Supplementary Note 1

Filtering to improve TSS peak identification

We incorporated two additional analysis steps to ensure that our peak calling results accurately represented lab method performance. First, we evaluated whether specialized filtering programs improved the specificity and precision of each method. All methods, except Oligo capping and GRO-cap, will sometimes add a G base not present in the genome at the 5' end of the sequence read because reverse transcriptase tends to use the 5' 7-methylguanosine (m^7G) cap as a template. We found improved precision with CapFilter[14], which removes peaks containing less than a set percentage of reads with an extra G base at the 5' end of the read (**Supplementary Fig. 2**). We used it with a threshold of 20% extra G reads for all subsequent analysis in this study. We also tested the strand invasion[25] and RAMPAGE second read[10] filters, which did not substantially improve performance of the relevant lab methods (**Supplementary Fig. 3a,b**). Second, in our initial peak calling analysis, we observed low sensitivity for all methods due to a high level of apparent false negatives compared to in the UCSC annotation[8] (**Supplementary Fig. 4**, dark blue bars). This was expected because transcripts that are expressed in our K-562 sample should reflect only a subset of all annotated TSSs. We therefore considered K-562 specific annotations, previously generated by DNase-Seq[26, 27], which identifies genomic regions with open chromatin such as promoters, and removed from consideration those TSS peaks without a DNase-Seq peak in K-562 cells, because these are likely to be TSSs that are not active in K-562 cells (true negatives). We used this filtered annotation set is all subsequent analyses.

Supplementary Note 2

TSSs at single base resolution

With 5’ RNA-Seq data, it is possible to determine a TSS at single base resolution. Previous studies have shown that the initiator sequence at the -1 and +1 position relative to the TSS is most often a pyrimidine and purine, respectively[34, 35] and has been shown to be true for TSSs categorized as narrow or broad. In our datasets, we observe this pyrimidine and purine pattern, though the methods do differ to some extent in their biases for the bases in these positions (**Supplementary Fig. 8a,b**). Finding explanations for these differences is beyond the scope of this paper.

Supplementary Note 3

Reproducibility and gene expression quantification

We also assessed reproducibility and gene expression quantification accuracy for each method. For CAGE, ≥94% of the peaks overlapped between any two pairs of libraries across four replicates (**Supplementary Fig. 9a**); for RAMPAGE, ≥90% of peaks in one technical replicate were present in the other; for STRT, 89% and 95% concurred between two replicates. The replicates had similar performance with respect to reads aligning near the 5’ end of annotated transcripts (**Supplementary Fig. 9b**) and with ERCC spike-ins (**Supplementary Tables 2-4**). We did not perform replicates of the other protocols: for Oligo Capping, because the Tobacco Acid Pyrophosphatase (TAP) enzyme is no longer commercially available; for NanoCAGE-XL, because it performed relatively poorly. To identify differential TSS usage, it is important for methods to accurately measure relative levels of gene expression. Expression levels measured for replicates of each method correlated well, with CAGE and RAMPAGE performing best (Pearson’s r=0.98-0.99, **Supplementary Fig. 10a-c**). We also compared the expression levels for each of the lab methods and standard RNA-Seq (**Supplementary Fig. 10d**). Expression levels

measured with CAGE and standard RNA-Seq were relatively well correlated (Pearson's *r*=0.86, **Supplementary Fig. 10d**), whereas RAMPAGE expression levels did not correlate as well (*r*=0.78, **Supplementary Fig. 10d**), which is in agreement with the expression levels measured for spike-in RNAs (**Supplementary Table 4**). While most of the method correlate fairly well with each other, NanoCAGE-XL did not due, at least in part, to it not detecting expression of many genes and being sequenced less deeply (**Supplementary Fig. 10d**).

Supplementary Note 4

Corroborative evidence for other methods

In addition to CAGE, we also investigated how corroborative evidence supported TSSs identified with the other 5' end RNA-Seq methods. Similar to CAGE, methods with good precision, RAMPAGE, STRT, and NanoCAGE-XL (**Fig. 3**), have support for most false positive and intergenic peaks (**Supplementary Fig. 11**). For GRO-cap, we see that most peaks have support from H3K4m3 and DNase-Seq, but not annotation or the consensus of other methods (**Supplementary Fig. 11**). This finding agrees well with previous findings that GRO-cap can identify TSSs in less stable transcripts that might not be annotated or found by other methods[17]. Finally, Oligo capping, which has poor precision (**Fig. 3**), had much less support for false positive peaks (**Supplementary Fig. 11**).

Supplementary Note 5

Discussion of excluded methods

The following methods were excluded because of their similarities to other methods or other issues. We did not test 5' SAGE[1] because it is another template switching method similar to

STRT, except that it concatenates 5' tag sequences, TL-Seq[2], TIF-Seq[3], and paired-end analysis of TSSs (PEAT)[4] because they are variants of oligo capping, DLAF[5], because it has limitations in recognizing weak alternative TSSs that might be present downstream from a strong TSS, Start-Seq[6], which uses short, capped nuclear RNA derived from stalled transcripts rather than full-length mRNA, because it is an indirect method that provides inaccurate measurements of the levels of TSS usage and requires the TAP enzyme, and Exo-Seq[7], which identifies 5' ends based on the m^7G cap's protection from exonuclease digestion, because it was published too recently to be included in our study. Finally, we note that there are sometimes multiple versions of a method, such as for NanoCAGE[8, 9] and CAGE[10, 11], and we tested only one of each.

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Supplementary Tables

Supplementary Table 1: Library sequencing metrics

For each library in this study, basic information about its construction, sequencing, analysis, and performance (QC metrics). All samples are from human sources. All K-562 data are from hard clipped STAR alignments; other data are from soft clipped STAR alignments. Metrics are only for read 1, except for Standard RNA-Seq. Reads aligned for CAGE Main and Standard RNA-Seq libraries are limited to PF reads.

Supplementary Table 2: ERCC spike-in RNA 5' end sequence coverage

For each K-562 library, this table reports the % (reads at position 10) / (all reads) for each spike-in transcript. Lowest for each library (red) and highest for each library (green). Used in pool of 8 (CAGE repeat & RAMPAGE repeat, highlighted in yellow). The CAGE Repeat, RAMPAGE Main, & STRT Main data are only from 1 of 2 lanes of sequencing. CAGE Main-6 was to be used to compare method performance for K-562 RNA, but not for spike-in transcripts because they are uncapped.

Supplementary Table 3: Reads aligning to ERCC spike-in RNA

For each K-562 library, this table reports the number of reads aligning to each ERCC spike-in. Used in pool of 8 (CAGE repeat & RAMPAGE repeat, yellow). Used in pool of 32 (green). CAGE repeat data are only from 1 of 2 lanes of sequencing.

Supplementary Table 4: Deviation of percentage of reads aligning to ERCC spike-in RNA between input and output

For each K-562 library and each ERCC spike-in, this table reports the mean quantitation error, the average of the absolute value of the difference between the input and output percentages. Used in pool of 8 (CAGE repeat & RAMPAGE repeat, yellow). Used in pool of 32 (green). CAGE repeat data are only from 1 of 2 lanes of sequencing. Calculations were done with reads aligning to the spike-ins added. Percentages shown are Absolute Value (Output - Input).

Supplementary Table 5: Analysis of eRNAs for Paraclu-called peaks in intergenic regions

For each method, corroborative data and analyses are shown to assess how many Paraclu-called peaks in intergenic regions could be eRNAs.

Supplementary Table 6: Analysis of eRNAs for paired peaks in intergenic regions

For each method, corroborative data and analyses are shown to assess how many paired peaks in intergenic regions could be eRNAs.

Supplementary Table 7: List of differentially TSS usage in brain neuron

For each brain-related sample, TSSs differentially used among the samples are listed. PR (peak reads) – only reads aligning to region defined as peak counted. NA values for p.adj are assigned when no comparison was made because PR is not above the threshold of 100 reads in two samples for that peak. Mean expression and Std. Dev are for the gene. Peak name is a concatenation of gene name, position in gene, and number peaks in gene. Scaled values are the percentage of peak reads in a given peak for that sample. One library was prepared from each sample (n=1).

Supplementary Table 8: Comparison of lab methods time, cost, and input

For each method, details about library construction are presented. Cost assumes eight reactions processed in single batch with a BioAnalyzer High Sensitivity DNA chip used for final QC.

Supplementary Table 9: Library sequencing details

For each library type, details about Illumina sequencing are reported.

Supplementary Table 10: External Datasets

Source for each external dataset is listed.

Supplementary Table 11: ERCC spike-in sequences

Complete sequence of each ERCC spike-in is listed.

Supplementary Table 12: Paraclu filtering parameters

For each sample, Paraclu filtering parameters (**Online Methods**) are listed.

Table S1

Method	Replicate	Read 1 trim	Read 2 trim	RNA Sample	RNA source (lot #)	Total Reads	Reads Aligned	% Reads Aligned	rRNA Bases	Coding Bases	UTR Bases	Intronic Bases	Intergenic Bases	Correct Strand Reads
CAGE	Main-1	3 + 6	0	K-562	Ambion (1409009)	8,340,957	7,631,449	91%	9.1%	15%	55%	7%	14%	99.7%
CAGE	Main-4	3 + 6	0	K-562	Ambion (1409009)	8,088,598	7,567,022	94%	13.5%	13%	50%	8%	16%	99.6%
CAGE	Main-6	3 + 6	0	K-562	Ambion (1409009)	7,842,538	7,391,797	94%	9.1%	14%	56%	7%	14%	99.7%
CAGE	Repeat	3 + 6	n/a	K-562	Ambion (1210018)	14,563,335	12,706,814	87%	17.0%	12%	52%	7%	13%	99.6%
Oligo Capping	Main	0	n/a	K-562	Ambion (1409009)	114,389,954	95,512,056	83%	0.6%	17%	63%	6%	15%	99.2%
RAMPAGE	Main	4	15	K-562	Ambion (1409009)	36,370,919	35,866,874	99%	12.7%	22%	53%	3%	9%	99.7%
RAMPAGE	Repeat	4	15	K-562	Ambion (1210018)	5,275,652	5,219,629	99%	11.7%	22%	55%	3%	8%	99.7%
STRT	Main	11	0	K-562	Ambion (1409009)	20,500,952	18,775,073	92%	1.8%	32%	49%	7%	10%	99.5%
STRT	Repeat	11	0	K-562	Ambion (1409009)	7,282,989	6,604,049	91%	1.1%	34%	46%	8%	11%	99.5%
STRT	Repeat-10ng	11	0	K-562	Ambion (1409009)	58,150,901	52,048,326	90%	2.9%	32%	48%	8%	9%	99.5%
STRT	Repeat-100ng	11	0	K-562	Ambion (1409009)	67,949,256	61,071,566	90%	3.7%	31%	48%	7%	9%	99.5%
STRT	RepeatA-1µg	11	0	K-562	Ambion (1409009)	55,966,586	50,909,724	91%	2.9%	32%	48%	7%	9%	99.5%
STRT	RepeatB-1µg	11	0	K-562	Ambion (1409009)	56,280,694	51,143,105	91%	2.7%	32%	48%	7%	9%	99.4%
STRT	RepeatA-5µg	11	0	K-562	Ambion (1409009)	52,227,631	47,471,979	91%	2.4%	33%	47%	8%	9%	99.4%
STRT	RepeatB-5µg	11	0	K-562	Ambion (1409009)	58,957,331	52,929,187	90%	2.5%	32%	47%	8%	10%	99.4%
STRT	RepeatA-10µg	11	0	K-562	Ambion (1409009)	55,749,637	50,211,000	90%	1.2%	36%	44%	8%	11%	99.6%
STRT	RepeatB-10µg	11	0	K-562	Ambion (1409009)	60,248,148	54,231,450	90%	1.1%	36%	43%	8%	11%	99.5%
NanoCAGE-XL	Main	6 + 12	0	K-562	Ambion (1409009)	6,957,156	6,407,741	92%	0.1%	34%	23%	27%	17%	99.6%
Standard RNA-Seq	Main	0	0	K-562	Ambion (not recorded)	59,695,850	54,819,796	92%	0.1%	28%	16%	33%	23%	99.3%
GRO-cap	Main	0	0	K-562	Core et al. *Nat Genet* (2014)	45,538,197	35,809,451	79%	1.3%	5%	26%	20%	47%	90.3%
CAGE	Main	3 + 6	0	Brain vascular smooth muscle cells	Sciencell	23,538,559	21,104,822	90%	13.1%	15%	60%	6%	8%	99.8%
CAGE	Main	3 + 6	0	Brain microvascular endothelial cells	Sciencell	31,173,330	29,588,075	95%	7.8%	15%	62%	5%	11%	99.8%
CAGE	Main	3 + 6	0	Neuron	Sciencell	15,837,644	14,862,756	94%	7.0%	13%	62%	7%	12%	99.6%
CAGE	Main	3 + 6	0	Astrocyte	Sciencell	17,716,230	16,602,202	94%	10.5%	14%	56%	7%	13%	99.7%
CAGE	Main	3 + 6	0	Fetal frontal lobe	Biochain	22,920,356	21,599,869	94%	5.5%	12%	61%	9%	13%	99.5%
CAGE	Main	3 + 6	0	Adult frontal lobe	Biochain	25,659,539	24,268,652	95%	16.8%	12%	48%	10%	15%	99.4%
CAGE	Main	3 + 6	0	Organoids	this paper	14,728,291	13,366,256	91%	10.6%	10%	39%	24%	18%	98.6%
CAGE	Main	3 + 6	0	*In vitro* excitatory neurons	this paper	26,257,718	24,499,412	93%	11.1%	12%	56%	11%	11%	99.4%

