,197	3,951,822	1.0
HSA35	11	89,565,416	93,521,162	3,955,746	1.0
HSA35	3	180,272,286	184,300,063	4,027,777	1.0
HSA35	11	9,642,256	13,710,467	4,068,211	1.0
HSA35	6	13,720,503	17,814,797	4,094,294	1.0
HSA35	18	26,876,687	30,975,820	4,099,133	1.0
HSA35	7	15,374,880	19,521,900	4,147,020	1.0
HSA35	2	80,443,176	84,598,047	4,154,871	1.0
HSA35	1	170,574,433	174,738,799	4,164,366	1.0
HSA35	5	50,173,926	54,365,717	4,191,791	1.0
HSA35	7	143,970,781	148,163,390	4,192,609	1.0
HSA35	15	57,699,496	61,913,143	4,213,647	1.0
HSA35	6	123,426,925	127,644,957	4,218,032	1.0
HSA35	15	53,369,293	57,602,479	4,233,186	1.0
HSA35	3	28,341,615	32,587,354	4,245,739	1.0

HSA35	7	1,249,849	5,498,700	4,248,851	1.0
HSA35	6	150,663,603	154,923,906	4,260,303	1.0
HSA35	X	19,292,784	23,581,490	4,288,706	1.0
HSA35	X	40,524,528	44,816,400	4,291,872	1.0
HSA35	2	42,902,970	47,214,927	4,311,957	1.0
HSA35	10	74,925,765	79,298,959	4,373,194	1.0
HSA35	2	196,861,781	201,281,208	4,419,427	1.0
HSA35	6	20,320,637	24,754,362	4,433,725	1.0
HSA35	11	113,251,466	117,692,096	4,440,630	1.0
HSA35	10	121,346,531	125,843,093	4,496,562	1.0
HSA35	1	238,590,142	243,087,032	4,496,890	1.0
HSA35	12	69,692,566	74,191,668	4,499,102	1.0
HSA35	5	115,492,086	120,050,303	4,558,217	1.0
HSA35	4	99,720,993	104,378,621	4,657,628	1.0
HSA35	3	190,074,969	194,755,398	4,680,429	1.0
HSA35	8	77,939,356	82,625,875	4,686,519	1.0
HSA35	2	183,557,004	188,244,671	4,687,667	1.0
HSA35	10	93,780,058	98,470,269	4,690,211	1.0
HSA35	1	34,300,536	38,994,433	4,693,897	1.0
HSA35	8	1,894,213	6,604,592	4,710,379	1.0
HSA35	2	203,916,607	208,667,214	4,750,607	1.0
HSA35	2	191,655,778	196,427,924	4,772,146	1.0
HSA35	3	173,601,189	178,397,715	4,796,526	1.0
HSA35	5	102,926,389	107,745,010	4,818,621	1.0
HSA35	19	34,864,848	39,683,914	4,819,066	1.0
HSA35	8	12,928,045	17,770,824	4,842,779	1.0
HSA35	4	144,832,171	149,721,128	4,888,957	1.0
HSA35	16	60,628,240	65,525,768	4,897,528	1.0
HSA35	2	133,309,212	138,269,019	4,959,807	1.0
HSA35	2	19,480,012	24,462,599	4,982,587	1.0
HSA35	6	111,659,162	116,681,864	5,022,702	1.0
HSA35	4	57,731,501	62,766,933	5,035,432	1.0
HSA35	13	40,525,169	45,577,169	5,052,000	1.0
HSA35	13	34,948,275	40,130,072	5,181,797	1.0
HSA35	17	34,078,439	39,266,064	5,187,625	1.0
HSA35	12	56,637,318	61,832,857	5,195,539	1.0
HSA35	11	117,775,134	123,030,165	5,255,031	1.0
HSA35	9	27,516,491	32,777,397	5,260,906	1.0
HSA35	7	112,024,399	117,321,278	5,296,879	1.0
HSA35	2	155,135,996	160,449,851	5,313,855	1.0
HSA35	3	142,646,253	148,005,624	5,359,371	1.0
HSA35	1	206,413,817	211,797,556	5,383,739	1.0
HSA35	17	47,060,414	52,448,452	5,388,038	1.0
HSA35	5	141,348,934	146,813,453	5,464,519	1.0
HSA35	15	63,323,621	68,842,849	5,519,228	1.0
HSA35	12	15,265,571	20,797,585	5,532,014	1.0
HSA35	4	104,998,577	110,580,779	5,582,202	1.0
HSA35	2	225,092,256	230,759,132	5,666,876	1.0
HSA35	3	58,279,262	63,984,189	5,704,927	1.0
HSA35	12	39,750,361	45,506,035	5,755,674	1.0
HSA35	8	33,478,319	39,234,017	5,755,698	1.0
HSA35	2	55,402,645	61,170,921	5,768,276	1.0
HSA35	6	144,458,327	150,277,594	5,819,267	1.0
HSA35	12	94,478,475	100,304,040	5,825,565	1.0

HSA35	14	94,053,934	99,898,893	5,844,959	1.0
HSA35	2	143,633,606	149,495,615	5,862,009	1.0
HSA35	12	88,552,312	94,430,036	5,877,724	1.0
HSA35	11	19,154,542	25,060,755	5,906,213	1.0
HSA35	8	56,848,439	62,764,899	5,916,460	1.0
HSA35	1	79,184,383	85,135,790	5,951,407	1.0
HSA35	6	117,193,567	123,172,561	5,978,994	1.0
HSA35	7	23,847,551	29,839,506	5,991,955	1.0
HSA35	7	150,513,178	156,547,965	6,034,787	1.0
HSA35	18	32,662,938	38,710,558	6,047,620	1.0
HSA35	20	47,763,745	53,923,989	6,160,244	1.0
HSA35	7	48,196,963	54,394,429	6,197,466	1.0
HSA35	9	114,347,259	120,556,190	6,208,931	1.0
HSA35	3	153,666,266	159,893,063	6,226,797	1.0
HSA35	5	43,519,695	49,772,958	6,253,263	1.0
HSA35	2	62,274,844	68,536,235	6,261,391	1.0
HSA35	2	210,424,340	216,703,821	6,279,481	1.0
HSA35	1	68,410,274	74,851,443	6,441,169	1.0
HSA35	6	160,084,667	166,554,435	6,469,768	1.0
HSA35	4	134,452,129	140,983,012	6,530,883	1.0
HSA35	4	156,911,459	163,442,791	6,531,332	1.0
HSA35	1	1,267,366	7,839,502	6,572,136	1.0
HSA35	15	89,639,514	96,307,965	6,668,451	1.0
HSA35	10	6,198,845	13,073,252	6,874,407	1.0
HSA35	3	113,763,453	120,665,134	6,901,681	1.0
HSA35	18	17,102,281	24,011,189	6,908,908	1.0
HSA35	1	212,237,054	219,310,819	7,073,765	1.0
HSA35	9	68,853,645	76,037,889	7,184,244	1.0
HSA35	18	2,678,691	9,878,150	7,199,459	1.0
HSA35	18	65,775,140	73,111,081	7,335,941	1.0
HSA35	6	101,018,272	108,386,086	7,367,814	1.0
HSA35	2	97,963,103	105,548,662	7,585,559	1.0
HSA35	13	25,694,508	33,309,642	7,615,134	1.0
HSA35	7	76,718,572	84,395,898	7,677,326	1.0
HSA35	20	5,982,676	13,747,063	7,764,387	1.0
HSA35	X	23,804,960	31,668,933	7,863,973	1.0
HSA35	3	161,428,701	169,296,371	7,867,670	1.0
HSA35	4	178,659,149	186,722,217	8,063,068	1.0
HSA35	6	5,441,090	13,595,766	8,154,676	1.0
HSA35	1	58,867,355	67,231,749	8,364,394	1.0
HSA35	X	10,398,267	18,900,412	8,502,145	1.0
HSA35	16	45,735,409	54,295,199	8,559,790	1.0
HSA35	8	67,543,596	76,109,346	8,565,750	1.0
HSA35	4	110,967,478	119,537,390	8,569,912	1.0
HSA35	3	1,420,278	10,211,931	8,791,653	1.0
HSA35	14	24,589,110	33,490,037	8,900,927	1.0
HSA35	3	99,996,784	109,007,398	9,010,614	1.0
HSA35	6	135,312,946	144,371,246	9,058,300	1.0
HSA35	5	158,690,059	167,861,698	9,171,639	1.0
HSA35	6	64,539,615	73,958,711	9,419,096	1.0
HSA35	1	93,728,774	103,286,073	9,557,299	1.0
HSA35	1	43,307,024	53,003,346	9,696,322	1.0
HSA35	8	87,235,573	97,242,196	10,006,623	1.0
HSA35	11	33,752,647	43,898,389	10,145,742	1.0

HSA35	6	74,347,367	84,528,145	10,180,778	1.0
HSA35	3	77,779,351	88,123,690	10,344,339	1.0
HSA35	3	64,186,171	74,618,331	10,432,160	1.0
HSA35	5	32,348,832	42,847,751	10,498,919	1.0
HSA35	21	18,113,539	29,367,881	11,254,342	1.0
HSA35	5	19,875,110	31,590,671	11,715,561	0.99
HSA35	6	87,861,543	100,170,175	12,308,632	0.97
HSA35	13	66,700,573	79,813,087	13,112,514	0.91
HSA35	5	54,441,809	68,609,004	14,167,195	0.77
HSA35	5	80,208,389	95,794,708	15,586,319	0.54
HSA35	10	104,226,790	121,205,125	16,978,335	0.34
HSA35	14	73,468,734	90,679,692	17,210,958	0.32
HSA35	13	83,353,643	101,852,029	18,498,386	0.19
HSA35	8	122,050,055	142,260,143	20,210,088	0.1
HSA35	8	98,934,002	120,350,405	21,416,403	0.06
HSA35	1	119,998,878	142,565,232	22,566,354	0.03
HSA35	2	160,586,754	183,468,996	22,882,242	0.03
HSA35	4	17,488,650	41,111,373	23,622,723	0.02

Supplementary Table 3. Gene ontology functional processes in amniote msHSBs >3Mbp (FDR<0.05).

GO process	<i>P</i> -value
nervous system development	1.15E-14
multicellular organismal development	1.61E-14
system development	9.67E-14
anatomical structure development	6.94E-12
organ development	1.00E-10
organ morphogenesis	3.28E-10
developmental process	3.43E-10
anatomical structure morphogenesis	1.23E-09
central nervous system development	1.29E-09
generation of neurons	3.51E-09
neurogenesis	5.54E-09
brain development	7.86E-09
tube development	1.16E-08
cellular morphogenesis during differentiation	1.90E-08
neurite morphogenesis	2.38E-08
neuron morphogenesis during differentiation	2.38E-08
multicellular organismal process	2.77E-08
response to estrogen stimulus	3.13E-08
blood vessel development	7.36E-08
axonogenesis	8.58E-08
vasculature development	9.92E-08
tube morphogenesis	1.22E-07
cell development	6.19E-07
regulation of lipid metabolic process	6.23E-07
neuron differentiation	7.36E-07
sensory organ development	8.06E-07
cell differentiation	8.66E-07
cellular developmental process	8.66E-07
blood vessel morphogenesis	1.09E-06
neurite development	1.80E-06
vasodilation	2.02E-06
positive regulation of transcription, DNA-dependent	4.36E-06
regulation of tube size	4.39E-06
regulation of blood vessel size	4.39E-06
neuron development	4.93E-06
positive regulation of RNA metabolic process	5.63E-06
elevation of cytosolic calcium ion concentration	5.75E-06
positive regulation of metabolic process	5.96E-06
response to steroid hormone stimulus	6.52E-06
cytosolic calcium ion homeostasis	8.91E-06
axon guidance	1.05E-05
negative regulation of transmission of nerve impulse	1.11E-05
vascular process in circulatory system	1.14E-05
positive regulation of transcription from RNA polymerase II promoter	1.20E-05
regulation of transmission of nerve impulse	1.25E-05
transcription from RNA polymerase II promoter	1.75E-05
regulation of carbohydrate metabolic process	2.11E-05
neuron migration	2.38E-05

regulation of multicellular organism growth	2.57E-05
energy derivation by oxidation of organic compounds	2.85E-05
fear response	2.98E-05
response to hormone stimulus	3.06E-05
positive regulation of cellular metabolic process	3.10E-05
positive regulation of nucleobase, nucleoside, nucleotide and nucleic acid metabolism	3.53E-05
cell part morphogenesis	3.67E-05
cell projection organization and biogenesis	3.67E-05
cell projection morphogenesis	3.67E-05
smooth muscle contraction	4.18E-05
positive regulation of transcription	4.33E-05
forebrain development	4.45E-05
angiogenesis	5.13E-05
transmission of nerve impulse	5.30E-05
heat generation	6.16E-05
gland development	6.24E-05
synaptic transmission	6.27E-05
multicellular organism growth	6.80E-05
cyclic nucleotide metabolic process	6.80E-05
embryonic morphogenesis	7.29E-05
B cell differentiation	7.41E-05
thermoregulation	7.61E-05
intracellular signaling cascade	8.79E-05
regulation of transcription from RNA polymerase II promoter	1.13E-04
regulation of synaptic transmission	1.24E-04
cAMP-mediated signaling	1.29E-04
negative regulation of endothelial cell proliferation	1.35E-04
enzyme linked receptor protein signaling pathway	1.37E-04
energy reserve metabolic process	1.39E-04
regulation of neurological process	1.43E-04
respiratory tube development	1.43E-04
regulation of molecular function	1.52E-04
ethanol oxidation	1.53E-04
ethanol metabolic process	1.53E-04
regulation of synaptic transmission, glutamatergic	1.54E-04
regulation of catalytic activity	1.61E-04
cell migration	1.62E-04
pattern specification process	1.64E-04
ear development	1.65E-04
regulation of epithelial cell differentiation	1.71E-04
steroid hormone receptor signaling pathway	1.81E-04
regulation of membrane potential	1.83E-04
transmembrane receptor protein tyrosine kinase signaling pathway	1.94E-04
lung development	1.96E-04
striated muscle development	1.96E-04
growth	2.10E-04
anatomical structure formation	2.12E-04

Supplementary Table 4. Enrichment for Gene Ontology processes in EBRs (<1Mbp; FDR<0.05).

GO process	<i>P-value</i>
regulation of bone mineralization	6.27E-06
regulation of peptide secretion	1.43E-05
regulation of hormone secretion	1.54E-05
positive regulation of peptide secretion	1.71E-05
hormone secretion	2.25E-05
regulation of neurotransmitter secretion	2.67E-05
positive regulation of hormone secretion	3.79E-05
regulation of secretion	5.80E-05
immune system process	8.33E-05
positive regulation of ion transport	1.11E-04
locomotory behavior	1.25E-04
G-protein signaling, coupled to cAMP nucleotide second messenger	1.31E-04
adult behavior	1.53E-04
negative regulation of response to stimulus	1.55E-04
germ cell development	1.58E-04
immune response	1.66E-04
regulation of synaptic transmission, GABAergic	1.74E-04
peptide secretion	1.75E-04
negative regulation of secretion	1.87E-04
rhythmic process	2.17E-04

Supplementary Table 5. Classification and positions of EBRs in the human genome.

Genome	Chr	Classification	Start	End	Size
HSA35	1	cattle	12,621,810	13,561,538	939,728
HSA35	1	cattle	16,003,230	16,043,801	40,571
HSA35	1	cattle	33,572,005	33,613,441	41,436
HSA35	1	cattle	164,902,509	165,029,718	127,209
HSA35	1	cattle	169,942,125	170,045,377	103,252
HSA35	2	cattle	2,426,796	4,442,199	2,015,403
HSA35	2	cattle	31,401,566	31,600,766	199,200
HSA35	2	cattle	61,170,921	61,483,523	312,602
HSA35	2	cattle	70,175,867	70,559,728	383,861
HSA35	2	cattle	74,960,909	76,778,377	1,817,468
HSA35	2	cattle	105,548,662	107,070,434	1,521,772
HSA35	2	cattle	191,372,041	191,494,373	122,332
HSA35	2	cattle	233,230,949	233,235,933	4,984
HSA35	3	cattle	10,211,931	10,302,091	90,160
HSA35	3	cattle	19,291,666	20,320,514	1,028,848
HSA35	3	cattle	25,903,003	26,099,871	196,868
HSA35	3	cattle	26,646,180	27,135,992	489,812
HSA35	3	cattle	44,818,823	44,931,199	112,376
HSA35	3	cattle	131,946,107	132,119,063	172,956
HSA35	4	cattle	6,571,464	6,891,293	319,829
HSA35	4	cattle	17,052,814	17,338,089	285,275
HSA35	4	cattle	88,936,468	89,078,631	142,163
HSA35	4	cattle	123,163,850	123,192,698	28,848
HSA35	4	cattle	163,551,308	164,259,723	708,415
HSA35	5	cattle	74,184,238	74,267,482	83,244
HSA35	5	cattle	79,559,515	79,742,142	182,627
HSA35	5	cattle	115,416,410	115,492,086	75,676
HSA35	5	cattle	132,164,473	132,183,349	18,876
HSA35	5	cattle	167,861,698	167,927,961	66,263
HSA35	5	cattle	174,161,344	174,392,648	231,304
HSA35	5	cattle	175,220,602	175,731,779	511,177
HSA35	5	cattle	176,971,458	178,578,296	1,606,838
HSA35	6	cattle	84,528,145	84,571,977	43,832
HSA35	6	cattle	127,644,957	128,055,535	410,578
HSA35	7	cattle	89,660,805	89,684,199	23,394
HSA35	7	cattle	117,321,278	118,874,215	1,552,937
HSA35	8	cattle	27,457,716	27,569,358	111,642
HSA35	8	cattle	82,625,875	82,695,271	69,396
HSA35	8	cattle	120,350,405	120,701,290	350,885
HSA35	8	cattle	121,843,850	122,050,055	206,205
HSA35	9	cattle	32,847,302	33,121,850	274,548
HSA35	9	cattle	100,117,782	100,280,087	162,305
HSA35	9	cattle	121,211,279	121,380,911	169,632
HSA35	10	cattle	5,791,632	6,178,691	387,059

HSA35	10	cattle	27,500,754	27,820,029	319,275
HSA35	11	cattle	17,974,785	18,094,239	119,454
HSA35	11	cattle	25,182,126	26,159,224	977,098
HSA35	11	cattle	59,994,523	60,458,091	463,568
HSA35	11	cattle	76,603,623	76,634,458	30,835
HSA35	11	cattle	93,521,162	93,956,511	435,349
HSA35	11	cattle	123,153,442	123,369,044	215,602
HSA35	11	cattle	128,985,572	129,307,864	322,292
HSA35	11	cattle	130,137,896	130,412,358	274,462
HSA35	12	cattle	69,505,625	69,692,566	186,941
HSA35	12	cattle	94,430,036	94,478,475	48,439
HSA35	13	cattle	60,899,416	64,056,844	3,157,428
HSA35	14	cattle	23,965,144	24,169,999	204,855
HSA35	14	cattle	44,698,352	44,926,796	228,444
HSA35	14	cattle	51,724,077	52,447,156	723,079
HSA35	14	cattle	90,679,692	90,789,161	109,469
HSA35	15	cattle	41,126,278	41,371,625	245,347
HSA35	15	cattle	42,376,242	43,202,515	826,273
HSA35	15	cattle	71,964,528	72,002,253	37,725
HSA35	15	cattle	76,764,773	77,060,054	295,281
HSA35	15	cattle	79,551,440	79,552,456	1,016
HSA35	17	cattle	46,547,494	47,060,414	512,920
HSA35	17	cattle	61,062,175	62,799,599	1,737,424
HSA35	18	cattle	58,500,989	59,865,194	1,364,205
HSA35	19	cattle	6,635,485	7,152,267	516,782
HSA35	19	cattle	34,748,467	34,864,848	116,381
HSA35	20	cattle	1,299,515	1,780,733	481,218
HSA35	20	cattle	53,923,989	54,406,721	482,732
HSA35	21	cattle	34,539,133	35,013,314	474,181
HSA35	21	cattle	39,340,590	39,496,305	155,715
HSA35	22	cattle	36,216,107	36,280,222	64,115
HSA35	X	cattle	45,862,227	54,344,631	8,482,404
HSA35	1	cetartiodactyla	204,031,324	204,212,404	181,080
HSA35	2	cetartiodactyla	127,772,658	127,905,122	132,464
HSA35	4	cetartiodactyla	156,637,466	156,791,170	153,704
HSA35	5	cetartiodactyla	110,681,256	110,981,801	300,545
HSA35	6	cetartiodactyla	33,241,389	33,363,583	122,194
HSA35	6	cetartiodactyla	53,430,144	53,721,907	291,763
HSA35	6	cetartiodactyla	62,906,408	64,424,601	1,518,193
HSA35	7	cetartiodactyla	23,267,737	23,687,795	420,058
HSA35	7	cetartiodactyla	87,123,929	87,235,504	111,575
HSA35	9	cetartiodactyla	34,640,467	34,807,080	166,613
HSA35	9	cetartiodactyla	82,815,645	82,826,032	10,387
HSA35	10	cetartiodactyla	13,147,794	13,677,467	529,673
HSA35	10	cetartiodactyla	18,943,213	18,990,634	47,421
HSA35	10	cetartiodactyla	59,798,584	59,842,354	43,770
HSA35	12	cetartiodactyla	33,729,932	37,412,816	3,682,884

HSA35	12	cetartiodactyla	110,591,463	110,663,496	72,033
HSA35	12	cetartiodactyla	118,741,485	118,844,618	103,133
HSA35	15	cetartiodactyla	62,962,595	63,061,275	98,680
HSA35	16	cetartiodactyla	16,160,951	16,885,850	724,899
HSA35	16	cetartiodactyla	18,074,251	18,720,171	645,920
HSA35	18	cetartiodactyla	39,081,177	40,000,325	919,148
HSA35	19	cetartiodactyla	11,570,368	12,438,091	867,723
HSA35	20	cetartiodactyla	4,411,234	4,537,786	126,552
HSA35	1	chicken	8,338,483	8,811,790	473,307
HSA35	1	chicken	11,282,251	11,649,005	366,754
HSA35	1	chicken	15,596,096	15,806,568	210,472
HSA35	1	chicken	17,083,716	17,125,971	42,255
HSA35	1	chicken	18,555,605	18,807,938	252,333
HSA35	1	chicken	20,723,309	20,733,250	9,941
HSA35	1	chicken	24,608,810	24,745,067	136,257
HSA35	1	chicken	25,843,573	26,911,099	1,067,526
HSA35	1	chicken	27,772,617	28,725,666	953,049
HSA35	1	chicken	38,994,433	39,621,882	627,449
HSA35	1	chicken	40,232,061	40,375,684	143,623
HSA35	1	chicken	41,619,390	42,591,031	971,641
HSA35	1	chicken	103,286,073	107,665,249	4,379,176
HSA35	1	chicken	109,296,777	110,309,287	1,012,510
HSA35	1	chicken	110,929,317	111,703,872	774,555
HSA35	1	chicken	115,592,899	115,946,097	353,198
HSA35	1	chicken	116,659,436	117,376,453	717,017
HSA35	1	chicken	119,648,793	119,998,878	350,085
HSA35	1	chicken	142,565,232	147,259,257	4,694,025
HSA35	1	chicken	152,717,263	153,168,082	450,819
HSA35	1	chicken	159,904,530	160,057,205	152,675
HSA35	1	chicken	162,145,976	163,676,219	1,530,243
HSA35	1	chicken	164,776,726	164,805,805	29,079
HSA35	1	chicken	166,287,379	166,434,837	147,458
HSA35	1	chicken	169,312,628	170,574,433	1,261,805
HSA35	1	chicken	179,373,706	179,530,245	156,539
HSA35	1	chicken	181,803,397	183,075,988	1,272,591
HSA35	1	chicken	187,178,416	188,886,599	1,708,183
HSA35	1	chicken	197,561,486	197,872,359	310,873
HSA35	1	chicken	199,628,028	200,827,771	1,199,743
HSA35	1	chicken	206,367,874	206,413,817	45,943
HSA35	1	chicken	222,902,526	223,231,930	329,404
HSA35	2	chicken	2,305,323	3,099,219	793,896
HSA35	2	chicken	5,792,114	6,942,234	1,150,120
HSA35	2	chicken	26,530,402	27,176,214	645,812
HSA35	2	chicken	27,785,362	27,798,158	12,796
HSA35	2	chicken	28,937,456	29,004,816	67,360
HSA35	2	chicken	31,402,911	31,717,620	314,709
HSA35	2	chicken	32,358,460	32,443,305	84,845

HSA35	2	chicken	37,512,115	38,516,066	1,003,951
HSA35	2	chicken	47,214,927	47,622,011	407,084
HSA35	2	chicken	48,654,175	48,871,935	217,760
HSA35	2	chicken	50,486,509	53,913,982	3,427,473
HSA35	2	chicken	55,189,615	55,402,645	213,030
HSA35	2	chicken	61,677,052	62,274,844	597,792
HSA35	2	chicken	84,598,047	85,926,843	1,328,796
HSA35	2	chicken	120,130,466	120,155,924	25,458
HSA35	2	chicken	122,210,698	125,389,142	3,178,444
HSA35	2	chicken	127,817,028	128,000,274	183,246
HSA35	2	chicken	160,449,851	160,586,754	136,903
HSA35	2	chicken	183,468,996	183,557,004	88,008
HSA35	2	chicken	191,382,995	191,655,778	272,783
HSA35	2	chicken	203,674,721	203,916,607	241,886
HSA35	2	chicken	208,667,214	210,424,340	1,757,126
HSA35	2	chicken	216,703,821	216,772,027	68,206
HSA35	2	chicken	240,684,788	241,479,614	794,826
HSA35	3	chicken	10,337,855	10,466,546	128,691
HSA35	3	chicken	37,067,341	37,192,812	125,471
HSA35	3	chicken	51,505,823	51,713,377	207,554
HSA35	3	chicken	52,454,083	52,463,098	9,015
HSA35	3	chicken	58,255,499	58,279,262	23,763
HSA35	3	chicken	88,123,690	88,273,991	150,301
HSA35	3	chicken	99,000,054	99,795,131	795,077
HSA35	3	chicken	113,564,346	113,763,453	199,107
HSA35	3	chicken	120,665,134	120,831,341	166,207
HSA35	3	chicken	122,748,178	123,036,616	288,438
HSA35	3	chicken	135,576,059	135,776,551	200,492
HSA35	3	chicken	136,461,353	137,349,431	888,078
HSA35	3	chicken	138,057,424	139,960,883	1,903,459
HSA35	3	chicken	150,060,668	150,228,117	167,449
HSA35	3	chicken	185,782,897	186,253,088	470,191
HSA35	4	chicken	57,168,453	57,209,507	41,054
HSA35	4	chicken	62,766,933	66,364,275	3,597,342
HSA35	4	chicken	74,851,375	75,533,350	681,975
HSA35	4	chicken	77,092,543	77,180,860	88,317
HSA35	4	chicken	78,354,304	78,477,303	122,999
HSA35	4	chicken	79,822,601	80,217,736	395,135
HSA35	4	chicken	82,750,240	83,652,298	902,058
HSA35	4	chicken	86,244,723	87,280,999	1,036,276
HSA35	4	chicken	95,621,182	95,943,810	322,628
HSA35	4	chicken	104,378,621	104,998,577	619,956
HSA35	4	chicken	154,258,443	154,615,104	356,661
HSA35	4	chicken	169,545,719	170,306,139	760,420
HSA35	4	chicken	171,386,102	174,335,969	2,949,867
HSA35	4	chicken	178,089,044	178,659,149	570,105
HSA35	4	chicken	186,722,217	186,831,805	109,588

HSA35	5	chicken	1,165,152	1,276,385	111,233
HSA35	5	chicken	3,654,516	6,431,639	2,777,123
HSA35	5	chicken	70,988,981	71,538,609	549,628
HSA35	5	chicken	112,958,878	113,860,096	901,218
HSA35	5	chicken	120,050,303	121,391,528	1,341,225
HSA35	5	chicken	137,503,031	137,906,802	403,771
HSA35	5	chicken	138,803,065	138,842,476	39,411
HSA35	5	chicken	141,318,811	141,348,934	30,123
HSA35	5	chicken	149,347,149	149,412,883	65,734
HSA35	5	chicken	158,645,617	158,690,059	44,442
HSA35	5	chicken	171,366,482	171,547,865	181,383
HSA35	5	chicken	177,513,502	177,570,769	57,267
HSA35	6	chicken	13,595,766	13,720,503	124,737
HSA35	6	chicken	17,814,797	18,095,692	280,895
HSA35	6	chicken	24,754,362	24,775,102	20,740
HSA35	6	chicken	33,389,967	33,772,317	382,350
HSA35	6	chicken	35,542,859	35,572,693	29,834
HSA35	6	chicken	36,308,541	36,464,144	155,603
HSA35	6	chicken	37,061,927	37,557,260	495,333
HSA35	6	chicken	40,010,151	41,119,830	1,109,679
HSA35	6	chicken	42,944,106	43,445,194	501,088
HSA35	6	chicken	44,389,041	44,525,608	136,567
HSA35	6	chicken	47,955,515	49,538,889	1,583,374
HSA35	6	chicken	52,549,821	52,659,345	109,524
HSA35	6	chicken	144,371,246	144,458,327	87,081
HSA35	6	chicken	159,436,593	159,663,550	226,957
HSA35	7	chicken	38,043,511	38,444,260	400,749
HSA35	7	chicken	47,252,477	47,874,131	621,654
HSA35	7	chicken	54,394,429	54,601,141	206,712
HSA35	7	chicken	72,981,505	73,088,808	107,303
HSA35	7	chicken	107,364,751	107,690,736	325,985
HSA35	7	chicken	126,626,718	128,447,332	1,820,614
HSA35	7	chicken	129,740,084	130,638,645	898,561
HSA35	7	chicken	133,406,188	134,257,876	851,688
HSA35	7	chicken	134,790,744	134,870,189	79,445
HSA35	7	chicken	137,144,058	137,260,305	116,247
HSA35	7	chicken	139,173,275	139,329,925	156,650
HSA35	7	chicken	140,903,441	143,970,781	3,067,340
HSA35	7	chicken	148,163,390	149,472,886	1,309,496
HSA35	7	chicken	150,411,873	150,513,178	101,305
HSA35	8	chicken	31,150,818	32,741,561	1,590,743
HSA35	8	chicken	42,382,570	42,516,225	133,655
HSA35	9	chicken	21,019,319	23,816,335	2,797,016
HSA35	9	chicken	33,238,564	33,437,594	199,030
HSA35	9	chicken	120,556,190	120,684,760	128,570
HSA35	10	chicken	50,417,594	50,490,771	73,177
HSA35	10	chicken	53,747,140	56,231,057	2,483,917

HSA35	10	chicken	59,825,903	60,244,080	418,177
HSA35	10	chicken	69,348,147	69,505,019	156,872
HSA35	10	chicken	71,388,909	71,576,442	187,533
HSA35	10	chicken	74,561,586	74,925,765	364,179
HSA35	10	chicken	80,875,389	81,842,287	966,898
HSA35	10	chicken	90,332,927	90,601,496	268,569
HSA35	10	chicken	93,615,012	93,780,058	165,046
HSA35	10	chicken	98,470,269	98,708,653	238,384
HSA35	10	chicken	102,579,687	102,714,879	135,192
HSA35	10	chicken	103,900,078	104,226,790	326,712
HSA35	11	chicken	33,646,276	33,752,647	106,371
HSA35	11	chicken	45,264,446	45,643,748	379,302
HSA35	11	chicken	47,572,479	56,761,364	9,188,885
HSA35	11	chicken	58,732,636	60,375,129	1,642,493
HSA35	11	chicken	68,365,960	68,612,568	246,608
HSA35	11	chicken	74,594,945	75,531,342	936,397
HSA35	11	chicken	78,088,099	82,122,419	4,034,320
HSA35	11	chicken	85,667,426	86,061,004	393,578
HSA35	11	chicken	110,089,122	111,247,416	1,158,294
HSA35	11	chicken	112,851,103	113,251,466	400,363
HSA35	11	chicken	117,692,096	117,775,134	83,038
HSA35	11	chicken	124,871,333	124,959,731	88,398
HSA35	11	chicken	125,938,022	127,897,371	1,959,349
HSA35	12	chicken	3,852,801	4,284,777	431,976
HSA35	12	chicken	6,217,688	6,354,976	137,288
HSA35	12	chicken	10,767,173	11,939,588	1,172,415
HSA35	12	chicken	12,689,308	12,874,176	184,868
HSA35	12	chicken	21,562,358	21,576,724	14,366
HSA35	12	chicken	24,993,499	25,152,535	159,036
HSA35	12	chicken	27,739,763	27,800,494	60,731
HSA35	12	chicken	29,378,272	29,828,959	450,687
HSA35	12	chicken	39,049,351	39,750,361	701,010
HSA35	12	chicken	54,793,353	56,637,318	1,843,965
HSA35	12	chicken	100,304,040	100,383,239	79,199
HSA35	12	chicken	111,799,402	112,199,107	399,705
HSA35	12	chicken	116,961,671	117,004,560	42,889
HSA35	12	chicken	121,634,139	121,778,983	144,844
HSA35	13	chicken	102,517,197	105,985,338	3,468,141
HSA35	13	chicken	107,757,366	108,515,940	758,574
HSA35	13	chicken	110,756,079	112,290,482	1,534,403
HSA35	14	chicken	64,125,849	66,718,268	2,592,419
HSA35	14	chicken	73,421,915	73,468,734	46,819
HSA35	15	chicken	36,644,224	37,676,957	1,032,733
HSA35	15	chicken	38,187,882	38,300,613	112,731
HSA35	15	chicken	38,886,954	38,894,059	7,105
HSA35	15	chicken	41,264,625	41,946,508	681,883
HSA35	15	chicken	48,845,191	49,082,859	237,668