Table S2

Lab Method	CAGE	CAGE	CAGE	CAGE	Oligo Capping	RAMPAGE	RAMPAGE	STRT	STRT	STRT	STRT	STRT	STRT	STRT	STRT	STRT	STRT	NanoCAGE XL
Replicate	Main-1	Main-4	Main-6	Repeat	Main	Main	Repeat	Main	Repeat	Repeat-10ng	Repeat-100ng	RepeatA-1µg	RepeatB-1µg	RepeatA-5µg	RepeatB-5µg	RepeatA-10µg	RepeatB-10µg	Main
Capped?	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	Yes
ERCC-00002	98.6%	99.0%	47.1%		91.7%	98.6%		96.9%	96.9%	96.8%	96.8%	96.2%	96.2%	96.7%	96.5%	94.3%	93.7%	39.3%
ERCC-00003	99.1%	98.0%	61.0%		88.6%	99.2%		98.8%	97.8%	98.1%	98.6%	98.4%	98.6%	98.6%	98.5%	98.1%	98.0%	55.5%
ERCC-00012	98.8%	99.2%	61.9%		97.0%	98.7%		96.9%	97.3%	95.0%	95.9%	95.7%	95.7%	96.1%	95.9%	94.6%	95.0%	84.8%
ERCC-00017	96.1%	96.8%	71.8%		81.4%	97.7%		98.2%	98.2%	96.4%	97.0%	96.9%	96.7%	97.3%	97.0%	96.9%	96.8%	60.3%
ERCC-00028	97.6%	98.6%	62.5%		74.0%	98.8%		97.4%	97.9%	97.3%	97.5%	97.7%	97.7%	97.9%	97.8%	97.7%	97.6%	37.8%
ERCC-00031	96.4%	97.4%	32.1%		64.5%	98.8%		97.4%	97.2%	95.7%	95.6%	96.2%	96.1%	96.4%	96.6%	95.9%	96.2%	55.1%
ERCC-00034	98.2%	98.4%	82.6%		77.0%	98.9%		94.4%	91.4%	94.6%	94.3%	93.1%	93.9%	93.4%	93.4%	88.9%	88.0%	34.7%
ERCC-00035	97.7%	98.3%	71.7%		55.2%	99.1%		97.3%	96.7%	93.7%	95.0%	94.8%	94.7%	94.7%	95.2%	93.8%	94.3%	71.3%
ERCC-00041	97.4%	97.9%	64.4%	98.1%	77.5%	99.1%	97.9%	97.2%	96.9%	96.0%	96.7%	96.3%	96.5%	96.8%	96.6%	95.0%	94.7%	81.5%
ERCC-00042	93.5%	83.8%	62.7%	84.7%	36.0%	98.7%	98.2%	93.1%	89.1%	90.3%	90.3%	88.6%	88.3%	90.0%	88.7%	82.1%	79.2%	34.3%
ERCC-00043	96.7%	96.8%	28.1%	97.6%	52.8%	87.0%	79.7%	95.8%	96.4%	95.0%	96.1%	94.8%	95.2%	95.0%	95.0%	93.2%	93.9%	19.1%
ERCC-00044	98.0%	98.6%	66.7%	98.9%	87.4%	98.8%	99.5%	98.7%	98.8%	98.0%	97.7%	98.0%	97.4%	97.9%	97.7%	97.0%	96.7%	65.9%
ERCC-00048	97.7%	98.1%	63.4%	98.8%	59.0%	99.2%	99.7%	98.0%	96.4%	97.2%	96.8%	96.1%	96.5%	95.9%	96.8%	93.7%	93.5%	34.5%
ERCC-00053	97.8%	98.0%	68.0%	98.6%	57.9%	100.0%	99.7%	97.0%	95.4%	96.8%	96.0%	95.8%	95.6%	95.3%	95.5%	94.6%	94.8%	52.7%
ERCC-00057	98.7%	99.1%	80.0%	98.8%	95.2%	98.0%	98.6%	97.0%	96.8%	95.7%	96.6%	96.4%	95.9%	96.5%	96.1%	95.0%	95.1%	38.5%
ERCC-00058	98.6%	99.0%	74.4%	98.9%	92.4%	97.2%	96.3%	95.2%	93.7%	90.1%	91.4%	91.6%	91.1%	91.7%	91.7%	90.7%	90.4%	67.5%
ERCC-00061	95.4%	96.4%	45.2%		88.6%	98.8%		94.3%	96.7%	93.2%	93.6%	93.9%	94.1%	93.8%	93.7%	91.2%	91.5%	55.9%
ERCC-00062	98.4%	98.3%	50.0%		73.3%	99.5%		93.8%	89.5%	93.2%	91.8%	90.6%	91.4%	90.7%	91.8%	85.8%	87.4%	63.0%
ERCC-00069	96.9%	97.3%	45.1%		73.1%	98.0%		95.5%	94.9%	95.2%	94.7%	95.0%	95.0%	95.2%	95.5%	94.2%	94.1%	60.2%
ERCC-00078	96.9%	98.2%	50.0%		78.3%	97.8%		97.2%	97.1%	96.3%	96.1%	96.2%	96.5%	96.6%	96.9%	95.3%	94.7%	51.8%
ERCC-00085	98.9%	99.2%	73.3%		73.6%	98.8%		97.9%	95.7%	96.7%	96.2%	96.3%	96.7%	96.3%	96.1%	93.9%	93.7%	38.9%
ERCC-00096	98.9%	99.1%	50.0%		92.9%	98.4%		96.9%	96.2%	94.7%	95.1%	95.0%	94.4%	94.5%	95.7%	93.7%	93.7%	63.5%
ERCC-00098	97.7%	97.7%	91.5%		87.5%	98.8%		98.0%	97.9%	96.2%	96.7%	96.8%	97.2%	97.1%	97.3%	97.2%	97.3%	66.5%
ERCC-00108	98.4%	98.9%	46.7%		83.0%	97.7%		94.9%	94.7%	94.2%	95.2%	94.1%	94.3%	94.9%	94.8%	92.8%	92.4%	19.3%
ERCC-00111	98.4%	98.1%	35.9%		70.0%	93.4%		92.9%	87.6%	92.5%	93.5%	92.3%	91.7%	91.7%	91.7%	83.1%	81.7%	14.5%
ERCC-00112	96.2%	97.5%	44.4%		91.2%	97.1%		97.1%	94.9%	94.7%	94.9%	95.4%	95.5%	95.4%	95.7%	93.4%	93.7%	67.1%
ERCC-00117	98.3%	98.4%	55.6%		97.7%	98.5%		98.8%	98.4%	97.4%	98.0%	97.9%	98.0%	98.2%	98.1%	97.7%	97.7%	59.6%
ERCC-00126	98.6%	99.0%	73.7%		15.1%	95.6%		96.7%	94.4%	91.3%	91.9%	91.5%	91.2%	92.4%	92.5%	87.2%	87.8%	53.1%
ERCC-00130	98.1%	99.0%	64.6%		91.2%	99.2%		96.9%	96.4%	96.0%	95.9%	96.1%	96.0%	95.7%	96.4%	95.2%	95.4%	65.2%
ERCC-00136	98.6%	98.4%	68.4%		63.3%	98.5%		98.0%	97.6%	98.0%	97.8%	97.8%	98.1%	97.8%	98.1%	97.1%	97.1%	16.7%
ERCC-00145	97.5%	97.0%	43.2%		68.9%	98.4%		95.8%	95.2%	94.4%	94.6%	94.1%	94.5%	95.0%	94.6%	92.1%	92.5%	47.9%
ERCC-00157	97.5%	98.6%	77.3%		90.8%	97.2%		97.3%	94.6%	96.5%	96.0%	96.3%	95.8%	96.2%	96.5%	94.4%	92.9%	55.4%
Average	**97.7%**	**97.8%**	**59.8%**	**96.8%**	**75.8%**	**97.9%**	**96.2%**	**96.6%**	**95.6%**	**95.2%**	**95.5%**	**95.2%**	**95.2%**	**95.4%**	**95.5%**	**93.3%**	**93.2%**	**51.0%**
Median	**97.9%**	**98.3%**	**62.6%**	**98.7%**	**77.9%**	**98.6%**	**98.4%**	**97.0%**	**96.4%**	**95.7%**	**96.0%**	**95.9%**	**95.8%**	**95.8%**	**96.0%**	**94.3%**	**94.0%**	**55.2%**

Table S3

Lab Method		CAGE	CAGE	CAGE	CAGE	Oligo Capping	Rampage	Rampage	STRT	STRT	STRT	STRT	STRT	STRT	STRT	STRT	STRT	STRT	NanoCAGE-XL
Replicate		Main-1	Main-4	Main-6	Repeat	Main	Main	Repeat	Main	Repeat	Repeat-10ng	Repeat-100ng	RepeatA-1µg	RepeatB-1µg	RepeatA-5µg	RepeatB-5µg	RepeatA-10µg	RepeatB-10µg	Main
Capped?		Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	Yes
% spike reads		0.89%	0.92%	0.02%	0.88%	0.20%	0.47%	0.34%	1.22%	2.10%	1.38%	1.33%	1.77%	1.89%	1.86%	1.81%	2.23%	2.21%	1.36%
# spike reads		74,151	74,168	1,315	62,919	228,993	170,253	18,072	250,839	153,246	799,677	903,712	993,099	1,062,592	973,024	1,068,625	1,244,371	1,334,158	94,322
Total # reads	In 32?	8,340,957	8,088,598	7,842,538	7,112,926	114,389,954	36,370,919	5,275,652	20,500,952	7,282,989	58,150,901	67,949,256	55,966,586	56,280,694	52,227,631	58,957,331	55,749,637	60,248,148	6,957,156
ERCC-00002	Y	2,021	2,123	17	8	8,087	3,538	0	5,527	3,319	21,723	24,143	25,468	25,985	25,181	28,940	26,581	27,526	619
ERCC-00003	Y	2,448	2,393	82	9	8,592	1,013	0	9,213	5,369	24,836	29,212	30,456	33,672	31,176	33,831	37,007	38,239	4,448
ERCC-00004	N	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0
ERCC-00009	N	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
ERCC-00012	Y	3,272	3,066	21	6	10,589	6,744	0	8,301	5,430	25,985	30,501	33,108	36,935	32,627	36,526	41,835	43,047	3,284
ERCC-00013	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00014	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00016	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00017	Y	2,590	2,711	39	14	3,420	2,000	0	15,600	10,620	44,014	48,937	57,399	60,891	56,793	62,835	87,996	97,242	3,050
ERCC-00019	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00022	N	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
ERCC-00024	N	0	0	0	0	0	0	0	0	0	14	21	19	20	5	16	14	12	0
ERCC-00025	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00028	Y	3,450	3,330	40	33	8,415	5,747	0	14,111	10,408	43,104	48,654	58,783	61,814	57,954	62,308	85,668	93,039	2,334
ERCC-00031	Y	2,844	2,697	84	14	14,333	6,324	0	10,407	6,453	30,053	33,150	38,609	40,879	38,995	41,911	56,293	64,526	3,885
ERCC-00033	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00034	Y	2,726	2,772	23	3	3,245	7,216	0	3,757	1,813	14,196	16,633	16,297	17,412	15,220	17,142	14,407	15,237	908
ERCC-00035	Y	3,170	3,327	46	4	2,119	8,657	0	6,263	3,903	17,935	20,998	24,324	25,245	22,655	24,718	30,904	34,828	2,841
ERCC-00039	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00040	N	3	1	0	2	0	0	0	0	0	52	28	25	21	17	23	13	17	0
ERCC-00041	Y	2,048	2,064	59	9,122	3,978	6,722	2,861	10,729	6,195	32,665	38,268	42,946	46,453	41,266	45,953	51,933	51,928	5,019
ERCC-00042	Y	1,179	1,189	51	4,340	929	657	222	2,247	1,032	6,843	8,136	7,239	8,083	7,708	8,745	6,229	6,423	353
ERCC-00043	Y	906	802	32	6,396	1,961	831	617	4,358	3,859	14,317	17,576	17,276	19,655	18,518	20,708	25,531	26,541	12,340
ERCC-00044	Y	2,310	2,191	27	8,135	2,214	5,461	2,676	7,321	4,511	24,578	27,042	31,763	33,854	29,753	33,618	38,083	39,992	1,342
ERCC-00046	N	0	0	0	1	0	0	0	6	0	0	0	0	0	0	0	0	0	0
ERCC-00048	Y	2,039	2,229	41	11,182	1,976	4,557	3,236	7,684	3,619	24,339	27,836	27,934	30,074	26,793	30,665	27,396	28,902	1,707
ERCC-00051	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00053	Y	1,615	1,519	50	9,370	901	5,871	6,066	3,167	2,170	8,809	10,699	10,896	12,384	11,586	11,493	16,198	17,074	2,933
ERCC-00054	N	1	3	0	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00057	Y	1,316	1,224	20	5,416	9,947	1,573	1,549	6,613	4,032	25,865	31,068	32,080	35,112	30,792	33,581	37,887	40,705	467
ERCC-00058	Y	2,555	2,705	39	8,723	2,205	2,486	845	8,870	5,383	25,798	28,767	33,695	34,522	32,683	35,224	45,625	50,029	3,279
ERCC-00059	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00060	N	0	0	1	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00061	Y	1,905	1,963	31	7	3,128	5,663	0	4,860	2,608	16,845	20,437	21,189	22,220	20,551	21,777	22,193	24,189	2,791
ERCC-00062	Y	2,594	2,364	52	15	2,481	18,773	0	1,773	988	5,379	6,091	5,782	6,649	6,094	6,798	6,995	7,922	7,911
ERCC-00067	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00069	Y	2,702	2,776	51	9	3,823	2,142	0	5,798	4,116	28,904	23,618	26,703	28,534	25,585	28,658	34,537	35,651	1,927
ERCC-00071	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00073	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00074	N	0	0	0	1	0	0	0	13	0	1	0	0	0	0	0	0	0	0
ERCC-00075	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00076	N	8	11	0	2	45	2	0	7	4	80	68	75	70	77	69	54	38	1
ERCC-00077	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00078	Y	2,087	2,111	28	6	7,059	3,480	0	6,438	4,089	20,285	24,159	26,387	26,655	26,053	28,599	33,602	34,319	5,278
ERCC-00079	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00081	N	0	0	0	0	13	0	0	0	0	0	0	0	7	1	0	2	6	1
ERCC-00083	N	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0
ERCC-00084	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00085	Y	2,057	1,976	15	7	7,144	3,843	0	5,358	2,803	21,207	23,504	22,835	25,381	21,638	24,246	20,913	22,115	468
ERCC-00086	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00092	N	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
ERCC-00095	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00096	Y	2,270	2,086	22	3	12,477	4,638	0	7,896	4,700	26,310	29,230	32,233	33,642	31,180	35,392	37,697	42,250	2,901
ERCC-00097	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00098	Y	2,484	2,611	47	11	5,194	10,546	0	13,023	9,834	33,921	39,178	50,058	52,334	49,544	52,731	85,825	91,027	5,759
ERCC-00099	N	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00104	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00108	Y	1,054	1,048	15	1	3,452	974	0	4,575	2,258	17,368	19,822	18,380	20,669	18,840	20,586	19,549	20,165	430
ERCC-00109	N	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00111	Y	1,733	1,732	39	2	1,459	1,627	0	4,167	1,724	16,655	19,363	18,211	19,369	16,237	18,364	12,917	13,528	849
ERCC-00112	Y	1,340	1,497	27	17	4,194	2,501	0	9,118	4,985	23,321	25,939	27,981	30,207	27,451	31,243	31,319	34,731	2,775
ERCC-00113	N	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0
ERCC-00116	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00117	Y	3,496	3,655	54	19	63,292	10,534	0	15,722	9,773	46,660	54,806	63,601	69,829	62,217	65,748	87,638	92,372	3,300
ERCC-00120	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00123	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00126	Y	2,693	2,896	19	9	2,277	1,421	0	7,127	3,134	20,766	25,308	25,951	27,182	25,215	27,424	18,769	19,555	1,387
ERCC-00130	Y	5,571	5,371	127	14	14,054	17,888	0	13,840	8,817	42,766	45,872	54,593	57,313	53,838	58,396	74,446	82,738	2,474
ERCC-00131	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00134	N	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00136	Y	1,674	1,580	19	1	3,641	9,861	0	11,639	6,761	41,925	44,644	48,903	51,961	48,044	54,212	59,801	64,566	4,175
ERCC-00137	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00138	N	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00142	N	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00143	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00144	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00145	Y	2,595	2,746	74	13	7,099	5,378	0	8,787	5,006	26,756	30,561	31,878	34,683	32,333	35,200	38,063	41,633	2,034
ERCC-00147	N	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00148	N	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
ERCC-00150	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00154	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00156	N	0	0	0	0	0	0	0	0	0	6	0	1	0	0	0	0	0	1
ERCC-00157	Y	1,392	1,398	22	1	5,214	1,585	0	6,509	3,530	25,396	29,443	30,021	32,863	28,404	30,945	30,451	32,045	1,051
ERCC-00158	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00160	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00162	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00163	N	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00164	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00165	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00168	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00170	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ERCC-00171	N	0	0	0	0	3	0	0	2	0	0	0	0	0	0	0	0	0	0

Table S4

Lab Method		**CAGE**	**CAGE**	**CAGE**	**CAGE**	**Oligo Capping**	**Rampage**	**Rampage**	**STRT**	**STRT**	**STRT**	**STRT**	**STRT**	**STRT**	**STRT**	**STRT**	**STRT**	**STRT**	**NanoCAGE-XL**
Replicate		Main-1	Main-4	Main-6	Repeat	Main	Main	Repeat	Main	Repeat	Repeat-10ng	Repeat-100ng	RepeatA-1µg	RepeatB-1µg	RepeatA-5µg	RepeatB-5µg	RepeatA-10µg	RepeatB-10µg	Main
Capped?	In 32?	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	Yes
ERCC-00002	Y	1.3%	1.2%	1.6%		0.5%	2.0%		0.7%	0.7%	0.1%	0.2%	0.3%	0.4%	0.3%	0.1%	0.7%	0.8%	3.4%
ERCC-00003	Y	1.4%	1.4%	5.0%		1.9%	1.3%		2.4%	2.2%	1.8%	2.0%	1.8%	1.9%	1.9%	1.9%	1.7%	1.6%	2.9%
ERCC-00012	Y	2.8%	2.5%	0.0%		3.0%	2.4%		1.7%	1.9%	1.6%	1.7%	1.7%	1.8%	1.7%	1.8%	1.7%	1.6%	1.9%
ERCC-00017	Y	0.7%	0.9%	0.7%		1.3%	1.6%		3.9%	4.7%	3.2%	3.1%	3.5%	3.5%	3.6%	3.6%	4.8%	5.0%	0.4%
ERCC-00028	Y	1.4%	1.2%	0.6%		0.4%	0.1%		3.2%	4.3%	2.9%	2.9%	3.5%	3.4%	3.5%	3.4%	4.4%	4.5%	0.8%
ERCC-00031	Y	1.1%	0.9%	4.5%		3.6%	1.0%		2.2%	2.3%	1.8%	1.8%	2.0%	1.9%	2.1%	2.0%	2.6%	2.9%	1.4%
ERCC-00034	Y	0.9%	0.9%	0.2%		3.2%	0.4%		0.4%	0.8%	0.2%	0.1%	0.3%	0.3%	0.4%	0.3%	0.8%	0.8%	3.6%
ERCC-00035	Y	1.5%	1.7%	1.3%		1.9%	2.3%		0.3%	0.4%	0.1%	0.1%	0.3%	0.2%	0.1%	0.1%	0.3%	0.4%	0.2%
ERCC-00041	Y	1.3%	1.3%	2.1%	1.0%	2.3%	0.1%	2.3%	1.9%	1.7%	1.7%	1.9%	2.0%	2.0%	1.9%	2.0%	1.8%	1.5%	1.3%
ERCC-00042	Y	0.7%	0.7%	2.0%	0.9%	1.9%	2.0%	6.6%	1.0%	1.2%	1.0%	1.0%	1.2%	1.1%	1.1%	1.1%	1.4%	1.4%	2.0%
ERCC-00043	Y	2.0%	2.1%	0.1%	0.5%	2.4%	2.7%	7.3%	0.6%	0.2%	0.5%	0.4%	0.6%	0.5%	0.4%	0.4%	0.3%	0.3%	9.9%
ERCC-00044	Y	1.2%	1.4%	1.3%	1.5%	3.4%	1.1%	0.3%	0.4%	0.4%	0.3%	0.4%	0.2%	0.2%	0.3%	0.2%	0.3%	0.4%	2.9%
ERCC-00048	Y	1.8%	1.6%	0.4%	2.6%	3.7%	1.9%	2.7%	0.5%	1.2%	0.5%	0.5%	0.7%	0.7%	0.8%	0.7%	1.3%	1.4%	2.7%
ERCC-00053	Y	0.6%	0.7%	1.9%	5.8%	2.3%	0.7%	24.4%	0.6%	0.4%	0.8%	0.7%	0.8%	0.7%	0.7%	0.8%	0.6%	0.6%	0.4%
ERCC-00057	Y	3.0%	3.1%	1.1%	7.3%	0.4%	3.8%	7.4%	0.0%	0.0%	0.6%	0.8%	0.6%	0.6%	0.5%	0.5%	0.4%	0.4%	4.3%
ERCC-00058	Y	0.5%	0.3%	0.2%	0.8%	2.9%	2.4%	8.4%	0.4%	0.3%	0.1%	0.0%	0.2%	0.1%	0.2%	0.1%	0.5%	0.6%	0.4%
ERCC-00061	Y	1.1%	1.1%	0.4%		2.3%	0.4%		0.9%	1.1%	0.7%	0.5%	0.7%	0.7%	0.7%	0.8%	1.0%	1.0%	0.7%
ERCC-00062	Y	1.2%	0.9%	0.9%		1.2%	8.7%		2.3%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.5%	2.4%	6.1%
ERCC-00069	Y	0.9%	1.0%	1.6%		1.1%	1.5%		0.1%	0.4%	1.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.5%	0.4%	0.7%
ERCC-00078	Y	0.0%	0.0%	4.6%		0.2%	0.8%		4.2%	4.1%	4.2%	4.1%	4.1%	4.2%	4.1%	4.1%	4.1%	4.2%	2.7%
ERCC-00085	Y	0.1%	0.2%	1.1%		0.3%	0.6%		0.1%	0.4%	0.4%	0.3%	0.0%	0.1%	0.0%	0.0%	0.6%	0.6%	2.3%
ERCC-00096	Y	0.1%	0.2%	1.0%		2.5%	0.2%		0.5%	0.4%	0.6%	0.6%	0.6%	0.5%	0.6%	0.7%	0.4%	0.5%	0.1%
ERCC-00098	Y	0.2%	0.4%	0.6%		0.9%	3.0%		2.3%	3.5%	1.3%	1.4%	2.1%	2.0%	2.2%	2.0%	4.0%	3.9%	3.0%
ERCC-00108	Y	1.1%	1.1%	2.3%		1.0%	1.9%		1.6%	2.0%	1.3%	1.2%	1.6%	1.5%	1.5%	1.5%	1.9%	1.9%	2.0%
ERCC-00111	Y	0.0%	0.0%	1.5%		1.7%	1.4%		2.8%	3.3%	2.4%	2.3%	2.6%	2.6%	2.8%	2.7%	3.4%	3.4%	1.4%
ERCC-00112	Y	0.6%	0.4%	2.8%		0.6%	1.0%		1.2%	1.6%	2.0%	2.0%	2.1%	2.0%	2.1%	2.0%	2.4%	2.3%	0.5%
ERCC-00117	Y	1.6%	1.8%	0.6%		24.5%	3.1%		1.6%	1.7%	1.2%	1.4%	1.7%	1.9%	1.7%	1.5%	2.4%	2.2%	0.4%
ERCC-00126	Y	0.5%	0.8%	3.7%		2.2%	2.3%		2.3%	3.1%	2.5%	2.3%	2.5%	2.6%	2.5%	2.6%	3.6%	3.7%	1.7%
ERCC-00130	Y	4.4%	4.2%	5.1%		3.1%	7.4%		0.9%	1.2%	0.8%	0.5%	0.9%	0.8%	1.0%	0.9%	1.4%	1.6%	0.4%
ERCC-00136	Y	1.0%	1.2%	2.7%		1.7%	2.5%		0.5%	0.2%	1.1%	0.8%	0.8%	0.7%	0.8%	0.9%	0.6%	0.7%	1.1%
ERCC-00145	Y	0.6%	0.8%	0.6%		0.2%	0.2%		1.6%	1.8%	1.7%	1.7%	1.9%	1.8%	1.8%	1.8%	2.0%	2.0%	0.8%
ERCC-00157	Y	1.1%	1.1%	1.6%		0.7%	2.1%		0.6%	0.9%	0.1%	0.0%	0.2%	0.1%	0.3%	0.3%	0.8%	0.8%	1.9%
	Average	**1.1%**	**1.1%**	**1.7%**	**2.6%**	**2.5%**	**2.0%**	**7.4%**	**1.4%**	**1.6%**	**1.3%**	**1.2%**	**1.4%**	**1.4%**	**1.4%**	**1.4%**	**1.7%**	**1.7%**	**2.0%**
	Median	**1.1%**	**1.0%**	**1.3%**	**1.3%**	**1.9%**	**1.7%**	**7.0%**	**1.0%**	**1.2%**	**1.1%**	**0.9%**	**1.0%**	**1.0%**	**1.0%**	**1.0%**	**1.4%**	**1.5%**	**1.6%**

Table S5

Method	Total Intergenic Peaks	Overlap DNase-Seq	Percent of total	Overlap H3K27ac	Percent of total	Overlap both	Percent of total	Overlap eRNA DENdb	Percent of total	Overlap eRNA ENCODE	Percent of total
GRO-cap	5,890	4,898	83%	5,584	95%	4,676	79%	5,619	95%	5,378	91%
RAMPAGE	654	468	72%	577	88%	439	67%	602	92%	508	78%
CAGE	633	503	79%	586	93%	478	76%	595	94%	527	83%
Oligo capping	503	245	49%	329	65%	236	47%	355	71%	280	56%
STRT	138	113	82%	131	95%	112	81%	133	96%	117	85%
NanoCAGE-XL	23	18	78%	21	91%	16	70%	23	100%	17	74%

Table S6

Method	Total Peaks	Overlap DNase-Seq	Percent of total	Overlap H3K27ac	Percent of total	Overlap both	Percent of total	Overlap eRNA DENdb	Percent of total	Overlap eRNA ENCODE	Percent of total
GRO-cap	10,763	8,486	79%	8,616	80%	6,839	64%	10,411	97%	7,317	68%
CAGE	252	221	88%	237	94%	213	85%	242	96%	213	85%
Oligo capping	170	110	65%	127	75%	104	61%	136	80%	110	65%
RAMPAGE	161	138	86%	152	94%	135	84%	156	97%	138	86%
STRT	50	39	78%	46	92%	38	76%	49	98%	38	76%
NanoCAGE-XL	16	14	88%	16	100%	13	81%	16	100%	12	75%

Table S8

Method	# of Steps	Time (hours)	Cost per library ($)	Input (μg)
CAGE	14	62	81	5
RAMPAGE	8	29	104	5
STRT	4	9	27	0.01
Oligo Capping	7	41	315	40
NanoCAGE-XL	6	11	177	7.5

Table S9

Lab method	Sequencer	Read length (bases)	Paired end?	Custom sequencing primer (5' to 3')	Index Read	PhiX added (%)
CAGE	HiSeq2500	50	yes, no	no	In-line	1%, 0.5%
RAMPAGE	MiSeq	75	yes	TACACTAGTCGAACTGAAGGTCTCCAGCAGGG	Separate	1%
STRT (10ng)	MiSeq	75	yes	no	Separate	1%
STRT (8 samples, higher input)	NextSeq	75	yes	no	Separate	1%
Oligo Capping	HiSeq2500	50	yes	no	None	1%
NanoCAGE XL	MiSeq	75	yes	GAGATCTACACTAGTCGAACTGAAGGTCTCCAGCA	In-line	30%
Standard RNA-Seq	HiSeq2500	101	yes	no	Separate	not known