HSA35	15	chicken	61,913,143	62,217,255	304,112
HSA35	15	chicken	62,854,839	62,947,252	92,413
HSA35	15	chicken	68,842,849	68,933,552	90,703
HSA35	15	chicken	71,793,903	72,071,744	277,841
HSA35	15	chicken	88,035,012	88,150,938	115,926
HSA35	16	chicken	4,680,975	7,703,341	3,022,366
HSA35	16	chicken	19,472,227	19,619,949	147,722
HSA35	16	chicken	20,323,560	20,660,907	337,347
HSA35	16	chicken	21,197,782	21,571,464	373,682
HSA35	16	chicken	55,504,850	55,535,294	30,444
HSA35	16	chicken	65,525,768	65,772,014	246,246
HSA35	17	chicken	2,220,160	2,231,094	10,934
HSA35	17	chicken	10,541,570	10,669,681	128,111
HSA35	17	chicken	11,813,856	11,987,872	174,016
HSA35	17	chicken	12,862,049	14,052,714	1,190,665
HSA35	17	chicken	23,698,160	23,708,600	10,440
HSA35	17	chicken	39,340,639	40,108,406	767,767
HSA35	17	chicken	46,553,094	46,649,738	96,644
HSA35	17	chicken	52,448,452	52,553,608	105,156
HSA35	17	chicken	53,521,810	54,124,415	602,605
HSA35	17	chicken	59,250,408	59,561,215	310,807
HSA35	17	chicken	69,958,314	70,277,084	318,770
HSA35	17	chicken	71,082,884	71,174,864	91,980
HSA35	17	chicken	73,613,925	73,640,083	26,158
HSA35	17	chicken	77,250,819	77,868,741	617,922
HSA35	18	chicken	32,614,016	32,662,938	48,922
HSA35	18	chicken	73,111,081	74,859,176	1,748,095
HSA35	19	chicken	5,237,399	5,742,217	504,818
HSA35	20	chicken	13,747,063	14,266,270	519,207
HSA35	20	chicken	16,680,809	17,536,638	855,829
HSA35	20	chicken	18,692,557	19,651,543	958,986
HSA35	20	chicken	23,350,083	24,595,167	1,245,084
HSA35	20	chicken	43,488,296	43,543,585	55,289
HSA35	20	chicken	47,238,311	47,763,745	525,434
HSA35	20	chicken	57,334,441	57,856,161	521,720
HSA35	22	chicken	19,660,203	20,130,302	470,099
HSA35	22	chicken	27,888,875	28,021,058	132,183
HSA35	22	chicken	41,335,460	41,369,847	34,387
HSA35	X	chicken	69,292,893	69,436,251	143,358
HSA35	X	chicken	100,049,631	100,113,247	63,616
HSA35	X	chicken	111,890,188	113,967,604	2,077,416
HSA35	X	chicken	129,762,743	130,935,506	1,172,763
HSA35	X	chicken	138,639,967	139,312,745	672,778
HSA35	X	chicken	150,248,403	150,540,581	292,178
HSA35	1	chimpanzee	109,886,798	109,948,409	61,611
HSA35	1	chimpanzee	144,606,200	146,672,539	2,066,339
HSA35	2	chimpanzee	106,269,313	106,364,027	94,714

HSA35	2	chimpanzee	107,990,269	108,088,959	98,690
HSA35	2	chimpanzee	116,316,706	118,306,183	1,989,477
HSA35	4	chimpanzee	44,569,540	45,967,010	1,397,470
HSA35	4	chimpanzee	86,245,365	87,280,999	1,035,634
HSA35	5	chimpanzee	17,688,363	19,875,110	2,186,747
HSA35	5	chimpanzee	95,794,708	96,136,139	341,431
HSA35	7	chimpanzee	39,424,927	39,520,955	96,028
HSA35	7	chimpanzee	43,832,009	43,874,553	42,544
HSA35	12	chimpanzee	20,797,585	20,960,923	163,338
HSA35	12	chimpanzee	66,340,410	66,839,790	499,380
HSA35	15	chimpanzee	27,901,043	28,233,605	332,562
HSA35	17	chimpanzee	7,864,382	7,893,167	28,785
HSA35	17	chimpanzee	15,311,650	15,407,570	95,920
HSA35	17	chimpanzee	44,947,356	45,110,384	163,028
HSA35	19	chimpanzee	41,428,975	41,561,918	132,943
HSA35	19	chimpanzee	42,426,414	42,547,195	120,781
HSA35	1	dog	10,375,920	10,414,467	38,547
HSA35	1	dog	33,631,086	34,300,536	669,450
HSA35	1	dog	43,093,594	43,307,024	213,430
HSA35	1	dog	53,003,346	53,099,455	96,109
HSA35	1	dog	67,574,604	68,011,129	436,525
HSA35	1	dog	111,607,675	111,733,175	125,500
HSA35	1	dog	149,789,405	150,146,572	357,167
HSA35	1	dog	154,624,624	154,878,911	254,287
HSA35	1	dog	176,516,983	176,578,591	61,608
HSA35	1	dog	183,689,770	187,178,416	3,488,646
HSA35	1	dog	203,174,212	203,210,931	36,719
HSA35	1	dog	219,310,819	220,270,453	959,634
HSA35	2	dog	42,895,737	42,902,970	7,233
HSA35	2	dog	71,133,656	71,365,868	232,212
HSA35	2	dog	153,443,199	155,135,996	1,692,797
HSA35	2	dog	189,702,978	190,165,770	462,792
HSA35	2	dog	224,729,498	225,092,256	362,758
HSA35	3	dog	32,587,354	32,790,358	203,004
HSA35	3	dog	33,886,198	35,810,991	1,924,793
HSA35	3	dog	43,076,707	43,367,634	290,927
HSA35	3	dog	44,472,196	44,869,747	397,551
HSA35	3	dog	88,273,991	88,289,803	15,812
HSA35	3	dog	159,893,063	160,030,206	137,143
HSA35	3	dog	180,044,919	180,272,286	227,367
HSA35	3	dog	194,755,398	195,571,769	816,371
HSA35	4	dog	6,320,354	6,592,082	271,728
HSA35	4	dog	17,459,217	17,488,650	29,433
HSA35	4	dog	41,111,373	41,541,917	430,544
HSA35	4	dog	75,619,512	76,812,413	1,192,901
HSA35	4	dog	120,907,749	122,201,618	1,293,869
HSA35	4	dog	144,748,883	144,832,171	83,288

HSA35	4	dog	169,614,633	170,306,139	691,506
HSA35	5	dog	14,746,507	14,924,876	178,369
HSA35	5	dog	54,365,717	54,441,809	76,092
HSA35	5	dog	74,198,371	74,361,618	163,247
HSA35	5	dog	138,694,946	138,733,304	38,358
HSA35	5	dog	147,497,035	147,675,670	178,635
HSA35	5	dog	176,914,114	176,955,700	41,586
HSA35	6	dog	30,289,104	30,722,575	433,471
HSA35	6	dog	116,681,864	116,866,138	184,274
HSA35	6	dog	131,646,366	132,314,147	667,781
HSA35	6	dog	169,906,733	169,924,033	17,300
HSA35	7	dog	43,542,325	45,535,952	1,993,627
HSA35	7	dog	84,395,898	86,138,842	1,742,944
HSA35	7	dog	122,768,594	122,871,883	103,289
HSA35	7	dog	133,601,143	133,821,820	220,677
HSA35	7	dog	148,163,390	148,225,435	62,045
HSA35	8	dog	1,644,048	1,894,213	250,165
HSA35	8	dog	98,807,711	98,934,002	126,291
HSA35	9	dog	5,823,070	5,899,822	76,752
HSA35	9	dog	121,212,099	121,627,361	415,262
HSA35	9	dog	133,068,855	133,232,598	163,743
HSA35	10	dog	57,791,029	59,697,700	1,906,671
HSA35	10	dog	91,092,448	91,170,733	78,285
HSA35	11	dog	717,726	795,245	77,519
HSA35	11	dog	30,211,923	30,316,344	104,421
HSA35	11	dog	43,898,389	44,062,145	163,756
HSA35	11	dog	59,237,894	59,369,550	131,656
HSA35	11	dog	59,993,129	60,300,781	307,652
HSA35	11	dog	100,506,465	100,959,869	453,404
HSA35	12	dog	7,547,639	7,709,769	162,130
HSA35	12	dog	8,584,811	8,650,880	66,069
HSA35	12	dog	53,928,262	54,317,884	389,622
HSA35	12	dog	74,191,668	74,711,948	520,280
HSA35	12	dog	103,034,507	103,654,350	619,843
HSA35	14	dog	21,075,177	21,546,252	471,075
HSA35	14	dog	91,046,575	91,268,166	221,591
HSA35	14	dog	92,651,980	92,723,186	71,206
HSA35	15	dog	27,901,043	29,022,600	1,121,557
HSA35	16	dog	57,325,685	60,628,240	3,302,555
HSA35	17	dog	65,687,776	67,634,147	1,946,371
HSA35	18	dog	43,711,221	43,821,476	110,255
HSA35	18	dog	46,068,690	46,605,731	537,041
HSA35	20	dog	23,424,655	24,595,167	1,170,512
HSA35	22	dog	21,984,774	22,421,209	436,435
HSA35	1	eutherian	23,441,241	23,603,019	161,778
HSA35	1	eutherian	29,473,927	30,865,980	1,392,053
HSA35	1	eutherian	31,576,617	31,722,378	145,761

HSA35	1	eutherian	43,093,594	43,307,024	213,430
HSA35	1	eutherian	153,921,250	154,380,943	459,693
HSA35	1	eutherian	157,430,158	158,429,590	999,432
HSA35	1	eutherian	227,720,269	227,780,226	59,957
HSA35	2	eutherian	24,462,599	24,903,036	440,437
HSA35	2	eutherian	40,569,071	42,197,305	1,628,234
HSA35	2	eutherian	68,718,944	68,965,606	246,662
HSA35	2	eutherian	69,965,252	70,043,999	78,747
HSA35	2	eutherian	220,332,197	222,262,515	1,930,318
HSA35	2	eutherian	230,759,132	231,511,287	752,155
HSA35	2	eutherian	233,235,931	233,372,990	137,059
HSA35	2	eutherian	234,162,743	234,251,884	89,141
HSA35	2	eutherian	235,746,356	236,858,652	1,112,296
HSA35	2	eutherian	238,732,665	238,788,996	56,331
HSA35	3	eutherian	13,896,619	14,160,180	263,561
HSA35	3	eutherian	32,790,358	32,971,407	181,049
HSA35	3	eutherian	37,835,941	38,271,979	436,038
HSA35	3	eutherian	39,209,089	39,298,190	89,101
HSA35	3	eutherian	40,328,919	41,256,938	928,019
HSA35	3	eutherian	42,281,399	43,076,707	795,308
HSA35	3	eutherian	44,425,941	44,869,747	443,806
HSA35	3	eutherian	53,201,771	53,265,056	63,285
HSA35	3	eutherian	134,863,388	135,022,220	158,832
HSA35	3	eutherian	142,496,443	142,646,253	149,810
HSA35	3	eutherian	184,628,557	185,218,379	589,822
HSA35	4	eutherian	71,653,762	71,875,607	221,845
HSA35	4	eutherian	89,436,901	89,562,926	126,025
HSA35	4	eutherian	110,819,213	110,967,478	148,265
HSA35	4	eutherian	126,770,548	128,995,529	2,224,981
HSA35	5	eutherian	31,590,671	32,146,795	556,124
HSA35	5	eutherian	79,534,628	79,810,480	275,852
HSA35	5	eutherian	96,169,398	96,390,496	221,098
HSA35	5	eutherian	114,908,490	114,989,621	81,131
HSA35	5	eutherian	122,786,937	124,108,704	1,321,767
HSA35	5	eutherian	125,958,756	125,990,326	31,570
HSA35	5	eutherian	132,468,608	132,976,154	507,546
HSA35	5	eutherian	147,142,445	147,241,946	99,501
HSA35	5	eutherian	174,888,290	175,044,164	155,874
HSA35	6	eutherian	2,787,080	2,964,995	177,915
HSA35	6	eutherian	42,255,765	42,293,581	37,816
HSA35	7	eutherian	30,317,692	31,153,778	836,086
HSA35	7	eutherian	86,493,682	86,673,760	180,078
HSA35	8	eutherian	26,778,839	27,171,843	393,004
HSA35	8	eutherian	27,946,989	28,104,584	157,595
HSA35	8	eutherian	33,450,206	33,478,319	28,113
HSA35	9	eutherian	35,837,231	36,114,448	277,217
HSA35	9	eutherian	98,098,249	98,619,263	521,014

HSA35	9	eutherian	112,732,645	113,005,974	273,329
HSA35	9	eutherian	113,941,061	114,236,239	295,178
HSA35	9	eutherian	127,287,204	127,345,332	58,128
HSA35	9	eutherian	136,894,324	136,918,817	24,493
HSA35	10	eutherian	3,817,455	4,880,249	1,062,794
HSA35	10	eutherian	6,019,561	6,144,278	124,717
HSA35	10	eutherian	15,054,646	15,155,664	101,018
HSA35	10	eutherian	29,011,702	30,064,736	1,053,034
HSA35	10	eutherian	45,123,270	45,261,567	138,297
HSA35	10	eutherian	61,165,766	61,336,314	170,548
HSA35	10	eutherian	73,443,318	73,518,773	75,455
HSA35	10	eutherian	86,008,875	86,268,249	259,374
HSA35	10	eutherian	101,831,624	102,036,429	204,805
HSA35	11	eutherian	6,724,246	8,084,228	1,359,982
HSA35	11	eutherian	13,710,467	14,336,992	626,525
HSA35	11	eutherian	18,769,965	19,154,542	384,577
HSA35	11	eutherian	67,574,941	67,645,434	70,493
HSA35	11	eutherian	123,522,826	123,685,872	163,046
HSA35	12	eutherian	14,740,696	14,930,095	189,399
HSA35	12	eutherian	50,677,126	50,695,938	18,812
HSA35	14	eutherian	38,971,371	41,443,498	2,472,127
HSA35	14	eutherian	53,493,362	53,956,682	463,320
HSA35	15	eutherian	43,770,770	45,853,711	2,082,941
HSA35	15	eutherian	57,602,479	57,699,496	97,017
HSA35	15	eutherian	69,860,327	69,897,649	37,322
HSA35	15	eutherian	76,890,830	77,029,117	138,287
HSA35	16	eutherian	1,465,582	1,500,454	34,872
HSA35	16	eutherian	11,798,508	11,852,896	54,388
HSA35	16	eutherian	14,696,027	15,057,344	361,317
HSA35	16	eutherian	22,293,421	22,835,572	542,151
HSA35	16	eutherian	23,632,322	24,139,063	506,741
HSA35	16	eutherian	67,039,905	67,290,440	250,535
HSA35	16	eutherian	69,981,836	70,129,910	148,074
HSA35	16	eutherian	74,056,088	76,026,512	1,970,424
HSA35	17	eutherian	2,887,783	3,743,086	855,303
HSA35	17	eutherian	9,573,143	9,635,305	62,162
HSA35	17	eutherian	45,713,843	45,793,511	79,668
HSA35	18	eutherian	30,975,820	31,331,953	356,133
HSA35	18	eutherian	55,513,216	56,139,335	626,119
HSA35	18	eutherian	59,753,456	61,699,155	1,945,699
HSA35	19	eutherian	1,464,019	1,518,650	54,631
HSA35	20	eutherian	31,452,998	31,495,359	42,361
HSA35	20	eutherian	41,778,536	42,249,632	471,096
HSA35	20	eutherian	44,468,678	44,608,374	139,696
HSA35	21	eutherian	44,389,259	44,571,683	182,424
HSA35	22	eutherian	29,688,741	29,861,147	172,406
HSA35	22	eutherian	45,253,586	45,396,203	142,617

HSA35	X	eutherian	44,816,400	46,802,465	1,986,065
HSA35	X	eutherian	106,654,624	106,976,561	321,937
HSA35	X	eutherian	117,710,378	117,933,829	223,451
HSA35	X	eutherian	142,449,116	144,612,904	2,163,788
HSA35	1	ferunfulate	183,689,770	183,701,096	11,326
HSA35	1	ferunfulate	193,438,334	193,734,262	295,928
HSA35	1	ferunfulate	199,887,534	200,010,384	122,850
HSA35	1	ferunfulate	212,057,766	212,132,118	74,352
HSA35	1	ferunfulate	236,394,565	236,699,645	305,080
HSA35	4	ferunfulate	176,717,496	176,928,339	210,843
HSA35	5	ferunfulate	112,714,550	112,950,791	236,241
HSA35	7	ferunfulate	37,554,153	37,729,618	175,465
HSA35	7	ferunfulate	47,792,486	47,841,944	49,458
HSA35	7	ferunfulate	107,760,519	107,809,245	48,726
HSA35	8	ferunfulate	19,753,864	19,869,049	115,185
HSA35	10	ferunfulate	32,676,152	33,211,797	535,645
HSA35	1	hominoidea	225,003,395	225,188,024	184,629
HSA35	2	hominoidea	131,944,831	133,015,983	1,071,152
HSA35	3	hominoidea	15,115,659	15,228,740	113,081
HSA35	3	hominoidea	75,185,686	76,207,604	1,021,918
HSA35	3	hominoidea	131,179,478	131,438,824	259,346
HSA35	3	hominoidea	196,645,049	196,950,007	304,958
HSA35	4	hominoidea	3,862,822	4,409,822	547,000
HSA35	4	hominoidea	8,842,856	9,461,901	619,045
HSA35	7	hominoidea	6,564,472	6,990,521	426,049
HSA35	7	hominoidea	71,375,299	72,199,437	824,138
HSA35	7	hominoidea	73,934,288	74,898,401	964,113
HSA35	7	hominoidea	75,789,219	76,473,789	684,570
HSA35	7	hominoidea	97,146,447	97,384,377	237,930
HSA35	7	hominoidea	101,710,381	101,984,037	273,656
HSA35	8	hominoidea	6,771,008	8,276,599	1,505,591
HSA35	8	hominoidea	11,854,030	12,640,008	785,978
HSA35	9	hominoidea	38,414,421	68,385,337	29,970,916
HSA35	9	hominoidea	96,881,147	97,219,124	337,977
HSA35	10	hominoidea	45,472,456	47,862,479	2,390,023
HSA35	10	hominoidea	51,262,471	51,735,750	473,279
HSA35	10	hominoidea	88,941,200	89,303,124	361,924
HSA35	11	hominoidea	3,206,434	3,620,122	413,688
HSA35	11	hominoidea	70,890,227	71,312,047	421,820
HSA35	15	hominoidea	80,364,317	81,006,348	642,031
HSA35	15	hominoidea	82,499,595	82,967,951	468,356
HSA35	15	hominoidea	89,366,817	89,639,514	272,697
HSA35	16	hominoidea	68,533,144	68,752,685	219,541
HSA35	16	hominoidea	72,899,724	72,933,102	33,378
HSA35	17	hominoidea	31,422,953	31,925,775	502,822
HSA35	17	hominoidea	40,858,780	41,267,911	409,131
HSA35	17	hominoidea	42,417,513	43,055,634	638,121

HSA35	17	hominoidea	55,451,167	55,591,683	140,516
HSA35	17	hominoidea	57,587,568	57,847,569	260,001
HSA35	20	hominoidea	25,625,469	29,309,264	3,683,795
HSA35	22	hominoidea	23,313,548	23,483,020	169,472
HSA35	2	human	113,880,683	114,230,630	349,947
HSA35	18	human	14,327,326	16,879,434	2,552,108
HSA35	1	macaque	159,481,893	159,561,112	79,219
HSA35	1	macaque	174,738,799	175,175,212	436,413
HSA35	2	macaque	138,269,019	139,164,529	895,510
HSA35	3	macaque	13,896,619	14,141,323	244,704
HSA35	3	macaque	36,564,500	36,755,035	190,535
HSA35	3	macaque	128,238,926	128,792,248	553,322
HSA35	3	macaque	187,878,724	187,944,443	65,719
HSA35	4	macaque	48,905,021	52,623,935	3,718,914
HSA35	4	macaque	86,245,028	87,280,999	1,035,971
HSA35	6	macaque	108,386,086	108,502,628	116,542
HSA35	6	macaque	159,210,804	159,391,607	180,803
HSA35	9	macaque	89,451,017	90,484,662	1,033,645
HSA35	9	macaque	124,719,565	124,907,893	188,328
HSA35	9	macaque	127,970,295	128,005,759	35,464
HSA35	12	macaque	84,945,983	86,925,644	1,979,661
HSA35	13	macaque	20,651,218	20,931,423	280,205
HSA35	22	macaque	21,984,774	22,298,764	313,990
HSA35	2	mouse	26,271,973	26,324,164	52,191
HSA35	2	mouse	28,937,456	29,082,735	145,279
HSA35	2	mouse	190,271,119	190,361,061	89,942
HSA35	2	mouse	196,427,924	196,861,781	433,857
HSA35	3	mouse	171,786,560	172,109,128	322,568
HSA35	5	mouse	42,847,751	43,519,695	671,944
HSA35	5	mouse	102,642,260	102,926,389	284,129
HSA35	6	mouse	33,389,967	33,492,173	102,206
HSA35	6	mouse	49,862,859	49,952,768	89,909
HSA35	6	mouse	117,096,646	117,193,567	96,921
HSA35	6	mouse	154,923,906	155,673,864	749,958
HSA35	6	mouse	159,663,550	160,084,667	421,117
HSA35	6	mouse	167,523,040	168,191,256	668,216
HSA35	7	mouse	92,107,863	92,422,320	314,457
HSA35	8	mouse	55,705,947	56,848,439	1,142,492
HSA35	9	mouse	136,894,324	136,918,817	24,493
HSA35	10	mouse	5,895,379	5,971,861	76,482
HSA35	10	mouse	15,453,064	15,801,776	348,712
HSA35	11	mouse	68,464,643	68,505,694	41,051
HSA35	12	mouse	102,762,787	102,960,428	197,641
HSA35	16	mouse	3,132,805	3,195,189	62,384
HSA35	18	mouse	2,561,470	2,678,691	117,221
HSA35	19	mouse	16,870,516	17,047,242	176,726
HSA35	21	mouse	43,903,802	44,020,687	116,885

HSA35	X	mouse	54,940,432	55,363,019	422,587
HSA35	1	opossum	7,839,502	7,979,602	140,100
HSA35	1	opossum	9,363,857	9,609,194	245,337
HSA35	1	opossum	10,790,973	11,019,814	228,841
HSA35	1	opossum	12,026,366	12,612,003	585,637
HSA35	1	opossum	15,469,928	15,543,886	73,958
HSA35	1	opossum	18,807,938	19,282,048	474,110
HSA35	1	opossum	27,393,935	27,560,317	166,382
HSA35	1	opossum	40,975,216	40,996,892	21,676
HSA35	1	opossum	53,645,179	54,801,250	1,156,071
HSA35	1	opossum	74,851,443	74,910,755	59,312
HSA35	1	opossum	87,523,271	89,011,443	1,488,172
HSA35	1	opossum	93,139,007	93,315,004	175,997
HSA35	2	opossum	11,004,948	11,918,129	913,181
HSA35	2	opossum	15,721,823	16,726,918	1,005,095
HSA35	2	opossum	18,035,851	19,480,012	1,444,161
HSA35	2	opossum	71,825,545	73,408,251	1,582,706
HSA35	2	opossum	113,051,639	113,137,629	85,990
HSA35	2	opossum	201,281,208	201,554,920	273,712
HSA35	2	opossum	202,332,949	202,471,244	138,295
HSA35	2	opossum	232,064,111	232,089,141	25,030
HSA35	2	opossum	234,767,776	235,187,230	419,454
HSA35	3	opossum	36,755,035	37,067,341	312,306
HSA35	3	opossum	57,209,320	57,282,536	73,216
HSA35	3	opossum	99,795,131	99,996,784	201,653
HSA35	3	opossum	109,007,398	109,292,445	285,047
HSA35	3	opossum	152,659,195	153,666,266	1,007,071
HSA35	3	opossum	159,893,063	160,030,206	137,143
HSA35	3	opossum	161,196,507	161,428,701	232,194
HSA35	3	opossum	173,054,342	173,601,189	546,847
HSA35	4	opossum	68,940,175	70,906,630	1,966,455
HSA35	4	opossum	77,269,173	78,058,121	788,948
HSA35	4	opossum	82,483,394	82,750,240	266,846
HSA35	4	opossum	84,178,870	84,734,175	555,305
HSA35	4	opossum	90,393,217	95,050,827	4,657,610
HSA35	4	opossum	99,421,569	99,720,993	299,424
HSA35	4	opossum	119,537,390	119,631,525	94,135
HSA35	4	opossum	129,566,550	130,152,016	585,466
HSA35	5	opossum	49,772,958	50,173,926	400,968
HSA35	5	opossum	75,661,645	75,954,996	293,351
HSA35	5	opossum	98,144,789	98,290,140	145,351
HSA35	5	opossum	107,745,010	108,551,272	806,262
HSA35	5	opossum	110,030,946	110,126,381	95,435
HSA35	5	opossum	111,121,259	111,782,909	661,650
HSA35	5	opossum	112,285,910	112,958,878	672,968
HSA35	5	opossum	135,252,223	135,318,622	66,399
HSA35	5	opossum	137,172,671	137,251,438	78,767

HSA35	5	opossum	148,739,031	148,910,850	171,819
HSA35	5	opossum	177,986,660	179,136,887	1,150,227
HSA35	7	opossum	12,465,969	15,374,880	2,908,911
HSA35	7	opossum	32,303,246	32,704,612	401,366
HSA35	7	opossum	33,418,920	33,968,724	549,804
HSA35	7	opossum	35,066,482	35,507,969	441,487
HSA35	7	opossum	36,537,299	37,713,236	1,175,937
HSA35	7	opossum	71,188,439	72,217,283	1,028,844
HSA35	8	opossum	23,175,450	23,209,736	34,286
HSA35	8	opossum	86,548,526	87,150,967	602,441
HSA35	8	opossum	143,830,954	144,861,670	1,030,716
HSA35	9	opossum	2,719,757	19,776,926	17,057,169
HSA35	9	opossum	34,038,947	34,242,520	203,573
HSA35	9	opossum	76,037,889	76,351,884	313,995
HSA35	9	opossum	78,174,561	79,571,212	1,396,651
HSA35	9	opossum	85,944,637	86,198,932	254,295
HSA35	9	opossum	89,342,442	90,484,662	1,142,220
HSA35	9	opossum	110,879,920	111,325,862	445,942
HSA35	10	opossum	70,221,315	70,937,429	716,114
HSA35	10	opossum	90,724,890	91,170,733	445,843
HSA35	10	opossum	125,843,093	126,470,427	627,334
HSA35	10	opossum	128,200,000	129,140,764	940,764
HSA35	10	opossum	129,774,155	131,652,528	1,878,373
HSA35	11	opossum	4,868,402	6,177,992	1,309,590
HSA35	11	opossum	63,500,590	64,564,618	1,064,028
HSA35	11	opossum	86,712,216	87,548,249	836,033
HSA35	11	opossum	88,864,301	89,565,416	701,115
HSA35	11	opossum	95,766,375	99,732,683	3,966,308
HSA35	11	opossum	103,540,317	105,355,676	1,815,359
HSA35	12	opossum	4,752,153	4,791,132	38,979
HSA35	12	opossum	25,597,445	26,123,273	525,828
HSA35	12	opossum	27,464,733	27,739,763	275,030
HSA35	12	opossum	29,828,959	30,740,018	911,059
HSA35	12	opossum	61,832,857	62,902,312	1,069,455
HSA35	12	opossum	65,018,225	66,933,651	1,915,426
HSA35	12	opossum	67,951,290	68,070,842	119,552
HSA35	12	opossum	88,248,764	88,552,312	303,548
HSA35	12	opossum	107,835,197	108,377,822	542,625
HSA35	12	opossum	109,821,103	110,251,076	429,973
HSA35	12	opossum	115,177,863	115,638,563	460,700
HSA35	12	opossum	119,150,677	119,228,312	77,635
HSA35	12	opossum	123,504,677	123,873,214	368,537
HSA35	13	opossum	45,577,169	45,654,386	77,217
HSA35	13	opossum	60,899,983	66,700,573	5,800,590
HSA35	13	opossum	79,813,087	83,353,643	3,540,556
HSA35	14	opossum	33,490,037	34,414,604	924,567
HSA35	14	opossum	36,711,306	37,085,927	374,621

HSA35	14	opossum	47,213,542	49,431,233	2,217,691
HSA35	14	opossum	50,069,126	50,169,532	100,406
HSA35	14	opossum	51,605,696	52,689,750	1,084,054
HSA35	14	opossum	54,681,879	54,927,773	245,894
HSA35	14	opossum	69,333,707	69,568,836	235,129
HSA35	14	opossum	91,046,575	91,403,610	357,035
HSA35	14	opossum	93,859,426	94,053,934	194,508
HSA35	14	opossum	104,479,074	104,558,538	79,464
HSA35	15	opossum	52,708,094	53,369,293	661,199
HSA35	15	opossum	70,487,424	70,662,877	175,453
HSA35	15	opossum	82,499,595	82,967,951	468,356
HSA35	16	opossum	4,464,897	4,500,348	35,451
HSA35	16	opossum	16,144,410	16,224,815	80,405
HSA35	16	opossum	56,127,978	56,183,094	55,116
HSA35	16	opossum	79,395,676	79,620,428	224,752
HSA35	16	opossum	82,507,286	82,557,437	50,151
HSA35	17	opossum	24,918,168	24,965,904	47,736
HSA35	17	opossum	39,266,064	39,340,639	74,575
HSA35	17	opossum	72,093,524	72,218,623	125,099
HSA35	17	opossum	77,868,741	77,969,751	101,010
HSA35	18	opossum	24,011,189	26,876,687	2,865,498
HSA35	19	opossum	17,314,530	18,104,521	789,991
HSA35	20	opossum	35,013,590	35,157,824	144,234
HSA35	20	opossum	43,543,585	43,873,471	329,886
HSA35	21	opossum	17,861,135	18,113,539	252,404
HSA35	21	opossum	29,367,881	32,298,248	2,930,367
HSA35	21	opossum	36,354,553	36,588,441	233,888
HSA35	21	opossum	37,284,373	37,367,264	82,891
HSA35	21	opossum	42,246,826	42,590,421	343,595
HSA35	22	opossum	19,266,458	19,466,562	200,104
HSA35	22	opossum	25,351,186	26,521,085	1,169,899
HSA35	22	opossum	36,495,016	37,203,945	708,929
HSA35	22	opossum	39,043,853	39,087,250	43,397
HSA35	22	opossum	40,023,463	40,778,960	755,497
HSA35	22	opossum	43,017,532	43,957,323	939,791
HSA35	22	opossum	48,677,465	48,753,545	76,080
HSA35	X	opossum	18,900,412	19,292,784	392,372
HSA35	X	opossum	67,728,698	67,845,023	116,325
HSA35	X	opossum	99,661,022	99,732,436	71,414
HSA35	X	opossum	109,367,612	110,270,305	902,693
HSA35	X	opossum	119,528,120	122,348,328	2,820,208
HSA35	X	opossum	133,656,755	135,300,118	1,643,363
HSA35	1	pig	40,435,017	40,518,703	83,686
HSA35	1	pig	85,135,790	85,235,429	99,639
HSA35	1	pig	91,899,300	92,265,276	365,976
HSA35	1	pig	167,519,618	168,347,014	827,396
HSA35	1	pig	221,886,681	222,183,822	297,141