Table S10

Method	Sample/Tissue	URL
GRO-cap	K-562	https://trace.ncbi.nlm.nih.gov/Traces/sra/?run=SRR1552480
CAGE (Rep. A)	K-562	https://trace.ncbi.nlm.nih.gov/Traces/sra/?run=SRR390536
CAGE (Rep. B)	K-562	https://trace.ncbi.nlm.nih.gov/Traces/sra/?run=SRR390537
RAMPAGE	K-562	https://trace.ncbi.nlm.nih.gov/Traces/sra/?run=SRR424591
CAGE	MCF-7	https://www.encodeproject.org/experiments/ENCSR000CJO/
Oligo capping	MCF-7	https://trace.ncbi.nlm.nih.gov/Traces/sra/?run=SRR013349, https://trace.ncbi.nlm.nih.gov/Traces/sra/?run=SRR013351
CAGE	mouse hippocampus	http://fantom.gsc.riken.jp/5/sstar/FF:13-16E8
STRT	mouse hippocampus	https://www.ncbi.nlm.nih.gov//geo/query/acc.cgi?acc=GSE60361
CAGE	Adult Frontal Lobe	http://fantom.gsc.riken.jp/5/datafiles/latest/basic/human.tissue.hCAGE/frontal%2520lobe%252c%2520adult%252c%2520pool1.CNhs10647.10040-101F4.hg19.nobarcode.bam
CAGE	Fetal Temporal Lobe	http://fantom.gsc.riken.jp/5/datafiles/latest/basic/human.tissue.hCAGE/temporal%2520lobe%252c%2520fetal%252c%2520donor1%252c%2520tech_rep2.CNhs12996.10063-101H9.hg19.nobarcode.bam
CAGE	Adult Temporal Lobe	http://fantom.gsc.riken.jp/5/datafiles/latest/basic/human.tissue.hCAGE/temporal%2520lobe%252c%2520adult%252c%2520pool1.CNhs10637.10031-101E4.hg19.nobarcode.bam
CAGE	Adult Parietal Lobe	http://fantom.gsc.riken.jp/5/datafiles/latest/basic/human.tissue.hCAGE/parietal%2520lobe%252c%2520adult%252c%2520pool1.CNhs10641.10034-101E7.hg19.nobarcode.bam
CAGE	Fetal Parietal Lobe	http://fantom.gsc.riken.jp/5/datafiles/latest/basic/human.tissue.hCAGE/parietal%2520lobe%252c%2520fetal%252c%2520donor1.CNhs11782.10072-101I9.hg19.nobarcode.bam
CAGE	Adult Occipital Lobe	http://fantom.gsc.riken.jp/5/datafiles/latest/basic/human.tissue.hCAGE/occipital%2520lobe%252c%2520adult%252c%2520donor1.CNhs11787.10076-102A4.hg19.nobarcode.bam
CAGE	Fetal Occipitial Lobe	http://fantom.gsc.riken.jp/5/datafiles/latest/basic/human.tissue.hCAGE/occipital%2520lobe%252c%2520fetal%252c%2520donor1.CNhs11784.10073-102A1.hg19.nobarcode.bam
CAGE	iPS	http://fantom.gsc.riken.jp/5/datafiles/latest/basic/human.timecourse.hCAGE/iPS%2520differentiation%2520to%2520neuron%252c%2520control%2520donor%2520C11-CRL2429%252c%2520day18%252c%2520rep2.CNhs13825.13428-144D8.hg19.nobarcode.bam,http://fantom.gsc.riken.jp/5/datafiles/latest/basic/human.timecourse.hCAGE/iPS%2520differentiation%2520to%2520neuron%252c%2520control%2520donor%2520C11-CRL2429%252c%2520day18%252c%2520rep1.CNhs13916.13424-144D4.hg19.nobarcode.bam

Table S11

ERCC Spike-in	Sequence
ERCC-00002	GGGAATTCTCCAGATTACTTCCATTTCCGCCCAAGCTGCTCACAGTATACGGGCGTCGGCATCCAGACCGTCGGCTGATCGTG GTTTTACTAGGCTAGACTAGCGTACGAGCACTATGGTCAGTAATTCCTGGAGGAATAGGTACCAAGAAAAAAACGAACCTTTG GGTTCCAGAGCTGTACGGTCGCACTGAACTCGGATAGGTCTCAGAAAAACGAAATATAGGCTTACGGTAGGTCCGAATGGCAC AAAGCTTGTTCCGTTAGCTGGCATAAGATTCCATGCCTAGATGTGATACACGTTTCTGGAAACTGCCTCGTCATGCGACTGTT CCCCGGGGTCAGGGCCGCTGGTATTTGCTGTAAAGAGGGGCGTTGAGTCCGTCCGACTTCACTGCCCCCTTTCAGCCTTTTGG GTCCTGTATCCCAATTCTCAGAGGTCCCGCCGTACGCTGAGGACCACCTGAAACGGGCATCGTCGCTCTTCGTTGTTCGTCGA CTTCTAGTGTGGAGACGAATTGCCAGAATTATTAACTGCGCAGTTAGGGCAGCGTCTGAGGAAGTTTGCTGCGGTTTCGCCTT GACCGCGGGAAGGAGACATAACGATAGCGACTCTGTCTCAGGGGATCTGCATATGTTTGCAGCATACTTTAGGTGGGCCTTGG CTTCCTTCCGCAGTCAAAACCGCGCAATTATCCCCGTCCTGATTTACTGGACTCGCAACGTGGGTCCATCAGTTGTCCGTATA CCAAGACGTCTAAGGGCGGTGTACACCCTTTTGAGCAATGATTGCACAACCTGCGATCACCTTATACAGAATTATCAATCAAG CTCCCCGAGGAGCGGACTTGTAAGGACCGCCGCTTTCGCTCGGGTCTGCGGGTTATAGCTTTTCAGTCTCGACGGGCTAGCAC ACATCTGGTTGACTAGGCGCATAGTCGCCATTCACAGATTTGCTCGGCAATCAGTACTGGTAGGCGTTAGACCCCGTGACTCG TGGCTGAACGGCCGTACAACTCGACAGCCGGTGCTTGCGTTTTACCCTTAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00003	GGGAATTCCAGCAGCGATTAAGGCAGAGGCGTTTGTATCTGCCATTATAAAGAAGTTTCCTCCAGCAACTCCTTTCTTAATTC CAAACTTAGCTTCAGTTATAAATTCCCCTCCCATGATTGGGATTTTATAAACTTTTCTTCCATATAATTCATCTTTCTTCTCA TAACCGTCTCCGAAAAACTTCAACTTAAATCCAACCTTTAACTGCTCATCAGCCATGTCTCCCACAGCATCAAAAATAGCAGT TGTTGGACATGTTAAGACACACTGCCCCAATCTCTCTAACATTTGATGCTCTAACTCTGACTTTTTAGGGTGGCATATCTGTA TTATAAATCCTGGTCTTCCATCTGGTGTTTTTGATGGAGGGACATATTTCTCAATTCCTGCTTCTGCTGGACACATTATAACT GAACAACCAAAACCTGTTGCCTCTGTAGCTGCAATCTTAGCCCACTTCTTTGTAGCTGCTGTTATTAAAACTCTTGAAACCCA TATTGGGAATGCTTCTGCAAATGTATCTTCAATATATACTCCATTTATTTCCATAGTTTCCCTCCATTAAGATTTTAACAATT ATAGTTTATCTTAGGGGCTATTAATATCTTATCATTTGGTTTTTAATATTCGATAAATCCATAAATAAAAATATATCAACAAT AATTTTAAATAATCTAAGTATAGGTAATATAACAATTAAAAAGATTTAGAGGGATAGAATTGAACGGCATTAGGAGAATTGTT TTAGATATATTGAAGCCGCATGAGCCAAAAATAACAGATATGGCATTAAAATTAACATCATTATCAAACATTGATGGGGTTAA TATTACAGTCTATGAAATAGATAAAGAGACTGAGAATGTTAAAGTTACAATTGAAGGGAATAATTTAGATTTTGATGAGATTC AGGAAATTATTGAAAGTTTGGGAGGGACTATTCACAGTATAGATGAGGTTGTTGCAGGTAAAAAGATTATTGAAGAGTTAGAA CACCACAAGATAAAAAAAAAAAAAAAAAAAAAA
ERCC-00004	GGGAATTCTCTTGCTTCAACAATAACGTCTCTTTCAGAAGGCATTGGTATCTTTTCCCCACTTCCAAGCATTTTTTCAACTAA TCTTATGTTATTAACCATTTCCTTAAATTCTTCTGGGTCTGCTGACAAAGCATGATCAGGACCTTCCATATTTTTATCTAAGG TAAAGTGCTTCTCAATAACATCCGCTCCTAAGGCAACAGAAACTACTGGGGCGAGTATTCCCAATGTATGGTCAGAATATCCC ACAGGGATATTGAATATACTTTTCAAGGTTTTAATAGCGTTTAAATTGACATCTTCATAAGGGGTTGGGTAAGATGAAATACA ATGCAATAAAATAATATCCCTGCATCCATTATTTTCTAAAACTTTAACTGCTTCCCAAATTTCCCCAATATCAGACATTCCTG TAGATAAAATCACCGGCTTGCCTGTTTTTGCCACTTTTTCTAATAAGGGATAAAAGGTTAAATCACCAGAGGCAATTTTAAAT CAGGCACATAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00009	GGGAATTCCAATGATAGGCTAGTCTCGCGCAGTACATGGTAGTTCAGCCAATAGATGCCTAGTACGCTGACGGCATTCAGAGT ACGCTGATCGGCTTATGACGTATGTGACGCAGCTCTTAGCGCAATGTATGTGCTGTTATCGAAGCCTATGGCTGAGTATGTAA CGCTATGGCGTGCTAGTCGTCTCATATACGTCTGATGACCTCGTATCATGTTATAGGGCTGCGAACTGTCGATGATGGTCACG ACTCTGTCGATAGCTGTGTGACTCATTCAGAAGGTGTGCAGCCTATATGATACGCAGTCGCATCCTATCTTACGTGTCAGTAC TATGTGTGAGTGCTCCGCCCTAGTGCTGATGTATGCCCCATAGTGCTCAGTGGAGTCTCTCTTAGCATAGTGTCCGCTCATAC ATTAGATGGACGGCTCATTAGTATCATCGTCGGCTGATATAGGTCGTGGCTCCCTGTATATCGAGGTGAGTCTATCTGGATCA ACGTCGCACTATGATGTGCAAAGTGTCGTCCATGTATAGACAGTGCGCGTATCATATAGGATGCGGCGATCTCATACAGCGTT ACGGTCGCTGCGTACTGTATAAGGATGCTCTGTGAACTGTCATCGGTCCGATCAATTAGTCTAGTGTGCGTTATTCAGATCGA GTGAGTACATGATTCGTCAGTGTGGATCAATTACAGTTAGGCCGCTGACACATTAGTAACGTCGGCAAGCACTTAGTCGTGTC GTAAGCCAGTGTGTCGTGTCTTAGACGACTGTGTGTGATTCTCGAGCGATTTATACATCCGTGACAGCGCTTATAGTGTGCTG ACAGACTGGTTGGTTATCCAATGATCGACCTGGAGTCTAATATCTGACCACGCCTTGTAATCGTATGACACGCGCTTGACACG ACTGAATCCAGCTTAAGAGCCCTGCAACGCGATATACAGGCGCTGCTACCGATATAAAAAAAAAAAAAAAAAAAAAAAA