HSA35	1	pig	238,023,335	238,590,142	566,807
HSA35	2	pig	119,791,199	119,939,885	148,686
HSA35	2	pig	120,899,043	121,048,187	149,144
HSA35	2	pig	141,435,967	141,589,577	153,610
HSA35	2	pig	149,495,615	149,743,629	248,014
HSA35	2	pig	150,658,343	150,856,781	198,438
HSA35	2	pig	152,016,462	153,035,036	1,018,574
HSA35	2	pig	220,225,470	220,697,321	471,851
HSA35	2	pig	224,258,329	224,682,123	423,794
HSA35	3	pig	110,721,041	111,122,750	401,709
HSA35	3	pig	113,066,239	113,528,545	462,306
HSA35	3	pig	133,454,936	133,474,045	19,109
HSA35	3	pig	148,005,624	148,190,090	184,466
HSA35	3	pig	149,511,713	149,699,729	188,016
HSA35	4	pig	5,486,684	5,969,260	482,576
HSA35	4	pig	13,148,686	13,353,606	204,920
HSA35	4	pig	55,845,467	56,125,107	279,640
HSA35	4	pig	57,661,444	57,731,501	70,057
HSA35	4	pig	79,797,062	80,021,226	224,164
HSA35	4	pig	174,347,092	175,091,403	744,311
HSA35	4	pig	187,557,474	188,002,714	445,240
HSA35	5	pig	10,401,652	11,122,720	721,068
HSA35	5	pig	72,207,346	72,503,076	295,730
HSA35	5	pig	149,674,876	150,381,896	707,020
HSA35	5	pig	174,458,187	175,164,162	705,975
HSA35	6	pig	2,172,278	2,658,944	486,666
HSA35	6	pig	5,089,210	5,441,090	351,880
HSA35	6	pig	55,795,997	56,010,449	214,452
HSA35	6	pig	73,958,711	74,347,367	388,656
HSA35	6	pig	84,651,332	84,679,795	28,463
HSA35	6	pig	109,739,768	109,937,065	197,297
HSA35	6	pig	111,483,559	111,659,162	175,603
HSA35	6	pig	116,910,024	117,081,923	171,899
HSA35	6	pig	166,554,435	166,990,177	435,742
HSA35	6	pig	167,902,622	169,408,394	1,505,772
HSA35	7	pig	142,625,011	143,522,954	897,943
HSA35	7	pig	148,253,222	149,851,182	1,597,960
HSA35	8	pig	39,234,017	40,007,468	773,451
HSA35	9	pig	27,205,421	27,487,126	281,705
HSA35	9	pig	95,384,411	95,468,535	84,124
HSA35	10	pig	16,799,071	17,053,922	254,851
HSA35	10	pig	69,666,767	70,034,746	367,979
HSA35	10	pig	70,838,573	71,357,607	519,034
HSA35	11	pig	9,485,567	9,642,256	156,689
HSA35	11	pig	48,123,385	56,263,616	8,140,231
HSA35	11	pig	59,377,996	59,506,966	128,970
HSA35	11	pig	60,926,070	61,014,084	88,014

HSA35	11	pig	106,603,345	106,782,475	179,130
HSA35	11	pig	107,474,540	109,139,656	1,665,116
HSA35	12	pig	47,171,862	47,646,707	474,845
HSA35	12	pig	75,207,442	75,692,650	485,208
HSA35	12	pig	76,259,261	76,286,591	27,330
HSA35	12	pig	77,529,562	77,912,742	383,180
HSA35	12	pig	79,452,247	79,739,177	286,930
HSA35	12	pig	81,432,211	81,587,236	155,025
HSA35	12	pig	85,557,553	85,627,569	70,016
HSA35	12	pig	87,093,978	87,477,420	383,442
HSA35	12	pig	88,236,243	88,373,637	137,394
HSA35	12	pig	104,115,714	104,282,687	166,973
HSA35	12	pig	127,703,538	128,057,728	354,190
HSA35	12	pig	128,905,331	129,232,449	327,118
HSA35	12	pig	130,036,604	130,502,225	465,621
HSA35	13	pig	54,129,935	54,418,275	288,340
HSA35	14	pig	38,494,363	38,964,665	470,302
HSA35	14	pig	61,676,094	61,787,237	111,143
HSA35	14	pig	63,710,371	63,959,803	249,432
HSA35	14	pig	99,898,893	100,822,978	924,085
HSA35	15	pig	70,138,311	70,259,560	121,249
HSA35	15	pig	86,590,959	87,137,668	546,709
HSA35	15	pig	96,307,965	97,103,031	795,066
HSA35	16	pig	2,638,824	3,213,128	574,304
HSA35	16	pig	55,877,040	56,256,293	379,253
HSA35	16	pig	67,027,798	67,154,702	126,904
HSA35	16	pig	84,552,762	84,981,016	428,254
HSA35	16	pig	86,197,542	86,542,580	345,038
HSA35	17	pig	45,337,445	45,560,538	223,093
HSA35	17	pig	46,406,953	46,490,374	83,421
HSA35	18	pig	42,406,270	43,492,159	1,085,889
HSA35	18	pig	44,320,302	44,421,944	101,642
HSA35	18	pig	53,363,849	53,617,268	253,419
HSA35	19	pig	43,235,089	43,720,324	485,235
HSA35	19	pig	45,475,950	45,682,376	206,426
HSA35	X	pig	31,668,933	32,487,932	818,999
HSA35	X	pig	33,387,273	33,656,388	269,115
HSA35	X	pig	34,967,250	35,241,923	274,673
HSA35	X	pig	36,359,839	37,227,965	868,126
HSA35	X	pig	39,905,165	40,524,528	619,363
HSA35	X	pig	63,272,597	63,359,689	87,092
HSA35	X	pig	69,713,453	70,183,215	469,762
HSA35	X	pig	93,693,547	94,695,272	1,001,725
HSA35	X	pig	100,285,259	100,736,966	451,707
HSA35	X	pig	107,619,703	108,158,497	538,794
HSA35	X	pig	109,046,932	109,328,850	281,918
HSA35	X	pig	121,071,681	121,412,532	340,851

HSA35	X	pig	121,925,913	122,241,200	315,287
HSA35	X	pig	123,753,835	123,803,985	50,150
HSA35	1	primates	223,889,923	224,227,000	337,077
HSA35	1	primates	243,257,480	243,821,086	563,606
HSA35	2	primates	89,459,144	95,128,744	5,669,600
HSA35	2	primates	96,640,244	96,725,957	85,713
HSA35	3	primates	12,858,037	13,003,536	145,499
HSA35	3	primates	126,796,624	127,285,665	489,041
HSA35	3	primates	130,517,443	130,630,192	112,749
HSA35	7	primates	55,298,371	55,677,874	379,503
HSA35	8	primates	9,677,265	9,847,010	169,745
HSA35	8	primates	17,986,757	18,220,045	233,288
HSA35	8	primates	19,753,864	19,869,049	115,185
HSA35	8	primates	29,176,560	29,253,730	77,170
HSA35	8	primates	43,176,123	48,702,751	5,526,628
HSA35	9	primates	87,575,862	87,819,178	243,316
HSA35	9	primates	91,957,245	92,085,529	128,284
HSA35	9	primates	94,053,034	94,435,630	382,596
HSA35	10	primates	30,870,582	31,094,311	223,729
HSA35	10	primates	36,844,400	38,186,492	1,342,092
HSA35	12	primates	2,672,283	2,783,379	111,096
HSA35	12	primates	106,672,882	106,880,262	207,380
HSA35	12	primates	108,939,951	109,071,554	131,603
HSA35	12	primates	119,939,501	120,059,375	119,874
HSA35	13	primates	40,282,246	40,404,591	122,345
HSA35	13	primates	51,948,758	52,160,434	211,676
HSA35	15	primates	32,446,771	32,776,554	329,783
HSA35	15	primates	73,807,082	73,948,338	141,256
HSA35	15	primates	75,922,013	76,156,912	234,899
HSA35	16	primates	31,472,814	45,253,638	13,780,824
HSA35	17	primates	1,101,357	1,303,362	202,005
HSA35	17	primates	4,458,363	4,491,709	33,346
HSA35	17	primates	6,675,784	6,817,852	142,068
HSA35	17	primates	16,466,998	16,942,712	475,714
HSA35	17	primates	21,260,985	22,660,575	1,399,590
HSA35	17	primates	25,875,344	26,175,826	300,482
HSA35	17	primates	27,352,162	27,576,899	224,737
HSA35	17	primates	33,264,480	33,732,627	468,147
HSA35	17	primates	60,088,648	60,483,216	394,568
HSA35	17	primates	63,473,420	63,764,892	291,472
HSA35	19	primates	8,692,910	8,837,880	144,970
HSA35	19	primates	19,635,878	34,712,889	15,077,011
HSA35	22	primates	16,857,304	17,425,407	568,103
HSA35	22	primates	18,630,370	19,116,700	486,330
HSA35	22	primates	20,661,741	21,168,347	506,606
HSA35	22	primates	30,975,882	31,132,787	156,905
HSA35	1	rat	26,481,935	26,792,737	310,802

HSA35	1	rat	28,243,681	28,862,001	618,320
HSA35	2	rat	33,736,013	36,689,928	2,953,915
HSA35	3	rat	89,613,972	95,328,320	5,714,348
HSA35	5	rat	1,577,076	1,852,946	275,870
HSA35	6	rat	127,954,651	128,263,896	309,245
HSA35	6	rat	134,537,695	135,312,946	775,251
HSA35	6	rat	150,277,594	150,663,603	386,009
HSA35	7	rat	5,594,533	5,836,706	242,173
HSA35	7	rat	86,138,842	86,215,339	76,497
HSA35	7	rat	87,150,319	87,471,098	320,779
HSA35	9	rat	137,760,779	137,785,646	24,867
HSA35	10	rat	65,051,977	68,529,072	3,477,095
HSA35	10	rat	70,123,454	70,221,315	97,861
HSA35	10	rat	79,298,959	79,459,265	160,306
HSA35	10	rat	81,955,308	82,039,375	84,067
HSA35	10	rat	99,042,420	99,320,950	278,530
HSA35	10	rat	101,505,878	101,831,624	325,746
HSA35	12	rat	21,819,014	22,109,869	290,855
HSA35	12	rat	23,993,904	24,993,499	999,595
HSA35	12	rat	55,432,413	55,614,456	182,043
HSA35	16	rat	14,631,567	14,670,193	38,626
HSA35	16	rat	21,078,263	21,571,464	493,201
HSA35	16	rat	22,293,421	22,835,572	542,151
HSA35	16	rat	54,295,199	54,466,783	171,584
HSA35	16	rat	65,525,768	65,566,552	40,784
HSA35	17	rat	24,645,262	24,895,628	250,366
HSA35	17	rat	26,310,335	26,648,377	338,042
HSA35	19	rat	59,389,333	59,639,710	250,377
HSA35	19	rat	62,782,107	63,177,716	395,609
HSA35	X	rat	7,705,179	9,543,741	1,838,562
HSA35	X	rat	49,927,945	50,390,080	462,135
HSA35	X	rat	107,128,558	107,488,872	360,314
HSA35	X	rat	123,823,201	126,911,720	3,088,519
HSA35	1	rodentia	58,724,473	58,867,355	142,882
HSA35	1	rodentia	67,231,749	67,437,669	205,920
HSA35	1	rodentia	68,011,129	68,410,274	399,145
HSA35	1	rodentia	89,450,508	89,771,236	320,728
HSA35	1	rodentia	93,540,167	93,728,774	188,607
HSA35	1	rodentia	154,967,758	155,330,968	363,210
HSA35	1	rodentia	203,922,241	204,051,620	129,379
HSA35	1	rodentia	220,653,974	220,824,619	170,645
HSA35	1	rodentia	222,283,485	222,339,995	56,510
HSA35	1	rodentia	231,618,172	231,817,541	199,369
HSA35	1	rodentia	236,398,756	236,973,242	574,486
HSA35	2	rodentia	2,305,323	3,099,219	793,896
HSA35	2	rodentia	5,061,582	5,792,114	730,532
HSA35	2	rodentia	9,094,474	9,496,404	401,930

HSA35	2	rodentia	10,221,218	10,518,340	297,122
HSA35	2	rodentia	50,486,509	53,913,982	3,427,473
HSA35	2	rodentia	68,536,235	68,718,944	182,709
HSA35	2	rodentia	70,929,377	70,959,387	30,010
HSA35	2	rodentia	73,918,877	74,001,665	82,788
HSA35	2	rodentia	122,210,698	127,581,094	5,370,396
HSA35	2	rodentia	128,501,863	130,820,427	2,318,564
HSA35	2	rodentia	128,501,863	130,820,427	2,318,564
HSA35	2	rodentia	138,269,019	138,605,968	336,949
HSA35	2	rodentia	139,262,979	142,722,030	3,459,051
HSA35	2	rodentia	188,244,671	189,286,152	1,041,481
HSA35	3	rodentia	12,851,301	13,003,536	152,235
HSA35	3	rodentia	16,320,112	16,530,226	210,114
HSA35	3	rodentia	20,202,687	21,767,820	1,565,133
HSA35	3	rodentia	27,473,249	27,738,789	265,540
HSA35	3	rodentia	37,192,812	37,383,245	190,433
HSA35	3	rodentia	46,283,166	46,426,017	142,851
HSA35	3	rodentia	52,302,533	52,409,547	107,014
HSA35	3	rodentia	57,889,934	58,133,015	243,081
HSA35	3	rodentia	63,984,189	64,186,171	201,982
HSA35	3	rodentia	148,615,046	150,578,244	1,963,198
HSA35	3	rodentia	169,296,371	170,348,224	1,051,853
HSA35	3	rodentia	178,397,715	180,044,919	1,647,204
HSA35	3	rodentia	184,300,063	184,363,325	63,262
HSA35	4	rodentia	1,097,148	1,156,432	59,284
HSA35	4	rodentia	89,356,107	89,562,926	206,819
HSA35	4	rodentia	95,621,182	95,943,810	322,628
HSA35	4	rodentia	120,907,749	121,345,566	437,817
HSA35	4	rodentia	122,443,081	122,975,781	532,700
HSA35	4	rodentia	140,999,020	141,660,909	661,889
HSA35	4	rodentia	149,721,128	151,536,188	1,815,060
HSA35	4	rodentia	163,442,791	164,445,678	1,002,887
HSA35	5	rodentia	7,954,233	9,433,058	1,478,825
HSA35	5	rodentia	96,169,398	96,390,496	221,098
HSA35	5	rodentia	98,290,140	99,950,341	1,660,201
HSA35	5	rodentia	110,030,946	110,490,556	459,610
HSA35	5	rodentia	112,285,910	112,377,080	91,170
HSA35	5	rodentia	129,549,383	130,564,929	1,015,546
HSA35	5	rodentia	134,091,398	134,115,740	24,342
HSA35	5	rodentia	137,117,654	137,306,335	188,681
HSA35	5	rodentia	147,574,892	147,675,670	100,778
HSA35	5	rodentia	150,118,774	150,446,890	328,116
HSA35	5	rodentia	154,326,721	156,125,623	1,798,902
HSA35	5	rodentia	173,468,785	174,090,503	621,718
HSA35	5	rodentia	176,969,880	177,355,849	385,969
HSA35	6	rodentia	19,948,893	20,320,637	371,744
HSA35	6	rodentia	28,610,707	30,140,664	1,529,957

HSA35	6	rodentia	39,163,497	39,980,626	817,129
HSA35	6	rodentia	52,659,345	52,968,099	308,754
HSA35	6	rodentia	55,848,334	56,927,363	1,079,029
HSA35	6	rodentia	74,025,318	74,181,155	155,837
HSA35	6	rodentia	86,409,746	87,861,543	1,451,797
HSA35	6	rodentia	100,170,175	101,018,272	848,097
HSA35	6	rodentia	123,172,561	123,426,925	254,364
HSA35	7	rodentia	12,183,258	12,465,969	282,711
HSA35	7	rodentia	19,521,900	19,538,631	16,731
HSA35	7	rodentia	22,006,593	23,087,963	1,081,370
HSA35	7	rodentia	32,875,574	32,922,242	46,668
HSA35	7	rodentia	36,114,386	36,537,299	422,913
HSA35	7	rodentia	43,376,178	43,682,348	306,170
HSA35	7	rodentia	98,776,095	99,171,894	395,799
HSA35	7	rodentia	104,802,075	104,815,884	13,809
HSA35	7	rodentia	107,237,755	107,690,736	452,981
HSA35	7	rodentia	111,724,893	112,024,399	299,506
HSA35	7	rodentia	149,939,853	150,112,662	172,809
HSA35	7	rodentia	156,561,538	157,879,837	1,318,299
HSA35	8	rodentia	20,157,083	21,702,292	1,545,209
HSA35	8	rodentia	62,764,899	65,658,735	2,893,836
HSA35	8	rodentia	67,253,380	67,505,520	252,140
HSA35	8	rodentia	76,109,346	76,641,614	532,268
HSA35	8	rodentia	86,580,973	87,235,573	654,600
HSA35	8	rodentia	97,242,196	97,342,972	100,776
HSA35	9	rodentia	6,497,051	7,165,647	668,596
HSA35	9	rodentia	27,287,137	27,516,491	229,354
HSA35	9	rodentia	79,571,212	81,533,150	1,961,938
HSA35	9	rodentia	83,382,907	83,488,592	105,685
HSA35	9	rodentia	120,556,190	120,635,244	79,054
HSA35	9	rodentia	125,031,619	125,075,839	44,220
HSA35	9	rodentia	128,130,821	128,164,263	33,442
HSA35	9	rodentia	131,436,209	131,642,479	206,270
HSA35	9	rodentia	133,068,855	133,180,159	111,304
HSA35	10	rodentia	27,515,854	27,869,103	353,249
HSA35	10	rodentia	74,526,630	74,561,586	34,956
HSA35	10	rodentia	121,205,125	121,292,157	87,032
HSA35	11	rodentia	17,309,114	17,367,440	58,326
HSA35	11	rodentia	25,060,755	26,550,244	1,489,489
HSA35	11	rodentia	57,343,226	57,704,425	361,199
HSA35	11	rodentia	88,864,301	89,565,416	701,115
HSA35	11	rodentia	106,941,637	107,042,714	101,077
HSA35	12	rodentia	7,547,639	7,709,769	162,130
HSA35	12	rodentia	8,584,811	8,650,880	66,069
HSA35	12	rodentia	9,159,776	9,804,764	644,988
HSA35	12	rodentia	32,422,078	33,484,021	1,061,943
HSA35	12	rodentia	53,268,710	53,653,981	385,271

HSA35	12	rodentia	131,002,546	131,073,926	71,380
HSA35	13	rodentia	21,174,187	22,797,304	1,623,117
HSA35	13	rodentia	25,523,169	25,694,508	171,339
HSA35	13	rodentia	33,309,642	34,948,275	1,638,633
HSA35	13	rodentia	48,681,917	49,106,009	424,092
HSA35	13	rodentia	51,232,130	51,338,367	106,237
HSA35	13	rodentia	101,852,029	102,517,197	665,168
HSA35	14	rodentia	24,115,306	24,589,110	473,804
HSA35	14	rodentia	51,267,195	51,813,191	545,996
HSA35	14	rodentia	57,688,654	57,909,391	220,737
HSA35	15	rodentia	49,082,859	49,137,933	55,074
HSA35	15	rodentia	49,702,241	49,800,514	98,273
HSA35	15	rodentia	76,720,646	76,890,830	170,184
HSA35	15	rodentia	78,050,698	78,217,776	167,078
HSA35	16	rodentia	16,144,410	18,720,367	2,575,957
HSA35	18	rodentia	9,878,150	11,871,921	1,993,771
HSA35	18	rodentia	39,111,430	40,898,771	1,787,341
HSA35	18	rodentia	51,406,858	52,469,503	1,062,645
HSA35	18	rodentia	55,515,590	57,373,345	1,857,755
HSA35	18	rodentia	63,332,855	64,533,342	1,200,487
HSA35	19	rodentia	2,764,590	2,946,176	181,586
HSA35	19	rodentia	53,392,328	53,516,997	124,669
HSA35	19	rodentia	56,583,009	56,919,033	336,024
HSA35	20	rodentia	1,257,826	1,922,702	664,876
HSA35	21	rodentia	42,303,519	42,436,174	132,655
HSA35	22	rodentia	27,478,027	27,509,836	31,809
HSA35	22	rodentia	31,727,201	32,640,964	913,763
HSA35	22	rodentia	34,274,543	34,343,901	69,358
HSA35	X	rodentia	23,581,490	23,717,281	135,791
HSA35	X	rodentia	37,072,736	37,292,941	220,205
HSA35	X	rodentia	47,676,578	48,084,819	408,241
HSA35	X	rodentia	50,984,723	52,990,263	2,005,540
HSA35	X	rodentia	114,707,967	115,117,702	409,735
Average					668,959
Median					295,829

Supplementary Table 6. Gene content of seven largest msHSBs in the human genome.

msHSB	Gene	Gene name	Human chr	Gene start	Gene end	LocusLink ID
HSA2:160,586,754-183,468,996	PLA2R1	phospholipase A2 receptor 1, 180kDa	2	160,623,518	160,744,628	22925
	ITGB6	integrin, beta 6	2	160,783,740	160,882,097	3694
	RBMS1	RNA binding motif, single stranded interacting	2	160,956,021	161,175,812	5937
	TANK	TRAF interacting protein TANK isoform b	2	161,818,972	161,886,997	10010
	PSMD14	26S proteasome-associated pad1 homolog	2	161,990,446	162,093,433	10213
	TBR1	T-box, brain, 1	2	162,098,126	162,107,080	10716
	SLC4A10	solute carrier family 4, sodium bicarbonate	2	162,306,452	162,665,750	57282
	DPP4	dipeptidylpeptidase IV	2	162,674,263	162,756,559	1803
	GCG	glucagon preproprotein	2	162,824,895	162,834,264	2641
	FAP	fibroblast activation protein, alpha subunit	2	162,852,708	162,925,552	2191
	IFIH1	interferon induced with helicase C domain 1	2	162,949,096	163,000,546	64135
	GCA	grancalcin, EF-hand calcium binding protein	2	163,026,156	163,043,136	25801
	KCNH7	potassium voltage-gated channel, subfamily H,	2	163,105,265	163,520,747	90134
	FIGN	fidgetin	2	164,289,624	164,418,020	55137
	GRB14	growth factor receptor-bound protein 14	2	165,174,839	165,303,867	2888
	COBLL1	COBL-like 1	2	165,366,766	165,523,435	22837
	FLJ39822	hypothetical protein LOC151258	2	165,580,318	165,637,542	151258
	SCN3A	sodium channel, voltage-gated, type III, alpha	2	165,769,546	165,886,060	6328
	SCN2A2	sodium channel, voltage-gated, type II, alpha 2	2	165,975,847	166,074,325	6326
	TAIP-2	TGF-beta induced apoptosis protein 2	2	166,254,396	166,362,710	80034
	GALNT3	polypeptide N-acetylgalactosaminyltransferase 3	2	166,428,830	166,452,717	2591
	TTC21B	tetratricopeptide repeat domain 21B	2	166,556,350	166,635,855	79809
	SCN1A	sodium channel, voltage-gated, type I, alpha	2	166,671,177	166,755,638	6323
	SCN9A	sodium channel, voltage-gated, type IX, alpha	2	166,880,314	166,993,821	6335
	SCN7A	sodium channel, voltage-gated, type VII, alpha	2	167,087,395	167,168,985	6332
	CMYA3	xin actin-binding repeat containing 2	2	167,817,961	167,934,073	129446
	B3GALT1	UDP-Gal:betaGlcNAc beta	2	168,500,688	168,552,873	8708
	STK39	serine threonine kinase 39 (STE20/SPS1 homolog,	2	168,636,037	168,929,612	27347
	LASS6	longevity assurance homolog 6	2	169,138,341	169,456,659	253782
	NOSTRIN	nitric oxide synthase trafficker isoform 2	2	169,484,613	169,547,071	115677
	SPBC25	spindle pole body component 25	2	169,552,908	169,572,451	57405
	G6PC2	islet-specific glucose-6-phosphatase-related	2	169,583,348	169,590,096	57818
	ABCB11	ATP-binding cassette, sub-family B (MDR/TAP),	2	169,604,955	169,713,340	8647
	DHRS9	NADP-dependent retinol dehydrogenase/reductase	2	169,749,051	169,778,184	10170
LRP2	low density lipoprotein-related protein 2	2	169,810,367	170,044,520	4036	
BBS5	Bardet-Biedl syndrome 5	2	170,161,512	170,188,671	129880	

KBTBD10	kelch repeat and BTB (POZ) domain containing 10	2	170,191,718	170,208,279	10324
FLJ21901	hypothetical protein LOC79675	2	170,211,774	170,255,829	79675
PPIG	peptidyl-prolyl isomerase G (cyclophilin G)	2	170,266,356	170,319,754	9360
PHOSPHO	phosphatase, orphan 2	2	170,376,481	170,383,723	493911
KLHL23	kelch-like 23	2	170,376,507	170,431,945	151230
SSB	autoantigen La	2	170,480,895	170,494,076	6741
METTL5	methyltransferase like 5	2	170,493,776	170,506,860	29081
ZNF650	zinc finger protein 650	2	170,631,808	170,766,144	130507
MYO3B	myosin IIIB isoform 1	2	170,860,161	171,336,490	140469
LOC440925	hypothetical protein LOC440925	2	171,394,467	171,396,584	440925
SP5	Sp5 transcription factor	2	171,397,367	171,400,004	389058
GAD1	glutamate decarboxylase 1 isoform GAD25	2	171,498,706	171,524,775	2571
GORASP2	golgi reassembly stacking protein 2	2	171,611,217	171,649,146	26003
TLK1	tousled-like kinase 1	2	171,674,076	171,842,467	9874
METTL8	methyltransferase like 8	2	172,005,267	172,116,126	79828
C2orf37	hypothetical protein LOC80067	2	172,116,233	172,164,175	80067
CYBRD1	cytochrome b reductase 1	2	172,204,493	172,240,144	79901
DYNC112	dynein, cytoplasmic 1, intermediate chain 2	2	172,369,488	172,430,426	1781
SLC25A12	solute carrier family 25 (mitochondrial carrier,	2	172,466,387	172,576,240	8604
HAT1	histone acetyltransferase 1 isoform b	2	172,604,464	172,674,106	8520
MAP1D	methionine aminopeptidase 1D	2	172,690,310	172,771,093	254042
DLX1	distal-less homeobox 1 isoform 2	2	172,775,714	172,779,906	1745
DLX2	distal-less homeobox 2	2	172,789,673	172,792,985	1746
ITGA6	integrin, alpha 6	2	173,117,876	173,196,509	3655
PDK1	pyruvate dehydrogenase kinase, isozyme 1	2	173,246,285	173,289,367	5163
RAPGEF4	Rap guanine nucleotide exchange factor (GEF) 4	2	173,426,113	173,743,122	11069
ZAK	MLK-related kinase isoform 2	2	173,766,071	173,917,378	51776
CDCA7	cell division cycle associated 7 isoform 1	2	174,045,067	174,059,225	83879
SP3	Sp3 transcription factor isoform 2	2	174,598,765	174,655,570	6670
PTD004	GTP-binding protein PTD004 isoform 1	2	174,762,682	174,938,872	29789
FLJ46347	hypothetical protein LOC389064	2	175,024,672	175,027,801	389064
CIR	CBF1 interacting corepressor	2	175,038,386	175,085,950	9541
SCRN3	secernin 3	2	175,085,973	175,119,234	79634
GPR155	G protein-coupled receptor 155 isoform 10	2	175,121,882	175,177,318	151556
WASPIP	WASP-interacting protein	2	175,249,809	175,324,811	7456
CHRNA1	cholinergic receptor, nicotinic, alpha 1	2	175,437,830	175,454,688	1134
CHN1	chimerin (chimaerin) 1	2	175,489,598	175,695,622	1123
ATF2	activating transcription factor 2	2	175,764,514	175,858,404	1386
ATP5G3	ATP synthase, H+ transporting, mitochondrial FO	2	175,866,497	175,871,982	518

KIAA1715	Lunapark	2	176,615,916	176,692,525	80856
HOXD13	homeobox D13	2	176,783,038	176,785,307	3239
HOXD12	homeobox D12	2	176,790,036	176,790,995	3238
HOXD11	homeobox D11	2	176,797,590	176,799,821	3237
HOXD10	homeobox D10	2	176,806,998	176,810,176	3236
HOXD9	homeobox D9	2	176,812,594	176,815,031	3235
HOXD8	homeobox D8	2	176,819,983	176,822,233	3234
HOXD4	homeobox D4	2	176,841,619	176,843,454	3233
HOXD3	homeobox D3	2	176,854,311	176,863,333	3232
HOXD1	homeobox D1	2	176,878,813	176,881,142	3231
MTX2	metaxin 2 isoform a	2	176,959,643	177,028,258	10651
HNRPA3	heterogeneous nuclear ribonucleoprotein A3	2	177,902,928	177,914,192	220988
NFE2L2	nuclear factor (erythroid-derived 2)-like 2	2	177,920,545	177,954,924	4780
AGPS	alkyldihydroxyacetone phosphate synthase	2	178,082,991	178,229,670	8540
FLJ30990	FLJ30990 protein	2	178,240,741	178,243,011	150737
FLJ13946	hypothetical protein LOC92104	2	178,304,533	178,309,201	92104
PDE11A	phosphodiesterase 11A isoform 3	2	178,318,318	178,762,989	50940
DRB1	developmentally regulated RNA-binding protein 1	2	178,802,688	178,819,887	129831
OSBPL6	oxysterol-binding protein-like protein 6 isoform	2	179,010,477	179,086,380	114880
PRKRA	protein kinase, interferon-inducible double	2	179,121,656	179,141,371	8575
FKBP7	FK506-binding protein 7 precursor	2	179,155,531	179,168,829	51661
PLEKHA3	pleckstrin homology domain containing, family A	2	179,170,705	179,195,287	65977
TTN	titin isoform novex-3	2	179,216,226	179,497,655	7273
FLJ39502	hypothetical protein LOC285025	2	179,525,997	179,575,184	285025
SESTD1	SEC14 and spectrin domains 1	2	179,799,036	179,954,752	91404
ZNF533	zinc finger protein 533	2	180,132,225	180,551,573	151126
KIAA1604	hypothetical protein LOC57703	2	180,635,109	180,697,351	57703
UBE2E3	ubiquitin-conjugating enzyme E2E 3	2	181,670,617	181,753,656	10477
ITGA4	integrin alpha 4 precursor	2	182,147,124	182,227,972	3676
CERKL	ceramide kinase-like isoform d	2	182,226,911	182,347,257	375298
NEUROD1	neurogenic differentiation 1	2	182,366,700	182,370,760	4760
SSFA2	sperm specific antigen 2	2	182,582,187	182,620,967	6744
PDE1A	phosphodiesterase 1A, calmodulin-dependent	2	182,832,688	183,212,759	5136
DNAJC10	DnaJ (Hsp40) homolog, subfamily C, member 10	2	183,406,504	183,468,761	54431
HSA4:17488650-41111373	HCAP-G chromosome condensation protein G	4	17,488,793	17,522,754	64151
	MLR1 transcription factor MLR1	4	17,521,112	17,699,645	254251
	SLIT2 slit homolog 2	4	19,931,503	20,297,057	9353
	MGC29898 hypothetical protein LOC133015	4	20,378,557	20,406,242	133015

KCNIP4	Kv channel interacting protein 4 isoform 4	4	20,406,507	20,981,798	80333
GPR125	G protein-coupled receptor 125	4	22,065,267	22,193,941	166647
GBA3	cytosolic beta-glucosidase	4	22,370,858	22,497,460	57733
PPARGC1/	peroxisome proliferator-activated receptor	4	23,469,913	23,567,969	10891
DHX15	DEAH (Asp-Glu-Ala-His) box polypeptide 15	4	24,205,357	24,262,453	1665
SOD3	superoxide dismutase 3, extracellular precursor	4	24,472,323	24,478,732	6649
DKFZp761E	hypothetical protein LOC91050	4	24,504,849	24,658,095	91050
LGI2	leucine-rich repeat LGI family, member 2	4	24,679,658	24,708,584	55203
SLA/LP	soluble liver antigen/liver pancreas antigen	4	24,799,990	24,838,254	51091
PI4K2B	phosphatidylinositol 4-kinase type 2 beta	4	24,911,943	24,956,979	55300
ANAPC4	anaphase-promoting complex subunit 4	4	25,055,116	25,096,388	29945
SLC34A2	solute carrier family 34 (sodium phosphate),	4	25,333,741	25,354,773	10568
KIAA0746	hypothetical protein LOC23231	4	25,425,318	25,540,713	23231
RBPSUH	recombining binding protein suppressor of	4	25,998,716	26,109,547	3516
CCKAR	cholecystokinin A receptor	4	26,159,286	26,168,311	886
TBC1D19	TBC1 domain family, member 19	4	26,261,974	26,433,071	55296
STIM2	stromal interaction molecule 2	4	26,538,581	26,703,272	57620
FLJ45721	hypothetical protein LOC401123	4	26,885,395	26,896,295	401123
PCDH7	protocadherin 7 isoform c precursor	4	30,398,305	30,821,003	5099
CENTD1	centaurin delta 1 isoform a	4	35,890,187	35,983,929	116984
C4orf19	hypothetical protein LOC55286	4	37,408,420	37,416,000	55286
PGM2	phosphoglucomutase 2	4	37,650,907	37,687,124	55276
TBC1D1	TBC1 (tre-2/USP6, BUB2, cdc16) domain family,	4	37,715,285	37,963,359	23216
PTTG2	pituitary tumor-transforming 2	4	37,784,621	37,785,196	10744
FLJ13197	hypothetical protein LOC79667	4	38,436,887	38,488,815	79667
KLF3	Kruppel-like factor 3 (basic)	4	38,488,388	38,522,964	51274
TLR10	toll-like receptor 10 precursor	4	38,596,828	38,607,155	81793
TLR1	toll-like receptor 1	4	38,620,443	38,628,978	7096
TLR6	toll-like receptor 6	4	38,650,973	38,653,726	10333
LOC92689	hypothetical protein LOC92689	4	38,692,002	38,767,990	92689
FLJ23235	hypothetical protein LOC80008	4	38,791,008	38,856,607	80008
KLHL5	kelch-like 5 isoform 1	4	38,886,625	38,946,394	51088
WDR19	WD repeat domain 19	4	39,006,589	39,109,995	57728
RFC1	replication factor C large subunit	4	39,111,641	39,190,561	5981
KLB	klotho beta	4	39,231,038	39,272,919	152831
RPL9	ribosomal protein L9	4	39,278,312	39,282,773	6133
LIAS	lipoic acid synthetase isoform 2 precursor	4	39,283,230	39,301,835	11019
UGDH	UDP-glucose dehydrogenase	4	39,322,941	39,351,777	7358
LOC20189	hypothetical protein LOC201895	4	39,375,115	39,463,047	201895