Table S11

ERCC-00012	GGGAATTCCGAGAGATGTTTGTAGGTGCGGAATGTGTGCGGTCTACCTTAGCTGTAGTGTGCGATGAACCTACACACAACGTG GTATAGTGGCCGATCTTAGAGTGATCCTATCACTCCTTACGCACCAGAAGGGATCTGCATACCAGGCGGAGAACTTGGAAGGC GGCTAGATCACTGAATTGCGGGAATCGGCATTTCGCATTCTTAGGATCTAAACCTTAGACCTCCGCGTGCGATTGCACCTGCT TGGTACAGAGTTACAAGCCCCCCGCACTTTCTTTGCGGTCGTTAAGAGGGAAATCGCCCAATTAGCAGAGTGTCAGGTGTTAC GCGCGATTGAGCCGTCAGAAGAATCGATAGAGCCGCGTCGGGACCTTGATGGTATCTCTGCCTCAGCTAACCTGCTAGGTCCG TCCCCTGGGGATGATCAGGACTGCGGATAGTAAATTGCGGGTTTGAAGCCGGACTTGCCGCCTAGGCAAAGCACAAAAACATC GGACATGTAGAAGTCTCATCGAACTCCTTTCCCGTTCATGCAGATACTTCAACTGTGACTAGTGGGGTTCGGGAGCACCCGCA CTACTTCATTCTTGGCGGTGGGCCACTTTATGTGACTGTACATGGGACTTCTACTCATACCAATGTAAAGTATAGTTAACGCC CTGTCCACTCTACTCAGGCGTAATCATCGCGGAAGGCTATCCACAGCCCATCAGCGGTCTACATGTCCCAGCAGATTCACCTG TCCTGCGGGTCCGCGTCACAGCCTATTCTGAGGCTCTAAAGACTATGCGAACCAGGTGTCCCAGTCGATCAGACGACGAAGTC GGGAAGGAAGCATGGATACCAAAAAGGCTTTATATACTGGGTTATCCTAGGGGATGTTTTTACCGGACTGGTCAGCCTCGGTG CGCTCGGCCTAGGCGCTTACTGCATGGGGGCTGTGGGCAATTTGGTATTTCTCAGGACTATGGACAAAAAAAAAAAAAAAAA AAAAAA
ERCC-00013	GGGAATTCACCGAGCTCAGATGTGAAGGATCTTCTTGGAGGATTAAAAAAATGATTATCTGTAAAACCCCACGTGAACTTGGT ATCATGCGGGAAGCAGGGCGAATCGTGGCTTTAACTCATGAAGAGTTAAAAAAGCACATTAAACCAGGAATCTCGACAAAAGA ATTGGATCAAATTGCCGAACGTTTTATTAAGAAGCAGGGTGCAATCCCATCTTTTAGGGGGTATAATGGGTTTCGCGGGAGCA TTTGCGTATCAGTTAATGAAGAACTCGTTCACGGCATACCTGGCAGCAGGGTGCTGAAGGACGGTGACATCATCAGTATTGAT ATCGGTGCTAAATTAAATGGTTATCATGGTGACTCTGCATGGACATATCCGGTAGGAAACATCAGCGATGATGACAAAAAACT TCTGGAAGTGACAGAGGAGTCTTTATATAAAGGCTTGCAGGAAGCAAAACCAGGTGAACGTTTGTCGAATATTTCCCACGCAA TACAAACGTATGTCGAAAATGAGCAGTTTTCAGTTGTTAGGGAGTATGTCGGACATGGTGTTGGTCAAGACTTGCATGAGGAC CCGCAAATTCCTCATTACGGTCCGCCCAACAAAGGACCACGGCTTAAACCTGGCATGGTTCTCGCTATTGAACCTATGGTGAA CGCTGGCAGCCGCTACGTGAAAACATTGGCTGATAACTGGACGGTTGTAACGGTAGATGGGAAAAAGTGTGCTCATTTTGAAC ATACGATTGCGATTACGGAAACGGTTTTTGAATACTGACGAGAGTAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00014	GGGAATTCGAGCTCGGTACCAAAAGAAGAAGGAAAGTAGAGGAGATCAAGATGTCAAACGAAACAATTAAATTAGTCATTGCG GGACCGCGTGGAAGAATGGGGCAGGAAGCTGTTAAATTGGCAGAACGAACACCACATTTTGACCTTGTAGGGGCCATAGACCA TACATACGATCAGCAAAAATTATCTGATGTGATGCCTGTTGAGTCAGATGCTTTCATTTACACAGATATCCTTGCCTGTTTTA CAGAAACACAACCGGATGTCTTGATTGATTTAACAACGCCCGAAATCGGAAAAGTACATACAAAAATTGCATTAGAGCACGTA GTCCGTCCAGTTGTCGGAACAACCGGTTTCTCAGAAGCTGATTTAAAAGAGCTCACATCTTTAACAGAAGAAAAAGGGATCGG AGCCATCATCGCGCCAAATTTTGCGCTCGGTGCGATACTGATGATGAAATTTTCAAAAATGGCTGCCAACTATTTTGAGGATG TTGAGATTATTGAGCTTCATCATGACCAGAAGCTTGACGCACCAAGCGGAACTGCGCTTAAAACAGCGGAAATGATTTCAGAA GTCCGTAAAGAAAAGCAGCAAGGACATCCGGATGAAAAAGAAATTCTCCCAGGAGCAAGAGGAGCGGAGCAAAACGGTATTCG CTTGCACAGCGTCCGTCTTCCGGGACTGATCGCGCATCAGGAGGTCATGTTCGGCATGGATGGCCAAACGCTTCAGATACGCC ATGATTCTTATAACCGTGCTTCTTTCATGTCAGGCGTTAAACTGTCAGTCGAACAAGTCATGAAGATTGATCAGCTTGTGTAT GGTTTAGAAAATATCATTGATTAGACGGGGGGATAAACAATGAAAATTGCTTTGATCGCGCATGACAAGAAAAAACAGGATAT GGTTCAATTTACGACTGCCTATCGGGATATTTTAAAGAATCATGATCTATACGCAACCGGAACCACAGGGTTGAAAATTCATG AGGCGACAGGTCTTCAAATTGAACGTTTTCAATCCGGCCCTTTAGGGGGAGACCAGCAAATCGGTGCACTGATCGCTGCCAAT GCACTCGATCTTGTCATTTTTTTGCGCGACCCGCTGACCGCGCAGCCGCATGAACCGGATGTCTCGGCATTAATCCGTTTATG TGATGTGTATTCCATTCCGCTCGCCACAAATATGGGTACTGCGGAAATTCTTGTGCGCACACTTGATGAAGGTGTTTTCGAAT TCCGTGACCTTCTTCGGGGAGAAGAGCCGAATGTATAATGCTGACGTTCTTGCTTTTGGCGCCCACAGTGATGATGTCGAGAT CGGAATGGGCGGCACAATAGCGAAGTTTGTCAAACAGGAAAAAAAAGTAATGATATGCGATTTGACAGAAGCGGAACTCTCTT CTAACGGTACGGTCAGTTTGCGTAAAGAAGAAGCAGCTGAAGCAGCCCGCATATTAGGCGCAGATAAAAGAATTCAGCTAACG CTTCCAGACCGCGGCCTAATAATGAGTGATCAGGCAATTCGGTCAATTGTCACTGTCATCAGAATCTGTCGGCCAAAAGCGGT TTTTATGCCGTATAAAAAGGATCGCCATCCGGATCACGGCAATGCGGCTGCACTGGTGGAAGAAGCGATCTTTTCCGCCGGAA TCCATAAATATAAAGACGAAAAAAGCCTTCCGGCGCATAAAGTCAGCAAGGTTTACTATTATATGATAAATGGTTTTCATCAG CCGGATTTTGTTATTGATATCTCGGATACAATAGAGGCAAAGAAACAAAGCCTCAACGCCTACAAAAGCCAGTTTATCCCGTC AAAGGATTCCGTTTCTACTCCTCTGACGAATGGGTATATTGAAATCGTTGAAGCGAGAGAAAAGCTTTACGGTAAAGAAGCGG GCGTGGAGTATGCCGAAGGTTTCTTTTCCAAACGGATGCTGAAGCTTGAAAAAAAAAAAAAAAAAAAA

Table S11

ERCC-00016	GGGAATTCGAGCTCGTTGTAACGAATGTTAATTTAGGAGGCAAGAGTTTGTGGGCGCGGACTTGCAGCTCGTAACGCTCTAAA AGGGTTATGCCGCTGAGGCGGGACCATAGTCAGGAAGTTTGTCCGATCCGCTCCAGTTGTCAAGAGTAGAGGATTTCGTGTTC GCCGATACTGCCGAAAACGTCATACCGAAGCAATTCTGTCGTCACTCTGTATGTCCGTGCCCCACCTTCGAGTATGAGTTTTA AAGTTCGTGCAGAGACATAGCTCGCGCACTCCCTGTGTGATGCCGGTCGGCCGACACATGCTTCAATGTGCCTTGAACTTGCA TTCGAAAGAATGTCCTTATCTTGATCGGCCATTGTAATGCAACGCTCTCCTTTCATTGACACGAGGTTCGTAGATGGCTGTTA CTCGCGGACGTTAAATAAAACTATCAGCGTCAGCGGATTAGGAGGCTTACGGGGGAACCTACAATTGTTCGCCGCATGGTCCG AAGGCGCCATGTCCCTCAGCGGAGCGACAACAATTACTACTGGAGCTATTGTAAATACGCAGCAACAAGCGTCCAGACATTTG CCGCTGACCTCCAGTCGCATGGACGGGGGAGAACAGCTGGAGCAATGCATCATTCGCTGAGGGACATCCAATCACGGAATCAA GGAAGAATTACCAATTTTACCTGTAACGAAACCAATTTATTACTGACGCAGAGTGAATCACATCTATAGCGGTTACGACCCTC CAGAGTGATCCGACGGCGATGTGTCTTTGACCCCCGTGTGACTGGTGTTCCTGTCGTATCCGCAACATGTTTACTCATCACTA CGTTAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00017	GGGAATTCGAGAACTGAAAGTGAGTCCCAACGAGAGAGGTGCATCTGTCCAGTGAGAGCTGACTGTCTGCGACAACACTAGTC GGTCCAGGCATGGATTTCGCGACCTCACAACTTAAGGAGGCGGTAAATCAGATGACAGCGCGACCCTGTAATGGGTGACCTGC TAGTGGAGGTGGCGCGGTGTCCCAGATACAAGGATCTCGATGTAGTACCCTCACATAACTTTGCTCCCTGAAATAACATTCGA TCACTCTAATGAATCCCTTAAGCCAGGAGCGTTAGTGTCAAACGCAACGCCCCGGGTTCATGATCCTGGATGGCTGGTCGAAC CAGGGAGATGTCACTCTAATAGGTGCCAAATGTACCGCAGAACCTCGTAGGCGTTCGCCCAATTGGACCCGAGGTATAATGTA GACGGGCACGCTGACTGGGCAAAAGATTACAATCCCAGTTACCATACAGTCGCCCGGTCAGGATCGGGGCATGAAGGCAATAT GTTGGCGCATCCCAGTCTTTCCGTAGAAACAGTGGCTAACGACGGAGATACTGCCGGGCAAGAAACCTTGACCAAGTATGCGC GCCTTGTGAGTCTCCATGGACTTGCTGCACCTACAAATCCGGAAGGGCGCTTATAGTGCTTGCTAGCACTCCCTGGAATATCT TAATCCCGCCAGCTCATGGGACGGGAGGAATGTGTTAGACCATAAACAGAGGGCTGGCCAACAATCAGAGGGAAGTAAGCCCC GCAAAAGGATTCTGCGGGAACCGAATTACACAACGTAAGGACGTACCTGCTCCTACCCCCGAACCACTGTCAATACGATAATG CGCCCAAAACGAGGGATCGAGACGGTCGGAGTGGCAGTCCAGCTTAAACAGGTGCTCGCCGAAACTAGCTGGCCAGGGTGAGG CATGGATTCAAAGCCAATGACCGAAGAAAGTTCCGACATACAATTACTCGGCTTTTGGCAATACCCAGGCGAGAGGTAAGCCC AAGCCATACCGGGAATGACCTGAGATCCACTTAGTAAGTCTTACGAGATGATCCCGACCCAGGACTGGAGCTAGGCGGTTGCG CAAGTAACTTCATCATGTATCGCTGGGGAATAATGTTCCTGGAAAAAAAAAAAAAAAAAAAAAA
ERCC-00019	GGGAATTCCTTTAATGGTTGTACATACTTGACGGATTGCAGTGAGTGTATTCCCGTCCCATCGTATGGGTAACCCATAGGGGC GTGTCATTCAGCACTTCGGATAGTGTTTGACCGCGTCGCTCCCATGTCGCCTTTCAGGAGAAATAGTACAGGCTGCTGGCTCA TGTTTCCTTCTACGCTGCACTTGCGGGCATAGAGGTCGGTTGCGATCTATATTCGGAGATAACTATTCACCCAGCGCCACTCG AATATCCCCTCTTCTGAGCAAGAGGCCAATAAATGCTCAAAAACGAGCGATTGTCCAACGACATAAAGGGAGACTGTAAGGTC CTAGCGCTCTGTCTGTTAGTGAGAGCCCTAGGTAAACACGGTCGTTATCCCCTAGAGCGTGAAGCGGCTGTAGATATCTCTGA ATCTTCGACCTTGGTGTAGATGGGGCTAGGTCAAAAAGCGGTAGCGATTAGCACTTGTATACACTCTCCCCCTACTAAGTATG TAAGGCCTGACCGGAGATTTGTCCATGCTCACCAGGACCGATAGTTGGGCCCCGGTAATCTTGCCGCCGTAGGGAGTACGAGC AGTGCACCGTTGAAACAAGCACAGGAGGTATGAAGCATCAGACCTGAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00022	GGGAATTCCCCGGGCCAATTGCCTCTATAACTAGAGCTGAGCCCACCATTAAAGCGATTTTTTCGCACTTAGCCGTAATAAAT ATAATGATCCCGCGGTGTAGTAATTCTACGGAATGCACGGAATGTCATAAGCAGAAGGACGTGATGTGCAACCTACTCCCCTT TCCCAAGTAAATGTACGGGAATTATCGTTTCGTTACCGACAACCATGGGGCCACGTGGCCAGTTTGCCCCTATTAGGTGGATA GGCACTGAGTACAGAATATATAAAGCGTGACGGATGAAAACGCACCCATTGTCACCGATTGTGACTAGTTGACCCTATCACCC CTACTGTGTTCAGACGTCGTTCTACTAAAGGCCCGTGCCGCCGGAAGCTCATTTAAAAAGAACTCGTAAGTAAGCCGGCGACA TATCTAGCAAAACATAGTCCCCCTTCTGCTCAGAGGTTATCCATAAGTGACTTACCAGATGGAGTGCCAAGGTACAGACCTCC CTCCCAACTGGTTCCTGCAGGACGTTGCTATATCACTTCTGGCCGTCCTTATGGGTTACCCCTCGCGAGTGCCATCGCATCGA CTGACACACCTGCATTCTATTTTATGCTCTACTGACGGCGACGAGTTTTTTGTAGCGTCGATCGCGGAGTTAAGGTCATTGGG GAATAGAACCATAGCGCTTGGGTTTGTGACTTTCTCCCTAGATACGCGTTTGCTGACTGCGCTACATGGATAAAAAAAAAAAA AAAAAAAAAAAA

Table S11

ERCC-00024	GGGAATTCACGGAGGAGCTTTGGCATACTAGGCTAGCGAATCTGCAACTAACGCAAGTTACATCCTAGCTAGCGAAGGGCGTC CCAATTTTCGCTAACCCGACGCGACGCATAAAAAGCGAGAATAACGCCTAAGGGATGTACAATGGATGTTGATTATGCCTTCG GGAATGAGGGATGATTTGCGAAAAACAAGTCAATACCTAACCAAATCCGCTAATGGACACCCGTAATCGTGCCCAAGTTTAAC TGGTCGGTAGGTGGCAGGCAAAGCGCTAGTATCCCTAGGCGCGACACTATAAGTTTACAACTGCGAGAATTGACACTATGAGC GCGCATACTGGGGCCAGAATAGGCAATACCATGTGCGTCCCTGTGTGAACAGCTCGCGGCCATCAGAAGTTGGGATTGACGCA TGATCTTGATCGAGCATACGGCTTCCACCAACCCATAGTACTTGGTAACTATAGCAATCAAGCACGCGTGAGCACAACGCTAT CCAAATTACTACATTAACTGGAAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00025	GGGAATTCGGGGTCCATTATAGTGCAGGCGTGGTAAAGTAGCATTAGAACCCTACTACTTAGCCCGCGCAACTCGTCCTATTA AAAGTCGGAAGGATTAGGGAAGTTAACCTCCGTTAGGGCCTCATTGGCGCGCCTCCACGTATCTGTATTCCCGTGTCCCGACT GGCTAATAAGAGATATGGTGCAGCGTGAACGCGGACCGAACTCCGGTGTGCGCCGGTTCATGTTACTCGAAAAATAGACCCTA CTTGCGCCATGTCATCTTTCACTACGGGGTAGTCTCTCGGCCAGGCTTTGAATCGCCTCATCCGCTTCTCAATGGTTCTGTCC TGACCTCTGGAGTTAATCTTCGTCTCATAGAGTAACCAGGCGACGCACCACGCCTAGTTGGTACCACCACTAGAAGCCCGGTT CGCTGGCTCAGTGCTAATATTCTGGAGGTCAGCCGACAGGTCACATGAGCCTACTCGTCTCGTCAAACACCCGCCTAGCCATG ATTAACAAATACAGTGATTAAGTGTGTTTTGACCCTAGTGTTAGGTCGCTGGTACTTAGCAAGGGGAGTTGCATATGTGGTCT CTGTTTCGGGTTATATCTATCATTTACTTGACACCCTATTGGTTTATCACAGTCCTTCCACACGACCATACGCGTTGTAAGAA TACCCTCTAGCGTTGGAGAGAATAAGTTCGATGTTCAATTCACAAAACCGAGCAAAGGCTTGTCGACAGCTTCTACTAGTATT CACTACCAAAACGCGTACCGACTTTAGGGCGGTAGAGAGAATTGCCATTGCCACGAGGTTCTCCAGAATACAGGGTCCAGGCG GCCCCCAGCATCGGAGTGCCTGAACTGGCGGGGATGCCCAAGATTGTAGAGGGCCTAACGAGTTTGATACGCCCGGGACTACG GGGCATTGTCTGCCGCGTCTGTTTCAGGTAAACGATCAACCGGAGACCAGGTTATTCCCATGTCGGTCCCCAGGCTTATACTG CGGAGATAGGCTGATGATGGTAGGTGCCTTGCTCTAGCAAAAACGCGCACAGCTTATGAGCATAGCGGCTGGGCGTAGGTCAG AGAGGGTATGTAAGATCTCTCCTCTATCGGTGTGCGTCTACTCTGCCCCCTTCGACACAAATGTACATCGCGGGAAACGGATA CGCCTTACGCCCCAAGGTTTAGCGTATCAAAAAATGCAACGATTCCGATGTCGAACCTTGGATAGGAGCGACCGATTACGTGT TAATTGGCCCTGTACCTTTCTGGTCCGTTGATTATCACTCATCCCCAGGTTGTTATGGTCTACCGTGGAAGCCTCGTCAATGA ATACTTTGAGCGCGATTGAAGTGCTCCGCTACATCGCGGCTATCATTAAAAATTCCCCTTTAACAAAGGTTGTGGACGTCAAC GGCCCTGCAGTAGCGTTCCTTGGACCCGGTTCGAGTACCCAGAGCAGACTACGTATATATCCAAGTGGTTATGTCCGACGGCA TTTTGCCAGGTTAGTATCTTCGGCAATGAGTTGCGTCTACGGCTAATCGAGAGCACTTGTCAGTACGCGCAATTACTACATGG AGTGTATTCGTTTTGAGCGCTGATACAGTTCTCCTATCAAGGTCGCAAAAGGTTGTCTAGAAAAGGGCCGTGCGCGCAGTCTA CTGCTACCGGCGACTTTACGACGAAGTTAGGCATCAGACGACCACATGACGGAGAATTACGTACGCCACTTCAGACGTTCTGC CTGCGTGCTCTGCAATATAGGCGTAGCAACGAAGCTCGGTCGTGAACTGCTATAGGAATAGCCTGATACGAGCGCACAACAAG AACGAACCAGCGAAACTACCCAGATAACATCGCTCCCCGGCATTACTCTGACGGGGGTTGTCACTAGGCTGGTGGGTCCTTTC GCCTCTCATGTCAATTCCCTTTGTTGGGCTGCTTGGAAGTACTGATACTAGAGTAGCCTAGTAATACCTAAAAAAAAAAAAAA AAAAAAAAAA
ERCC-00028	GGGAATTCGAGCTCAAGAAAGTATTCCATTCCGGCTCATGGTCCCGGCTAGACCTGCAAGATCGAAGGTACTCAATGACACCA GTGACTGAGCGGTCAGCCCGGAAATAGCCAGAAATGTTACCATCCCCGCATGTTACACAAACGTCGGGCTGACGGAACCCATG AGAACCTATGGTGAATAGACAGTAAACGAGCGCAAAGGCGTGCTGCCAAGGGCTCCCACCGAATGTAGAACTGATCTGATTTC CGTGACAGGGAAACGCAATGCGAGGTTCCGCAAGTCCACCTATAATCTGTGACCGCTCGTAGAACATGGTTAGGGCCTGATTC AGTTAAATCAAGCCACCTCTGACAGAACGACGAGTCAGTGGAATCGACTTCACACCTCAGAGTCCACTCACGTGCTGTAAGTC AAAACCCAGTGAACTTCTCAACCGTGTAGCGCTCCTAGAACATTCAGGCGCCACTGAGGGGCATATGGATGAAGCGTGATACG AATTACCTCCAACGAATGCCAGCTGGGAGGAGGATAGGGACTATGTCTTCGTCAATGCTCCCGTCAAATGCCTTTCTAAATAC CTTTTCGACCTCTCTGTGTGGAATGGGGTCTAGAACCAAGGACTAAAGCGGTGCACGAGGCCCTTTGGATATGTCCTTCTTGG GAGGGCCCACAGCCAAAGCCACCCATCACAGCTGGAATCTAATCTTGTGACCCAGTATTAACCGTGAGATCTACACAACCGAC AAGCGCTAGCTTCCTCCCCGGTCAAGTAGTAATGCCGGGATGACTTTGCGTGTCCTATAGCGATCGAGCCCTCGAATTCACGT CGTCAAAGTGGAATGATCAGATTAAAGGGCTGTCGGGAGGGATGTGTAGGCCACTAACACCCCTCTGCACGAACTATAGATAC GTCTTTCATCGGTACGCTCGAAAGCGCAGGTGGCTCCCAAATCGTGGGGAGTTAATCGAGCTGCGGATTGGTCCCCACGCCTT ACGGCAGCGAACATAATCCCGCTGATGTGAAGTCGATCTACAAGGTAAACAACGGGGAATATAATTCAGTTGAACCGGTGTGG AGCCTGCACTTGGAACGCTGCATAAGGGACCCAACAGCCCCAAAAAAAAAAAAAAAAAAAAAAAA

Table S11

ERCC-00031	GGGAATTCGGGAGAAAAGCTTCTTGCCTAGTTACAGCACGAAGATTGGGACCCATCGATCAGCGCCTCCGTGCAATGGCGCCT TGGTACACTCTCTAAAATGCAGTCGGTAGCGGGGCATGTAGTTACTGCGGTGATATTAAGCTAGTGAGTAACCTTATATCGAA CTGTCTACCAAATTGATGTATCTACATTAGCCGTACGATGAGACAATGAACCGTGTCTACGCTCGGGAGCATTACCCCTATCA TGAGCCTACAAGCACCTGACTAGACCAGGAGACAACTTGAGCGAGACACTAGCGAGAGGTGCCGATATAAGGTACATTGTTGC GGATGTCAACATCGCATTTTTATCCCCTGGCGGGATGCAACTAACACCAGTAATGTCGTTCTCCACGACCCCCTACCCGAAAA CTTACTCGTATGAGTACTTTCGCGACGACTCGGCTGTGTAGTTTCCAAGCAGGCCCCTGGCTAGACCCATTTGTACCACGCGG AGGATCATCGGAATCCATAATCGGCCACAAACTAGCCGGCTGGAAACCTTGTGATATCATGAACGAGGAGTAAGAGCTGGTTA GTGAATCACCTTGAGGGCGAGGAACACAACAATTCTGCGGGTTAGCAGGAAGGTTAGGGAACTCGCTCATAGCATATTAGTAC CGCTATCTCCTTTCCTTGGCGCGACATCTCCCAAAGTTAGGCTGATTCTGCCGCCTGTGATCGCTATCCTTATTTGTGGCAGA ATATGTCGATGCAAAAAACCTTAATTCGTGCTTCATACATCATCCCCGAGAACTCCACGGCTCCACTCCCGCTTATCACGCGT GGGTGCTAAATGATACGAAGTGTGGCAGTCTATGTTAACTTGGAGCATCATATTTATTTCTGTTCACGGATGAAGGCCTATAT CAATGATCATTAAAGACATTCCGTCATCGGCTACATGCAAAGAGGCTTTTCCACCCTGTTTCGGTGATTCAGGTGTCGAGCGA CCATTATCTGTCGGCTCATCACCGAACCGGCCGTGATAGAGTCTTCGCATCAGGTTACACCATGTCGACTGATAGTAACTGTG GTTCGAGTTATGCGTGTTGACACACCGTTGAGGCGCCCTATTTAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00033	GGGAATTCGAGCTCGCACGCCCTATTTAACTGGAAACCTTCCAAGATTCGGAGAGCATATAAGTTGGGCCGAAAGCTCAGCTG TGAGCTTTGCAAACTCTGTCTTAGGAGCTAAGACAAATAGAGAAGGTGGGCCATCAGCATTAGCAGCTGCAATTATTGGAAAA ACACCATATTATGGATATCACTTAGATGAAAATAGAAAGACAACACATATCATTGAGTTAGATGGACAATTAATCTCTAACTT TAAATATGGAGAGAGTTTTTATGGAGCTTTAGGTTACTTAGTTGGGAAGATTGTTAAGAATGGCATTCCATATTTTGAAAATC TATATAAATTAAATCCAAATAACGATAATTTAAAATCCTTGGGAGCTGCAATGGCTGCAAGTGGTGGTATCGCCTTATATCAC GCAAAAAACTTGACAGCTGAATGCAGAGTTAAAGAAGTTGTTAATGATAAAATTGAAAAGATATCTATTGGAGTTGAGGAGAT AAAGGAAGCTTATGAAAAATTAAATACAACAAATGAAGAGCCAGATTTAATTTGTATTGGTTGCCCTCACTGCAGTTTAATGG AAATTAAAAAAATTGCTGAACTTTTAAAAAATAAAAAATTGAATGCTGATTTATGGGTTTGCTGCTCTCTTCATATTAAAGCA ATAGCAGATAGAATGGGATATACAAAGATTATTGAAAAAGCTGGTGGAAAGGTAGTTAAAGACACCTGTATGGTTGTTTCTCC AATTGAGGATTTAGGTTGTAAAAGAGTTGCAACAAACTCTGGAAAAGCTGCTGTTTATCTACCAAGCTTTTGTAAGAGTGAAG TAATTTTTGGAGATATTGAGGAATTGTTAAAAGGGAGATAATGCTGAATCCAATAATCTTATTTTTGGCTATTATTTTTGATA GAATCATTGGGGAGTTGCCAGAGAGTATTCATCCAACGGTTTGGATAGGGAAGTTGATAGCTTTTTTAGAGAACATATTTAAA TCTACAAATTGCAAAAATAAATATAGAGATTTTTTGTTTGGCTCACTAGCAACGTTTATTACTCTATTAGTTGTGGGAGTTAT AGCTTTTTTTGTTGATAAATGCATAATGCTGTTACCATCTCCTTTAAACTATATTATCTATGGTTTTTTGTTATCAACAACTA TTGGCTACAAATCATTATTCGAATTCTGCAAAAAGCCGATTGAATATATAAAAAATGGTGATTTAGAGGGAGCAAGGAAAGCT GTTCAGCATATAGTTAGCAGAGATGCCTCAAAGTTGGATAAAGAGCATGTATTATCGGCTGCAGTAGAGAGCTTATCCGAGAA CATAACAGACAGTATAATTGGAGCTTTATTCTATGCTATATTTTTTGGTTTGCCTGGAGCCTTTGTTTATAGGGCGATAAATA CATTAGATGCAATGATTGGTTATAAAAATGAGAAATATCTATGGTATGGGAAGTTAGCAGCAAGGTTGGATGATATTGCCAAT TTTATTCCTTCAAGAATAGCAGGGATTTTGCTAATAATTACTGCCCCATTTTATAAAGGAGATGTTAAAAAGGCAATATATGG GTTTTTAAAAGAAGCTAATAAGGTTCCATCACCAAACTCTGGTTATACAATGGCTACATTGGCAAATGCATTAAATATAACTT TGGAGAAGATAGGATATTATAAACTTGGTAGTGGGAAAATAGATGTTGAAAAATCTTTAAACGCTTTTAAGGCAGTTGATTAT ACAGTCGTTGTGTTTTTAATTATTTATACCTTAATTTGGTGGATAACATGATAAGTAAAGCTTATTACACTACAGAGATTCCA GAGGATAGATTTGAAGCTCTGAGTTGTATTAAAGATAGTCAAAAACCTCTTAAAATTATATTACTTGGAGGAGTTGATAGTGG TAAAACAACATTAGCTACTTTTTTGGCAAATGAGCTTTTAAACTTAGGATTTAAAGTTGCTATAGTCGATAGTGATGTAGGGC AGAAGAGCATTTTACCTCCAGCAAAAAAAAAAAAAAAAAAAAA