	HIP2	huntingtin interacting protein 2	4	39,522,436	39,604,148	3093
	SCC-112	SCC-112 protein	4	39,647,049	39,802,053	23244
	N4BP2	Nedd4 binding protein 2	4	39,897,719	39,979,583	55728
	RHOH	ras homolog gene family, member H	4	40,021,167	40,068,419	399
	CHRNA9	cholinergic receptor, nicotinic, alpha 9	4	40,178,396	40,197,901	55584
	FLJ20273	hypothetical protein LOC54502	4	40,266,668	40,358,896	54502
	FLJ14001	hypothetical protein LOC79730	4	40,592,869	40,652,928	79730
	APBB2	amyloid beta A4 precursor protein-binding,	4	40,657,166	41,057,416	323
	UCHL1	ubiquitin carboxyl-terminal esterase L1	4	41,099,856	41,111,373	7345
HSA8: 98,934,002-120,350,405	LAPTM4B	lysosomal associated transmembrane protein 4	8	98,856,984	98,934,005	55353
	MATN2	matrilin 2 isoform b precursor	8	98,950,486	99,118,120	4147
	RPL30	ribosomal protein L30	8	99,123,118	99,126,949	6156
	C8orf47	hypothetical protein LOC203111	8	99,145,925	99,175,014	203111
	HRSP12	heat-responsive protein 12	8	99,183,742	99,198,594	10247
	POP1	processing of precursor 1, ribonuclease P/MRP	8	99,199,243	99,239,813	10940
	NPAL2	NIPA-like domain containing 2	8	99,273,562	99,375,797	79815
	KCNS2	potassium voltage-gated channel,	8	99,508,425	99,512,197	3788
	STK3	serine/threonine kinase 3 (STE20 homolog,	8	99,536,042	99,907,085	6788
	OSR2	odd-skipped related 2	8	100,025,861	100,033,500	116039
	VPS13B	vacuolar protein sorting 13B isoform 3	8	100,094,669	100,203,161	157680
	COX6C	cytochrome c oxidase subunit VIc proprotein	8	100,959,547	100,975,071	1345
	RGS22	regulator of G-protein signaling 22	8	101,042,452	101,187,520	26166
	FBXO43	F-box protein 43 isoform a	8	101,214,763	101,226,853	286151
	POLR2K	DNA directed RNA polymerase II polypeptide K	8	101,232,014	101,235,405	5440
	SPAG1	sperm associated antigen 1	8	101,239,438	101,323,306	6674
	RNF19	ring finger protein 19	8	101,338,463	101,391,503	25897
	ANKRD46	ankyrin repeat domain 46	8	101,602,177	101,641,188	157567
	MGC39715	hypothetical protein LOC169166	8	101,654,298	101,731,069	169166
	PABPC1	poly(A) binding protein, cytoplasmic 1	8	101,784,319	101,803,491	26986
	YWHAZ	tyrosine 3/tryptophan 5 -monooxygenase	8	102,000,089	102,033,447	7534
	ZNF706	HSPC038 protein	8	102,278,459	102,287,020	51123
	GRHL2	transcription factor CP2-like 3	8	102,574,161	102,750,995	79977
	NCALD	neurocalcin delta	8	102,767,946	102,872,615	83988
	RRM2B	ribonucleotide reductase M2 B (TP53 inducible)	8	103,285,906	103,320,522	50484
	EDD1	EDD1 (EMBRYO-DEFECTIVE-DEVELOPMENT 1)	8	103,334,744	103,493,671	51366
	ODF1	outer dense fiber of sperm tails 1	8	103,633,035	103,642,422	4956
	KLF10	Kruppel-like factor 10 isoform b	8	103,730,196	103,737,128	7071
	FLJ45248	Homo sapiens cDNA FLJ45248 fis	8	103,888,225	103,891,375	401472

AZIN1	ornithine decarboxylase antizyme inhibitor	8	103,907,712	103,945,573	51582
ATP6V1C1	ATPase, H+ transporting, lysosomal 42kDa, V1	8	104,102,444	104,154,460	528
BAALC	brain and acute leukemia, cytoplasmic isoform 1	8	104,222,096	104,311,706	79870
FZD6	frizzled 6	8	104,380,275	104,414,268	8323
CTHRC1	collagen triple helix repeat containing 1	8	104,452,961	104,464,391	115908
SLC25A32	solute carrier family 25, member 32	8	104,480,042	104,496,447	81034
WDSOF1	WD repeats and SOF1 domain containing	8	104,496,117	104,524,376	25879
RIMS2	regulating synaptic membrane exocytosis 2	8	104,900,675	105,333,929	9699
TM7SF4	dendritic cell-specific transmembrane protein	8	105,421,229	105,438,092	81501
DPYS	dihydropyrimidinase	8	105,460,828	105,548,453	1807
LRP12	suppression of tumorigenicity	8	105,570,642	105,670,344	29967
ZFPM2	zinc finger protein, multitype 2	8	106,400,322	106,885,941	23414
OXR1	oxidation resistance 1	8	107,739,269	107,834,097	55074
ABRA	actin-binding Rho activating protein	8	107,842,320	107,851,649	137735
ANGPT1	angiopoietin 1	8	108,330,887	108,579,430	284
RSPO2	R-spondin family, member 2	8	108,980,721	109,164,742	340419
EIF3S6	murine mammary tumor integration site 6	8	109,283,148	109,330,135	3646
KIAA0103	hypothetical protein LOC380446	8	109,525,028	109,568,312	9694
TMEM74	transmembrane protein 74	8	109,864,521	109,868,946	157753
TRHR	thyrotropin-releasing hormone receptor	8	110,168,901	110,200,989	7201
NUDCD1	NudC domain containing 1	8	110,322,324	110,415,491	84955
ENY2	enhancer of yellow 2 homolog	8	110,415,811	110,425,086	56943
PKHD1L1	fibrocystin L	8	110,443,881	110,611,740	93035
EBAG9	estrogen receptor binding site associated	8	110,621,104	110,646,565	9166
FLJ20366	hypothetical protein FLJ20366	8	110,655,591	110,725,080	55638
KCNV1	potassium channel, subfamily V, member 1	8	111,048,408	111,056,135	27012
CSMD3	CUB and Sushi multiple domains 3 isoform 1	8	113,304,332	114,458,558	114788
TRPS1	zinc finger transcription factor TRPS1	8	116,489,899	116,750,402	7227
EIF3S3	eukaryotic translation initiation factor 3,	8	117,726,236	117,837,243	8667
C8orf53	hypothetical protein LOC84294	8	117,847,922	117,853,376	84294
RAD21	RAD21 homolog	8	117,927,354	117,956,182	5885
LOC441376	hypothetical protein LOC441376	8	118,019,663	118,024,403	441376
SLC30A8	solute carrier family 30 member 8	8	118,216,517	118,258,133	169026
THRAP6	thyroid hormone receptor associated protein 6	8	118,602,210	118,621,680	90390
EXT1	exostosin 1	8	118,880,782	119,193,239	2131
SAMD12	sterile alpha motif domain containing 12 isoform	8	119,459,407	119,703,301	401474
TNFRSF11	osteoprotegerin precursor	8	120,004,977	120,033,492	4982
COLEC10	collectin sub-family member 10	8	120,148,626	120,188,376	10584
MAL2	MAL2 proteolipid protein	8	120,289,813	120,327,092	114569

HSA8:122,050,055-142,260,143	HAS2	hyaluronan synthase 2	8	122,694,720	122,722,811	3037
	ZHX2	zinc fingers and homeoboxes 2	8	123,863,081	124,055,936	22882
	DERL1	Der1-like domain family, member 1	8	124,094,768	124,123,722	79139
	WDR67	WD repeat domain 67	8	124,154,100	124,233,571	93594
	FAM83A	hypothetical protein LOC84985 isoform b	8	124,263,932	124,291,498	84985
	C8orf76	hypothetical protein LOC84933	8	124,301,411	124,322,798	84933
	ZHX1	zinc fingers and homeoboxes 1	8	124,329,877	124,355,728	11244
	ATAD2	ATPase family, AAA domain containing 2	8	124,401,921	124,477,868	29028
	C8orf32	hypothetical protein LOC55093	8	124,498,145	124,523,441	55093
	FBXO32	F-box only protein 32 isoform 2	8	124,584,539	124,613,564	114907
	ANXA13	annexin A13 isoform b	8	124,762,215	124,818,828	312
	FAM91A1	hypothetical protein LOC157769	8	124,850,062	124,896,869	157769
	C8ORFK23		8	124,933,407	125,201,482	654463
	C8orf54		8	125,065,558	125,122,204	439941
	C8orf78	Homo sapiens chromosome 8 open reading frame 78	8	125,127,494	125,252,944	157376
	TMEM65	transmembrane protein 65	8	125,393,411	125,454,101	157378
	TRMT12	homolog of yeast tRNA methyltransferase 12	8	125,532,242	125,534,271	55039
	RNF139	ring finger protein 139	8	125,556,188	125,570,039	11236
	TATDN1	TatD DNase domain containing 1	8	125,569,931	125,620,492	83940
	NDUFB9	NADH dehydrogenase (ubiquinone) 1 beta	8	125,620,535	125,631,399	4715
	MTSS1	metastasis suppressor 1	8	125,632,211	125,809,840	9788
	ZNF572	zinc finger protein 572	8	126,054,732	126,060,809	137209
	SQLE	squalene epoxidase	8	126,079,900	126,103,705	6713
	KIAA0196	strumpellin	8	126,105,690	126,165,402	9897
	C8orf36		8	126,173,276	126,448,543	286053
	TRIB1	G-protein-coupled receptor induced protein	8	126,511,744	126,519,824	10221
	FAM84B	family with sequence similarity 84, member B	8	127,633,868	127,639,648	157638
	MYC	myc proto-oncogene protein	8	128,817,497	128,822,853	4609
	TMEM75		8	129,027,986	129,030,151	641384
	CCDC26	Homo sapiens coiled-coil domain containing 26	8	130,433,121	130,761,667	137196
	MLZE	melanoma-derived leucine zipper, extra-nuclear	8	130,829,624	130,868,316	56169
	FAM49B	hypothetical protein LOC51571	8	130,922,899	131,021,182	51571
	DDEF1	development and differentiation enhancing factor	8	131,133,534	131,483,399	50807
	ADCY8	adenylate cyclase 8	8	131,861,728	132,123,854	114
	KIAA0143	hypothetical protein LOC23167	8	133,021,329	133,094,951	23167
	HHLA1	Homo sapiens (HERV-H-HHLA1 fusion)	8	133,145,213	133,162,533	10086
	KCNQ3	potassium voltage-gated channel KQT-like protein	8	133,210,438	133,562,186	3786
	LRRC6	leucine rich repeat containing 6	8	133,653,628	133,756,995	23639

	TMEM71	transmembrane protein 71	8	133,791,375	133,842,010	137835
	PHF20L1	PHD finger protein 20-like 1 isoform 1	8	133,856,785	133,894,619	51105
	TG	thyroglobulin	8	133,948,386	134,216,323	7038
	SLA	Src-like-adaptor	8	134,118,155	134,141,628	6503
	WISP1	WNT1 inducible signaling pathway protein 1	8	134,272,493	134,309,234	8840
	NDRG1	N-myc downstream regulated gene 1	8	134,318,595	134,378,680	10397
	ST3GAL1	sialyltransferase 4A	8	134,540,326	134,653,344	6482
	ZNF406	zinc finger protein 406	8	135,559,213	135,794,463	57623
	KHDRBS3	KH domain containing, RNA binding, signal	8	136,538,897	136,729,028	10656
	LOC51059	hypothetical protein LOC51059	8	139,224,286	139,233,829	51059
	COL22A1	collagen, type XXII, alpha 1	8	139,669,660	139,995,418	169044
	KCNK9	potassium channel, subfamily K, member 9	8	140,693,985	140,784,481	51305
	NIBP	NIK and IKK(beta) binding protein	8	140,811,769	141,537,860	83696
	C8orf17	MOST-1 protein	8	141,012,597	141,015,362	56988
	CHRAC1	chromatin accessibility complex 1	8	141,590,585	141,596,434	54108
	EIF2C2	eukaryotic translation initiation factor 2C, 2	8	141,610,445	141,714,827	27161
	PTK2	PTK2 protein tyrosine kinase 2 isoform b	8	141,737,682	142,080,514	5747
	DENND3	DENN/MADD domain containing 3	8	142,207,901	142,275,080	22898
HSA10: 104,226,790-121,205,125	ACTR1A	ARP1 actin-related protein 1 homolog A,	10	104,228,976	104,252,452	10121
	SUFU	suppressor of fused homolog	10	104,253,753	104,383,199	51684
	TRIM8	tripartite motif-containing 8	10	104,394,355	104,408,064	81603
	ARL3	ADP-ribosylation factor-like 3	10	104,423,478	104,464,180	403
	SFXN2	sideroflexin 2	10	104,464,287	104,488,932	118980
	C10orf26	hypothetical protein LOC54838 isoform 2	10	104,525,995	104,565,310	54838
	CYP17A1	cytochrome P450, family 17, subfamily A,	10	104,580,279	104,587,280	1586
	C10orf32	hypothetical protein LOC119032	10	104,604,008	104,613,956	119032
	AS3MT	arsenic (+3 oxidation state) methyltransferase	10	104,619,262	104,651,643	57412
	CNNM2	cyclin M2 isoform 1	10	104,668,103	104,677,357	54805
	NT5C2	5'-nucleotidase, cytosolic II	10	104,837,903	104,943,006	22978
	INA	internexin neuronal intermediate filament	10	105,026,909	105,040,091	9118
	PCGF6	polycomb group ring finger 6 isoform b	10	105,052,543	105,100,881	84108
	TAF5	TBP-associated factor 5	10	105,117,713	105,138,810	6877
	USMG5	upregulated during skeletal muscle growth 5	10	105,138,803	105,146,213	84833
	PDCD11	programmed cell death 11	10	105,146,401	105,196,009	22984
	FAM26B	hypothetical protein LOC51063	10	105,196,536	105,202,065	51063
	FAM26C	hypothetical protein LOC255022	10	105,203,133	105,208,635	255022
	FAM26A	hypothetical protein LOC119395	10	105,222,567	105,228,987	119395
	NEURL	neuralized-like	10	105,244,037	105,342,292	9148