Table S11

ERCC-00034	GGGAATTCGGTATTACCCAGCACTCGTATGGCGCCCCATCGTTGTATCAGCAGGAGCATATGTTGCTCTTGATTGTATCACTT CGCGAGAAAGACCCCTTGAATACACGAGCTGCCGTCCGGATAACGATGTAATAGCCTATGGAGGGGAAGTAGTCATGTCTGCG GACTATTGGTAAGAGCACCGCCTCGTCGTACGTGGACACGAAGCTGTTCGGCCGCACGCAAGTACCTCCCACTTAGAAAGCGA ATAACCCAACGACCGTGTTCAACCCTGGCCGTCTCTCAACCAGGTATGCAATCAACGACATTGGCCCAGATGTAGGGCCGTCT TGGTGGATTGAAACTCGGATCGATCACGTATGGTCTAGACCTTATACAACACCTGTGCGTGCGTCTGCGTCTGGCGATGGTGG GTAGCGGTCCGGACCACGATCGTACTGTAGGCGGCCCAAATGCGGATCTTTAGGTTGACCGATTGTACATCTCGCCATAGCCC TTTTCGTCACAACCTTTATAAAAGGGGTCAGGCCACTGTGTGAATCAGATGGCAAGCCCGTATCCGTATAGAAACATACGTTT CTCTGGCCACGACCAATAATTATGCACTGTTGGCTCGGAAGCGGGTCTACGGAGAACATTAGATATCGACCTAATATCCTGAT AGCTAGCTTTCCCGAGGATAGGCGAGGATGGGCGTGCTAGACACAGGAGCATTGCATCACATGAATAAAGGGCTACGTACGCA GCGGCGTTAAGACAGACTTAGACTGATCACTATGAAATGATAGACACCATGTCGCAATTTGCTCCCTCACTCATATCGTTGTA TCATAAAGTTGATCCTAATCACAAACCGAGTAACGAGCCAGACTAATCCGGAACATTCGTAAGCGATAGTGGTTGGCTCCTCC CGGTCGCCGAACTGATATCATAGCTAAGTATGCTGGCCTCGGTTAACCGCGAAGGCATATACAATGGATTCGCTGTCCGCGTA GCAATATAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00035	GGGAATTCGGGAGAGGTATCGTAAAGGTGAATCCTGTGGCTGTAGGAAGCAGTTCATATGACCAACGGGCGCCCTAGGGTATA CTCCAGAATCGAATGTTACCAGAAAATAGGGGAACTGGTCGCTCCTAGGTAAGGTTGCCTGTCCCCGCACTGTACGAAGGTCC GGTCAACGGAAGCAGGCACACGCGCTATCTGAGTCCAAATACTTGATCCGGCCGGAAAATTAGAGGTGACGGCTTCCCACTAC TGATCTCACTGACGTGCAATCATCCTGTGTCCGGAGCAATGACAGTGTCCAGTCTGTTATGGACGAGCTGGACGATTCACAGA TAAGGACAGTCGCCCGGATACCGCAAACTAAATCTTGCCTGCCTCCGAGGGTGTGTGAAGGATAACTGTCGCCCTTAAGTAAA GATCTACCATTCGCCGGGGCAACGCGGCTCTCTGATGCTACGACCAAAGTGGTTGACATTACGCCAGTAATGGACTAAGGTTG AATTTGAGCGGATGGGCTCAACTGCGTCGTAACCGGTAGATACAGGGCATACGAGCCTCCCTATTTAACGGCATCATCCCGCG TAGTGCTGGTCAACCGACTGTCTATTGAAGTCAGGTTTCGGCTACATCAGCTGGAACGTTCCCGTAGCTACTATAATCAGGCA ATCTGTCCCGAAGAGCCCACACCCTGACTTGGCCGTAAGGGAGCCCTAAATCAGTTAAATACGGGGAAGGAGTCTCGCCCTCC GGGTGATCCATCTTATTTACCAAAGAACATGTCCACGCCTGTGGGCTCTGAAGATGGGCGACACATGTCTACCCTGGCATAAC GCCCAGCTTGATAAGAGTGAAACGACCCATCTGACACAGGCCGGCATAGAAGACCAGCGCAATGCGAGGGCCACACATAGGAG TGTGAAAATCTACATCAACATACTTCGGCCGTGGCTGAACGAGGGAGTGCTTGTACAATCCCGTTGTTTGGTGTGGCAGATTC CGGGAAATGAGCAAACGCTTCTCCCATGAACACACTCACAGCCATAAGTCCTACCTTGCTAACATCGCCCCGAATGCAGAGCC ACCTACTGGGGTTGTCTGAGAACACTCCATGGGTCAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00039	GGGAATTCGAGCATGGCCTAACTGAATGCGCCTGCAGTATCTTTCTTAGTATATCAAGATCCGTAATATAACGGTTTGCGCGA CTACGGTTACCGTCTTTATAAGTGAACAAAACCGGCTACCAGCATGTCGTATTTCGCCACCCATATAAACCCCACTTCGTCCT CAAGGAATCCAAAAGTCGGACGGCGTGGCTTGTCATCTTCGTCAGAAGGTTCGAAACCAGTAAAAAGACGCGATAGATAGGCC TAAGTGGGCCTCCCCTTTGCCAAAATCACGACGAAGTGACTAGTGCAGGCGTCGTATACTTACTCCTCATGTTCAGCCCACGC TGCATTGGTAGGCTGTTAGAAGCCGTGACCGAACAGGGTATGATGACCTCGCCATGGGCACCCTTGTATTCTCGGGGGCGGAT GTAGAAATCAAAGCTGTTTACTAACCATGTACTGTCCTAAGAGATTGGCTGTGACCGGTCCCGGACACTGCGTCAACGCAGGT CGCTCACGATCGGCGTGCGCATTTTCGTGAATCATGTATAGTGGTTCTCGTTAGATACACATGTAAGCTGAATGGGGCCCTAC CCAACCGGTTGGGTCTATAAGGCAGATGTGCGACGCACCTATTGGTAGGCCAATCTTATGGTTTGCCTCTTGTACTGAGGGTA CCGCAGAGGTCCACTGGTTAGCTCACACTATGATCTAGGAGCAGTTGGGCGGTAAACGGCAAAAAAAAAAAAAAAAAAAAAA A
ERCC-00040	GGGAATTCAACTACGATCCCATGAGAACACCTGTAGATACTCAGGTCTCCGCGGACCTACGCCGCGGACGATGATAAAGTCCG AGAAACCACCGGATTGCCCCAACAGACGGCCTAGCCCATCGAACTAGGGAAATGAACTATATCGTAACCAAGCCGGGTAGCTG CGGTGGTGCTAGACTAGATGTTAGCGTTCAGTCGAGCTGTTACGTGTAACGCCATTGAGACCCTTACCCTTTACCGGTCGGCG GATACGTCCAGCTTCGTCACTGCGTTCGAGCCTTCTACACGATCCAAGTTACCAGCGCAGTTTAAGGTACGTCGCTTCGACCA GAACGAGAGTTCGCAGCAAGGGGGAGGAGTTGGATTCTTAGGGAATGAGGCTGAACCTAACTCCTCGCTACATTCCTATTGTT TTCCCGATCGGCTTCATCGGGACGCCGGAGACCGCACCTTTGCCCGTTTAAGCTCGGACGGGATGCCACGGTTCTGTTCCACA ACCCGGTCGGAGCACACCCTCTCTATGCTGCGTCTATGCCTTCCGGGTGGTTGAGGTGAGCCATGTGGTCTTAGAATCCGGTT GTATTAGACAGTATTGTGCTTGACGTCGTGGTATCGGGTGGTTGTGAAGGATACAGATATTCTATGGGCAGCGATGGGGCTTC CTCAGTCCGTCTACGGCCCACCAGACAAACAACTCGGGATACAAATTGAGCACCCGCGGACCGGAAAAAAAAAAAAAAAAAA AAAAA

Table S11

ERCC-00041	GGGAATTCGAGCTCGGTACCACCGAGCTCAAGATGCGTTAATTATGTGGGTGACGATAAATGAGTGAGCAAAAAGACATGTAC GTATTAGGAATTGAAACAAGCTGTGATGAGACTGCTGCAGCTATTGTGAAAAGCGGGAAAGAGATCATTTCAAACGTAGTAGC CTCTCAAATTGAAAGCCATAAGCGCTTCGGAGGCGTTGTTCCGGAAATTGCTTCAAGACATCATGTTGAACAAATCACTTTGG TTATAGAAGAGGCGTTTCGCAAAGCTGGCATGACGTATAGTGATATTGATGCGATTGCAGTAACAGAAGGTCCGGGACTGGTG GGAGCGCTTCTTATCGGAGTGAATGCCGCTAAAGCATTGAGCTTTGCATATAACATTCCGTTAGTAGGCGTTCATCATATAGC CGGTCATATATACGCGAACCGTCTTGTAGAAGACATCGTGTTCCCGGCACTGGCATTGGTCGTTTCAGGAGGCCATACAGAAC TGGTTTATATGAAGGAACATGGATCATTTGAAGTCATTGGGGAAACCCTTGATGATGCGGCAGGAGAAGCCTACGACAAAGTG GCGCGGACGATGGGATTGCCATATCCGGGTGGACCGCAAATTGACAAGCTAGCTGAAAAAGGGAATGACAATATTCCGCTTCC TCGCGCATGGCTTGAAGAAGGCTCTTACAACTTCAGCTTTAGCGGATTGAAGTCTGCGGTGATCAATACGCTTCATAATGCAT CCCAAAAAGGGCAAGAGATTGCTCCGGAAGATTTGTCTGCCAGTTTCCAAAATAGTGTGATCGATGTCTTGGTAACCAAAACG GCGCGCGCGGCAAAGGAATATGATGTCAAACAGGTCCTTTTAGCCGGAGGAGTAGCTGCAAACAGAGGCCTCAGAGCTGCATT AGAAAAGGAATTTGCCCAGCATGAAGGGATTACGCTTGTCATTCCTCCATTAGCTTTATGCACGGATAATGCTGCGATGATTG CTGCTGCTGGTACAATTGCTTTTGAAAAAGGAATTCGCGGTGCATATGATATGAATGGCCAGCCCGGCCTTGAATTGACTTCT TATCAAAGTCTCACGAGATAATAGCGTGAGACTCCCGGGTACAAAAAAAAAAAAAAAAAAAAAA
ERCC-00042	GGGAATTCACCAACTCTGGCCTTTGTGTTGCTATTCCCCAAGCACACAATCCAGTATAACATCTTCCACAAACTCTACAGCCA AGAGCAACCATTGCAGCAGTTCCAATATAGACAGCATCTGCTCCTAAAGCTATAGCCTTAAATACATCTGCTGAACATCTGAT TCCTCCACTTGCTATGATGCTAATTTCGTTTCTCAAACCTTCCTCTCTCAATCTTTGATCTACTGCGGCAATAGCCATTTCTA TTGGGATTCCAACATGGTCTCTGAATACCTTTGGTGCTGCCCCTGTCCCTCCTTTATATCCATCTATAACAACTGCGTCAGCA TCACTTGTTGCTATTCCAACAGCAATAGCTGGAGCATTATGGACAGCTGCAATTTTAACAAACACTGGCTTTTTCCATCTTGT TGCTTCTTTCAAACTTCTAACTAATTGAGCTAAATCCTCAATTGAGTAAATGTCATGGTGAGGAGCTGGTGAGATAGCATCAC TTCCCTCAGGAATCATTCTTGTTGCTGAAATTTCTGCTGTAACCTTCTCTCCAGGTAAGTGCCCTCCAATTCCAGGCTTAGCT CCCTGCCCTATTTTAATCTCTATTGCAGAACCTTTCATAAGATACTCTTCATTAACTCCAAATCTTCCACTTGCAACTTGGGT AATTATGTGGTCTGCATAAGGGTAGAGAGCTTTTGGCAATCCTCCTTCACCAGTTCCCATGAATGTTCCACATTCTTTAACTG CCTTAGCAAATGATAGGTGAGCGTTTAAAGACAAAGCTCCATAAGACATATGGGCAATCATTATTGGGGTATCTAACTTTAAG TTTGGAGCTATTTTTGTTTTTAACTTAGCTTTTTTAATCTTCTTGCCATCAATCTCTTCTTCAACAAATTCAAACTCTAACTG CTTTGGTTTTTTACCAATGTAAGTTCTTAATTCCATTGGCTCTCTCAATGGGTCGATGGATGGGTTTGTAACTTGCATGCATC TAAAACAATCTAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00043	GGGAATTCAATACCTTTACAAATGCTTTAACAAGAGGAAATTGTGTTTTTGCCAATTTAAGACCTAATTTAATAGTTAAACCA TTAACCTTAGTTGTTCCAAGGCATAATATAGAGAGTGAGATACAGGATGAGCTATTTCAGGGAGTTATTCAGTATGCAGTTGC CAAGGCAGTTGCTGATTTAGATTTAGATGAAGATTTAAAGGTTGTTGTCTCTGTTAATGTCCCAGAGGTTCCAATAACCAATT TAAATAAAAGAAAACTCTTCCAATACTTCTATGCCTCAGCAAAGTTAGCTATAAACAGAGCTTTAAATGAATATCCTTCAAAA GAGAAGGTAAAGAAAGAGAAATATAGAGCTTTGCATCCATTAGTTGGATTTAGGGATGTTAGATTGGAGTATCCTCCATATCT ACAAATTGCTTTGGATGTCCCAACTATGGAGAATTTGGAATTTTTGTTACAAACAATTCCAAATAGCGACCACATCATCTTAG AGGCTGGAACACCACTAATTAAAAAGTTTGGTTTAGAGGTTATTGAAATAATGAGAGAATATTTTGATGGCTTTATTGTTGCT GATTTAAAAACCTTAGACACTGGAAGGGTTGAGGTAAGATTGGCATTTGAAGCAACAGCTAATGCAGTGGCAATAAGTGGAGT AGCACCAAAATCAACAATAATTAAAGCTATCCACGAATGTCAAAAATGTGGTTTAATCAGCTATTTGGATATGATGAACGTCT CTGAACCTCAAAAATTATATGATTCATTAAAATTAAAGCCAGATGTTGTTATCTTGCATAGAGGGATTGATGAGGAGACATTT GGAATTAAAAAGGAATGGAAATTTAAGGAAAACTGCTTATTAGCAATTGCTGGAGGAGTTGGTGTGGAGAATGTTGAAGAGCT TTTAAAAGAATATCAAATATTAATCGTTGGTAGAGCAATTACAAAATCAAAAGACCCAGGAAGAGTAATTAGGATTTTATAAA CAAGATGGGTTAAAAAAAAAAAAAAAAAAAAAAA