SH3PXD2A	SH3 multiple domains 1	10	105,343,775	105,605,154	9644
OBFC1	oligonucleotide/oligosaccharide-binding fold	10	105,632,290	105,667,956	79991
SLK	serine/threonine kinase 2	10	105,717,459	105,777,332	9748
COL17A1	alpha 1 type XVII collagen	10	105,781,037	105,835,628	1308
C10orf78	hypothetical protein LOC119392 isoform a	10	105,871,805	105,876,132	119392
C10orf79	hypothetical protein LOC80217	10	105,879,636	105,982,110	80217
GSTO1	glutathione-S-transferase omega 1	10	106,004,667	106,017,199	9446
GSTO2	glutathione S-transferase omega 2	10	106,018,620	106,049,165	119391
KIAA1754	KIAA1754	10	106,061,890	106,083,653	85450
C10orf80	hypothetical protein LOC159686	10	106,103,511	106,204,829	159686
SORCS3	VPS10 domain receptor protein SORCS 3	10	106,390,848	107,014,983	22986
SORCS1	SORCS receptor 1 isoform b	10	108,323,411	108,914,282	114815
XPNPEP1	X-prolyl aminopeptidase (aminopeptidase P) 1,	10	111,614,513	111,673,192	7511
ADD3	adducin 3 (gamma) isoform a	10	111,755,715	111,885,310	120
MXI1	MAX interactor 1 isoform b	10	111,957,352	112,037,111	4601
SMNDC1	survival motor neuron domain containing 1	10	112,042,788	112,054,687	10285
DUSP5	dual specificity phosphatase 5	10	112,247,614	112,261,290	1847
CSPG6	chondroitin sulfate proteoglycan 6	10	112,317,438	112,354,380	9126
PDCD4	programmed cell death 4 isoform 1	10	112,621,585	112,649,753	27250
SHOC2	soc-2 suppressor of clear homolog	10	112,713,902	112,763,412	8036
ADRA2A	alpha-2A-adrenergic receptor	10	112,826,910	112,830,560	150
GPAM	mitochondrial glycerol 3-phosphate	10	113,899,611	113,933,508	57678
TECTB	tectorin beta	10	114,033,482	114,053,060	6975
ACSL5	acyl-CoA synthetase long-chain family member 5	10	114,125,012	114,178,127	51703
ZDHHC6	zinc finger, DHHC-type containing 6	10	114,180,049	114,196,662	64429
VTI1A	similar to vesicle transport through interaction	10	114,197,005	114,487,522	143187
LOC143188	Homo sapiens hypothetical protein LOC143188	10	114,604,316	114,604,857	143188
TCF7L2	transcription factor 7-like 2 (T-cell specific,	10	114,700,200	114,916,051	6934
HABP2	hyaluronan binding protein 2 preproprotein	10	115,302,774	115,339,348	3026
NRAP	nebulin-related anchoring protein isoform S	10	115,338,573	115,413,795	4892
CASP7	caspase 7 isoform alpha precursor	10	115,428,924	115,480,652	840
C10orf81	hypothetical protein LOC79949	10	115,501,202	115,532,181	79949
DCLRE1A	DNA-crosslink repair gene SNM1	10	115,584,473	115,603,597	9937
NHLRC2	NHL repeat containing 2	10	115,604,409	115,658,442	374354
ADRB1	adrenergic, beta-1-, receptor	10	115,793,804	115,795,518	153
C10orf118	CTCL tumor antigen L14-2	10	115,871,963	115,924,354	55088
TDRD1	tudor domain containing 1	10	115,929,018	115,982,053	56165
VWA2	von Willebrand factor A domain containing 2	10	115,989,007	116,039,741	340706
KIAA1914	KIAA1914 protein isoform 2	10	116,044,574	116,154,505	84632

	ABLIM1	actin-binding LIM protein 1 isoform b	10	116,180,859	116,276,675	3983
	KIAA1600	hypothetical protein LOC57700	10	116,571,772	116,614,254	57700
	TRUB1	TruB pseudouridine (psi) synthase homolog 1	10	116,687,941	116,727,420	142940
	ATRNL1	attractin-like 1	10	116,843,113	117,698,484	26033
	GFRA1	GDNF family receptor alpha 1 isoform a	10	117,812,942	118,021,784	2674
	C10orf96	hypothetical protein LOC374355	10	118,073,929	118,129,530	374355
	PNLIPRP3	pancreatic lipase-related protein 3	10	118,177,371	118,227,456	119548
	PNLIP	pancreatic lipase precursor	10	118,295,417	118,317,356	5406
	PNLIPRP1	pancreatic lipase-related protein 1	10	118,340,479	118,358,676	5407
	PNLIPRP2	pancreatic lipase-related protein 2	10	118,370,807	118,394,642	5408
	C10orf82	hypothetical protein LOC143379	10	118,413,197	118,419,471	143379
	KIAA1598	hypothetical protein LOC57698 isoform a	10	118,634,297	118,754,866	57698
	VAX1	ventral anterior homeobox 1 isoform a	10	118,878,021	118,887,802	11023
	KCNK18	potassium channel, subfamily K, member 18	10	118,946,989	118,959,799	338567
	SLC18A2	solute carrier family 18 (vesicular monoamine),	10	118,990,705	119,027,085	6571
	PDZD8	PDZ domain containing 8	10	119,032,595	119,124,927	118987
	EMX2	empty spiracles homeobox 2	10	119,291,945	119,299,043	2018
	RAB11FIP2	RAB11 family interacting protein 2 (class I)	10	119,754,418	119,796,104	22841
	CASC2	cancer susceptibility candidate 2	10	119,796,505	119,957,319	255082
	C10orf84	hypothetical protein LOC63877	10	120,058,561	120,091,808	63877
	PRLHR	prolactin releasing hormone receptor	10	120,343,634	120,344,746	2834
	C10orf46	chromosome 10 open reading frame 46	10	120,432,909	120,504,748	143384
	NANOS1	nanos homolog 1	10	120,779,217	120,783,844	340719
	EIF3S10	eukaryotic translation initiation factor 3,	10	120,784,531	120,830,324	8661
	FAM45A	hypothetical protein LOC404636	10	120,853,600	120,887,205	404636
	FAM45B	hypothetical protein LOC55855	10	120,853,618	120,886,675	55855
	SFXN4	sideroflexin 4	10	120,890,431	120,915,194	119559
	PRDX3	peroxiredoxin 3 isoform b	10	120,917,205	120,928,335	10935
	GRK5	G protein-coupled receptor kinase 5	10	120,957,186	121,205,120	2869
HSA13:83,353,643-101,852,029	SLITRK1	slit and trk like 1 protein	13	83,349,344	83,354,529	114798
	SLITRK6	slit and trk like 6	13	85,264,922	85,271,484	84189
	SLITRK5	SLIT and NTRK-like family, member 5	13	87,122,870	87,129,869	26050
	GPC5	glypican 5	13	90,848,887	92,317,486	2262
	GPC6	glypican 6 precursor	13	92,677,095	93,853,948	10082
	DCT	dopachrome tautomerase (dopachrome	13	93,889,841	93,929,924	1638
	TGDS	TDP-glucose 4,6-dehydratase	13	94,024,309	94,046,512	23483
	GPR180	G protein-coupled receptor 180 precursor	13	94,052,104	94,079,945	160897
	SOX21	SRY-box 21	13	94,159,886	94,162,390	11166

	ABCC4	ATP-binding cassette, sub-family C, member 4	13	94,470,090	94,751,684	10257
	CLDN10	claudin 10 isoform a	13	94,883,858	95,029,907	9071
	DZIP1	DAZ interacting protein 1 isoform 2	13	95,028,457	95,094,945	22873
	DNAJC3	DnaJ (Hsp40) homolog, subfamily C, member 3	13	95,127,483	95,241,283	5611
	UGCGL2	UDP-glucose ceramide glucosyltransferase-like 2	13	95,251,838	95,503,638	55757
	HS6ST3	heparan sulfate 6-O-sulfotransferase 3	13	95,541,093	96,289,812	266722
	OXGR1	oxoglutarate (alpha-ketoglutarate) receptor 1	13	96,435,973	96,444,605	27199
	MBNL2	muscleblind-like 2 isoform 1	13	96,672,574	96,844,373	10150
	RAP2A	RAP2A, member of RAS oncogene family	13	96,884,476	96,918,245	5911
	RANBP5	RAN binding protein 5	13	97,403,929	97,474,550	3843
	FARP1	FERM, RhoGEF, and pleckstrin domain protein 1	13	97,593,434	97,900,017	10160
	RNF113B	ring finger protein 113B	13	97,626,042	97,627,520	140432
	STK24	serine/threonine kinase 24 isoform b	13	97,902,414	97,972,253	8428
	SLC15A1	solute carrier family 15 (oligopeptide	13	98,134,057	98,202,909	6564
	DOCK9	dedicator of cytokinesis 9	13	98,243,744	98,536,661	23348
	PHGDHL1	phosphoglycerate dehydrogenase like 1	13	98,651,163	98,836,682	337867
	GPR18	G protein-coupled receptor 18	13	98,704,972	98,708,629	2841
	EBI2	EBV-induced G protein-coupled receptor 2	13	98,744,790	98,757,695	1880
	TM9SF2	transmembrane 9 superfamily member 2	13	98,951,728	99,013,278	9375
	CLYBL	citrate lyase beta like	13	99,056,936	99,342,824	171425
	ZIC5	zinc finger protein of the cerebellum 5	13	99,415,451	99,422,179	85416
	ZIC2	zinc finger protein of the cerebellum 2	13	99,432,319	99,437,019	7546
	PCCA	propionyl-Coenzyme A carboxylase, alpha	13	99,539,337	99,980,687	5095
	TMTC4	transmembrane and tetratricopeptide repeat	13	100,054,189	100,092,488	84899
	VGCNL1	voltage gated channel like 1	13	100,504,130	100,866,814	259232
	ITGBL1	integrin, beta-like 1 (with EGF-like repeat	13	100,902,966	101,166,794	9358
	FGF14	fibroblast growth factor 14 isoform 1B	13	101,173,037	101,852,125	2259
HSA14:73468734-90679692	C14orf44	hypothetical protein LOC145483	14	73,470,457	73,486,588	145483
	COQ6	coenzyme Q6 homolog isoform b	14	73,486,395	73,499,564	51004
	ENTPD5	ectonucleoside triphosphate diphosphohydrolase	14	73,502,935	73,552,386	957
	C14orf45	hypothetical protein LOC80127	14	73,586,209	73,602,546	80127
	ALDH6A1	aldehyde dehydrogenase 6A1 precursor	14	73,596,625	73,620,949	4329
	C14orf46		14	73,621,251	73,735,491	91750
	CHX10	ceh-10 homeo domain containing homolog	14	73,775,927	73,799,187	338917
	ABCD4	ATP-binding cassette, sub-family D, member 4	14	73,821,883	73,839,420	5826
	C14orf115	hypothetical protein LOC55237	14	73,884,964	73,896,463	55237
	NPC2	epididymal secretory protein E1 precursor	14	74,016,396	74,029,837	10577
	HBLD1	HESB like domain containing 1	14	74,030,220	74,031,922	122961

LTBP2	latent transforming growth factor beta binding	14	74,034,641	74,148,787	4053
KIAA0317	hypothetical protein LOC9870	14	74,197,709	74,249,560	9870
C14orf111	chromosome 14 open reading frame 111	14	74,249,602	74,273,141	51077
DLST	dihydrolipoamide S-succinyltransferase (E2	14	74,418,371	74,440,196	1743
RPS6KL1	ribosomal protein S6 kinase-like 1	14	74,442,099	74,458,898	83694
PGF	placental growth factor, vascular endothelial	14	74,478,292	74,492,044	5228
EIF2B2	eukaryotic translation initiation factor 2B,	14	74,539,364	74,546,045	8892
MLH3	mutL homolog 3 isoform 2	14	74,550,219	74,587,988	27030
ACYP1	erythrocyte acylphosphatase 1 isoform b	14	74,589,682	74,600,489	97
C14orf140	chromosome 14 open reading frame 140 isoform a	14	74,606,107	74,614,544	79696
NEK9	NIMA related kinase 9	14	74,620,727	74,663,389	91754
TMED10	transmembrane emp24 domain-containing protein 10	14	74,667,925	74,713,045	10972
FOS	v-fos FBJ murine osteosarcoma viral oncogene	14	74,815,283	74,818,663	2353
JDP2	Jun dimerization protein	14	74,968,589	75,006,908	122953
BATF	basic leucine zipper transcription factor,	14	75,058,536	75,083,085	10538
C14orf58	hypothetical protein LOC55640	14	75,114,744	75,184,260	55640
C14orf1	hypothetical protein LOC11161	14	75,185,883	75,196,912	11161
TTL5	tubulin tyrosine ligase-like family, member 5	14	75,197,373	75,491,174	23093
TGFB3	transforming growth factor, beta 3	14	75,494,194	75,517,242	7043
MGC16028		14	75,521,877	75,619,842	112752
C14orf118	hypothetical protein LOC55668 isoform 2	14	75,688,011	75,738,886	55668
ESRRB	estrogen-related receptor beta	14	75,907,478	76,036,961	2103
VASH1	vasohibin 1	14	76,298,284	76,319,109	22846
ANGEL1	angel homolog 1	14	76,323,338	76,348,983	23357
C14orf166E	hypothetical protein LOC145497	14	76,362,479	76,406,392	145497
C14orf4	chromosome 14 open reading frame 4	14	76,560,640	76,564,787	64207
KIAA1737	KIAA1737 protein	14	76,634,330	76,653,382	85457
ZDHHC22	zinc finger, DHHC domain containing 22	14	76,667,373	76,677,887	283576
TMEM63C	transmembrane protein 63C	14	76,717,922	76,795,591	57156
NGB	neuroglobin	14	76,801,586	76,807,408	58157
POMT2	protein O-mannosyltransferase	14	76,811,053	76,856,970	29954
GSTZ1	glutathione transferase zeta 1 isoform 1	14	76,857,106	76,867,692	2954
TMED8	transmembrane emp24 domain containing 8	14	76,877,867	76,913,149	283578
C14orf174	hypothetical protein LOC161394	14	76,913,514	76,927,340	161394
C14orf148	hypothetical protein LOC122945 isoform 1	14	76,942,748	76,958,985	122945
C14orf133	hypothetical protein LOC63894	14	76,962,770	76,993,657	63894
AHSA1	AHA1, activator of heat shock 90kDa protein	14	76,994,154	77,005,560	10598
THSD3	thrombospondin, type I domain containing 3	14	77,010,492	77,034,912	145501
SPTLC2	serine palmitoyltransferase, long chain base	14	77,043,024	77,152,863	9517

ALKBH1	alkylated DNA repair protein alkB homolog	14	77,208,501	77,244,109	8846
C14orf156	SRA stem-loop-interacting RNA-binding protein	14	77,244,187	77,253,692	81892
SNW1	SKI-interacting protein	14	77,253,696	77,297,250	22938
FLJ25976	hypothetical protein LOC283579	14	77,296,645	77,305,838	283579
ADCK1	aarF domain containing kinase 1	14	77,336,226	77,470,047	57143
NRXN3	neurexin 3 isoform 3 precursor	14	78,815,434	79,400,511	9369
DIO2	deiodinase, iodothyronine, type II	14	79,733,622	79,748,276	1734
C14orf145	hypothetical protein LOC145508	14	80,032,576	80,475,637	145508
TSHR	thyroid stimulating hormone receptor isoform 2	14	80,491,621	80,645,039	7253
GTF2A1	TFIIA alpha, p55 isoform 1	14	80,716,146	80,757,328	2957
STON2	stonin 2	14	80,806,663	80,934,680	85439
SEL1L	sel-1 suppressor of lin-12-like	14	81,007,645	81,069,886	6400
FLRT2	fibronectin leucine rich transmembrane protein	14	85,066,240	85,164,022	23768
GALC	galactosylceramidase isoform b precursor	14	87,499,412	87,529,660	2581
GPR65	G protein-coupled receptor 65	14	87,541,248	87,548,167	8477
KCNK10	potassium channel, subfamily K, member 10	14	87,721,005	87,807,008	54207
SPATA7	spermatogenesis-associated protein 7 isoform b	14	87,921,763	87,974,555	55812
PTPN21	protein tyrosine phosphatase, non-receptor type	14	88,003,869	88,090,876	11099
FLJ11806	nuclear protein UKp68 isoform 4	14	88,130,498	88,149,605	79882
EML5	echinoderm microtubule associated protein like	14	88,150,956	88,328,910	161436
TTC8	tetratricopeptide repeat domain 8 isoform C	14	88,360,730	88,414,087	123016
CHES1	checkpoint suppressor 1	14	88,692,277	88,953,127	1112
C14orf143	hypothetical protein LOC90141	14	89,331,093	89,490,786	90141
TDP1	tyrosyl-DNA phosphodiesterase 1	14	89,491,998	89,580,859	55775
KCNK13	potassium channel, subfamily K, member 13	14	89,597,860	89,721,948	56659
PSMC1	proteasome 26S ATPase subunit 1	14	89,792,646	89,808,717	5700
C14orf102	hypothetical protein LOC55051 isoform 1	14	89,814,150	89,868,032	55051
CALM1	calmodulin 1 (phosphorylase kinase, delta)	14	89,933,125	89,944,363	801
TTC7B	tetratricopeptide repeat domain 7B	14	90,076,685	90,352,514	145567
RPS6KA5	ribosomal protein S6 kinase, 90kDa, polypeptide	14	90,430,073	90,596,746	9252
C14orf159	hypothetical protein LOC80017 isoform c	14	90,650,796	90,761,449	80017