Table S11

ERCC-00044	GGGAATTCGAGCTCAGATAGTGACTAGGGTAAATGCCAAGCCGTCTTATAAAAGCGGTAGCGAGAGATCTTAGAACTCCCGGC GAACGCCCCAACTTATGCGATGTCCAGCCCCAAACGGTTGATTAGATCGGTAGCTCCCGAACTAAGAGACCCTAAACGCTATC CGTGGACTGTGTAGGTAGGCCGTCGTCCTAAGTGGCCTCGTGAACTAACGCCTGCTGCTATGTCCCAATGAAGGGTACATGCC CTCTTCCCGTACTACGCCGATACAAAGTCCCGAACGAGCTTACGAAATATAGCGCTTAACCATGGGGCCACCATAGGTGCCTG GTACAGACGTGTCAGACGAGCCCTCGGCTAGCTCATAATTGCGGCCGTTCATATAAACCTCAGCGTCTGGTCATGTCTGTACC ACAACGCTCCCGGTTCTTCGACGCTCAGTTCGGTACCCAAGATAGCGGACTCTCAAAGAACGATTCAGTAGTCGCCGTACCCA TGTAGGCCTTAAGAGGTCTAATTAGCTCTAGGAAACACAACCCCGGGATTTGGGATACGCCACCAACACGAATCCAGCCGCAT CGCACGCGTCGAAGTCCTCCGTGCTTGTGTGAGTCGACACATAGGATCGGGCACGGAGAGATCGGCGGTTGAAGTATGGAGCG TAGGTCTCGATCTCGTACAAAACGACTATGACCATTGGGCGTTGTACTCATTATCGTTACGATTTTACGGTGGCAAACGAAGC TACCAAGTAGATGCCGACGTCGAGTGGATCCACGCAGTCCGAGACAGCGCACACTCGCTGTAGAGGGTTTCAATCCGACTAAG ACGGCGGGATCTACTACTTCTGCGAGTTTAGATTAACTGTATCTCCCGAATGCGCGTTCTAAAACCCTGACGTGATGGGACGG GTGAAGCACCGGGTTTTCGCCGGTTAGGTAAGGTAAAAATATGACCTTACCCTACGTTGATTGTGGTCATTACAGCAAGAGGT GGGTTATAACGCAATCTATGTTCGCATGCTATGTTATTTGACCCCTGCGGTAAGATTATTCACTCGTCATGGATAACCGGATA ATCCCGTATAACCTGTGGGTATTATAGGCGACAATTCGAAAAAGGGCGAATTCAGGCCTGAATTCTGCAGAAAAAAAAAAAA AAAAAAAA
ERCC-00046	GGGAATTCATCTCCTCTAACTTTGGAGAGGTAGGAATGGGAGTATTTGCACTTGTGGTAACGGTATTTGCATTATTGATGGTT TTTACTATGTTGGGTATGCTGTTCGATTTCTTAAAGGACTGAATATTCGGTGGCAGTATGGGATTTCTAAAAATAATGTTAAG AATTTTTGCTGGTTTTTTGCGACGTTGGTGTTGTATTCTATAGCTCCATTATGGCCGTTATATGGAATCATTGGAGTGCCAGT AATTCTACCACGCCTTATATTTAAAGACAAAAAGAAGTGTCTAACAACAACATCCACACTACTACTCCTTGTCATATTTCTTC CTGAATTGCTGATTCTTATTGGATTTCTGATATTTCCTATTGTTATGGGCTATTACATCTCTAAGGAATTGGTGAAGTAAAAT GGTGAAGCTTATGAATTTGTGGAGTGAGAGGATTAAAGATAGGGAAGTTGTTGAAGTTATTGGCTGTGAGAGAGTGCCATTGA TGAAACGTAAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00048	GGGAATTCTCTGTAAATCCCGTAAACGAGTAGTACGAATCCGGACTTGAATACACGCGTCAATCCCTTTTATATCCTAGAATG GACCGTGTGGACGGCAACTCAGAGATAACGCATATCTATGTGCTCGCTTGCCCATCAAAGAAGAGACGGCGACCAAACGGACG ACATATAGTGACATGGTCAACCCGTACGCCTGCTTCGTAAGCCGACGGTCCTTTGAAGAGGCTGGCGAATCATGTCGTTTGTG CTTACTATTACATGCTAGCTTGGTTGGGGCATCTCGGGACAACGTCTATGTACAATAAACACAAAGCCGCGTAGTTATCTTCC GCGAGTTCCGCCCAATACATTGGCGGTGACTTGAGACCGCTAAAATGCACATAGAAGCCTCAAACATGGTAAGACTATAGATA AGCGGCGCGAAAACACGGCATTTGGAATGATGTGTACTGGGAATAAGACGACGTCGCTATGGCCTCTCCGGAAGGCGGTGTAT GTGCCAAGCGATGTTTCATTAATGTAACGGACAGGTCGCTGAGGTGGCTTTCGTTGGGGGCGCCGTCTTTGGGGGAGATTGCG TCAATTTTGACTGTCAGATCAGCGACTAGATTTTAGGCAGATTAGTGTGCCACCTGAATCAATAGAACAATATCAGTTATGGC GGTGCAGTATACTATACAATGGGTTGGGCGCATCTGCATGTCTCATGCTGTCATGGCAATCGACCTCTAGTCTGGGGTGATCC GAGGCGCTTCTCTTATTAGGAATAGTGCAGGACCCGAAACCGCCATAGGGAAAGGGTGAGCGAGGTAGCAGCGTAATAATTCG CGGTGGGCAGGAAATGCTTAGTGTTCTGTCTCAAGACCTAAGCGACAGCGTGACCTTGTTTCACTTACCTCTGAAGCTCTTCG ACGTTATAGATATTGGCATCCCTAAACAACGAGTACCTTGTGCTACGACAGAAAAGTGACCTGAAAAAAAAAAAAAAAAAAAA AAAA
ERCC-00051	GGGAATTCTTACAATAGATGCGTTTAGAGTAGCTGGGGGAATTTTGCTCTTTAAAATAGCTTGGGACATGCTTCACGCAGAAA TTCCAAAAACAAAGCACAAACCAGATGAAAGATTAGACCTTGAAGATATTGATAGTATAGTTTATGTCCCATTGGCTATTCCT TTAATCTCTGGCCCTGGAGCTATAACAACAACCATGATTTTGATTAGCAAAACCCAGAGTATCTTAGAGAAAGGGGTTGTTGT TCTCTCTATAAAAAAAAAAAAAAAAAAAAAAA

Table S11

ERCC-00053	GGGAATTCACATCTGTATAAAAAACACTACAGGGTGGTAACATGGTTCTATATAAAATTAGAAGATCAAAAAACGATCCCTGT CCATCAATACCTTCAGCGGTAATTATAGGATATTCTGTTGGATTAAAATTAATTACTGGACATGGAGCTCAGAGCTTAAGCAA TATGGCTGGTTCTTATGCTGGAAAGGAATTGGGAATTTACGCAATGAATAATGGTTATGAATTTAAGGATATTAAAGATATTG AAAGATTTCTTAACCAGTTAGATTTTGCAAAGATAGAGATGAATGAGGAAGAGGATGAAATTATAGTAAAGATATCAAAATGC AATCTCTGCCCAAAGAGAATTTGTGGCTATGAATTTGAAGGAACAGCATGCCCTTGGGGAGGATTGTTAATTGGATTTATAAG TGAAACTTTAAAGTATAATTTAGGCTACCAAATGAATTTAAAGCCAGCTGAAACATGTATTATTAAATTAAAGAAGAAATAAA ACTTATCTAATATTAAAAAACTCCAAAATCTCATAAGGATGCTTTAATACAATAACATCCTCCAACTCCATCAATTTTCTTGT ATTTTCAGCATCTATCTTTCTAACCCTCATCTTAATCTCTTTTCCCTCAATTATTGCATTATAAGGGCAAACTTTTTTACAAT TTCCACATCCTAAGCATTTAGATAATAATATCTCAACAAAATTATCCCTCTTAACTATAGCTCCATTTGGACAGACGTTTATA CATTTTAAACAGAGTTTGCATTTCTTTTTATCAATTGCATAAGGAAGTTTTGTTGTTACAATCCCAGCTTTATAATCAACTGG AACTATTAAAGATTTAACAAATCCTTTCCCTGCCTGAGCTATAGCATTTGTTACTAAGCTATCTGCAATGCCATTAACAACCT TAGCAACGGTATTTCCAGTAGCTGGTGAGCAAATTAAATAATCATACTTTCCTAAGCTCAATCTTCCAGTGATTGTGATGAGT AAGGATGTTCTAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00054	GGGAATTCGATAAAATTGGTTTTGCCTTTCAGCAATTCAACTTAATTCCTTTATTAACTGCCTTAGAAAATGTTGAACTTCCA CTGATTTTTAAATATAGGGGAGCAATGAGCGGAGAAGAGAGGAGGAAGAGAGCTTTAGAATGCTTAAAGATGGCAGAGTTGGA GGAGAGATTTGCCAATCACAAACCAAATCAGTTGAGTGGAGGGCAACAACAGAGAGTTGCTATAGCGAGGGCTTTGGCAAACA ACCCACCAAAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00057	GGGAATTCGAGCTCCTAGTGCATCCTCGTGGCATCATGCGTCTCCTCAGTAGGTCTGCGACTGATCCTAGTGCAATGCGTCTG AGCCTGAGCTACAGCGATATAGCCTGGATTGTGAGCGTATTTGCTGTCAGAACCTCAGCTCATCATGTATGATGCTGTACCAT CCTGCGATACTGAAGATGCACCGCTATAATGCGAGGCTCTCCGCTAAAGTGGAAGCTGCTCGTTCTCAATGCGAGCGAGTCGA ATCCAATGCCGTAGCTGCGATAACGATGCCGCTGACTCTACGGTAATGCACGATCCTCTACATTGATAGCAGATAGTCTAACG GGATAGCATAAGTGCAAGGCTCCTAGCATGTAGTCACAGGTGCTCAGATATAGTCATCGCTGCAATCAGCTAGTCATCTTGTC AGGATGCTACTCACTGCGTGCAGAAGATTCGCACGACTTCAGAGGATGGCACTCGTCATTAGAGTGATGTTCTCGGATCGACA CTGCTGGTCTGCGAATGACTCGCATTCACTAACATGGAGCATCGTTATCTAAAGGGGATGCACGTTATCGTCGAGTGGCCGTC ATGTCTATGCAGTGCGGCCTATGTCTCATTAGCGAGTCGTATGTATCATGTCGGGCTCGAATGTTGCACACGTCTGCGTAATG GTGACCGCTAGTCCCACATGGTGCTTCGTAGCCACAAATGTCGTTAGGTAGACCGACGTTATCGCGCTATACCCGATGTCAAC GCGAGTTAGACCGTATCGTCCCCAGTGCCCTAAGATGGTCAAGCGTGCTCCTACGTTAGTATCAGTTTCCCTATTGGTACGTC TGGCGTACTTCTGAAACGTGATGGGCGGCTGGTTACCCGTATATGGGCTCGGTTGACCTCTATTGGGCGTTGTTGACCCGAAT TCGGTATCCTCGTCGTTAAATGGCGAACGTCGTCTGCTATAGGCAAACGTCTGTCGGTCATGGCAAATGTTACTCGTGTGTGC AAGAAATTACTCGCTGTCAAAAAAAAAAAAAAAAAAAAA
ERCC-00058	GGGAATTCGGGAGAGTAGGGCCCACTTGTCGATTCGTTTGACTAAACATGGAGAAAGCATCCGAGGGTGGGCAGATCCGCCTA AGCAAGGTACCATTTAATCCCGGTCCCACGAAAGAGTTAACCTATACGCTCAGATGGCGCCATGGTGCGTTCGGAGCCACTTT CTGCGAATTGTCCACCACTGCCCTCTCGTGTGATGATCAACATACTATCTTCTGCGGAGACCACCACTCACGTGTGTAGGTGA GCCATGTTGAATCCATCAGGCACCCGTCCCGGCGTATGAGCGTCTGGAGGCTCACCAACAAAACTTACATAAGACCGGAACTC GAGAGTCTGGCATCATCGTGAACAGAGGCACGAGAGTGAGCTGTGAGTCCTGACTGAGCATGTCTCGAAAACTGTGATAGATT AAGCCATGGACCAAGGACCAAGAGATCGACGGGCTTGGATATTGCCGCAAGGCTGAAGGTAACACCTTCAGCTTCAAAATGCT TGAATACTCAGCCGTCCATCACTTCGACCGGGGTTAAGCTAAGATCTGGTGGCGGTAGCCCGTCAAACGAATTGGCATCGGAC AAGACAAATCAACCAAAGAATCTACGGTTGCCATGCCATGGTCTGCGTAACGACACCCGAGGTCCTTTTTATGGCGCCAGGCA TCGACGCTGTAAAACCCTTCCGTTGTCCTGAGCAGGTTATAACGACATCAAGCGACAGCGACAAAGAAGGCGGGAAAACTGTG GACTCCCGGCTATGTCAAATACGCTGAGTCACCCAACAGAAACGTTATCCGCTTGGCAAACGAATACATGGAAAGTGGGGCCG GTCGGATCACCAAGATAAGTGGTGTCACGAATAGCCCTCGCTTGCTCTAATCATGGGATGGTACATCGTCATTGCTATTGGAT GCAAGACGAATCCTGGCAACAGCCCTCCGGACTCAGTAGGTCCATGGATTTAACTACAACAGGAAGCCGGTCAACTGTGGAAG ACTACCAGTATTCGAGCTGGATAAAGAGGCTCGGCACCATGGTATAGATGTAATAGGAACCATGAAACTCCCATGTCGCAAGC ACTAACAGAGCTGTAACCTCCCTCCATTAGCGGTAATCGGGAAAAAAAAAAAAAAAAAAAAAA

Table S11

ERCC-00059	GGGAATTCATTTGATCGTAACTCGGGTGACCAATGACCATATACGGCGTATTAAGGTCGTACCCTCGGTCTCAACTTGTCGTA TGGGACTTTCAAGTACCTTAGCTCGTCGGACGCTTTAGATGACTTATCCATAGTCCTAAGTCCGGCGCCGGTTAAGCCGCTAT TAGCGTGTGTGGACTCTCTCTAGGAGCGGCTTCGCACAAATTACTGCTCAATCCTAGATACGTTGCGCTCTTTGGTAAACGGC TCAGATCTTAGCACTCGTGCAGTTCTACGATGGCAAGTCGTGCCTCGTTCTCGTGTAGAATATCAGCTAATAGGGTCGGCTCA ACAGTGTATCCGGTGGACAAGCACTGACACGCGATGACGTTCGTCAAGAGTCGCATAATCTCAGAATCCGTACAGCCGCATCG GGTTCACGGCTATAAAACAGCGTCATCAGCGTAGGGTATCGCTTCGCGTGTCATGACTTGGGCCACGTCTCTTTCTCGCACAT TAGGCTAGATTAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00060	GGGAATTCATCGACAATAAACAAAGAAATAGAACTTTTAACACCAGAAGGAAAAATATTTTTGAAGAAAATTGGTTATGTTGA TTACTATGAGGCAGGTAGTTTAAAATTAGCTGAAGAAACAGCAAAAAGAGATGAGGACGTTATTATATTAAAAAATCATGGAG TAGTTTGTTTAGGTAAAGATTTGATAGATGCATATATAAAAGTGGAGGTTTTAGAAGAACAAGCTAAACTTACACTTTTAAAC CTTCTTGTAAAGAAATAGTGGGGATTTTTAAATTTATTTAACTCTTTCTAATTCACTAACAATACTCCAAATTTGTGTTCTTG TGTGAAGTGGCATGTTTGGGTCGTTGCTAATCTCATCTAAGATGTGGATTGCTGTTGCACTTCTAACGATTGGCTCCTCCCCC TCTTTTAAAACAGCTTCTTTAGCCTTTTCAGCAGCAGCTCTAATGTTTCTTGGAACGGTTGTATCGTTAATTATCTCATCCAA ATCAAAGCAAAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00061	GGGAATTCGGAGAAGCTTGGCAAACACTACCGGGCATAGATAAAGACGCGGGGCCAAGCATGCCGACATTGGGATACTTCCAT GTTACGGGGCATGGAGGCGCAGCTATCCCACCCTCGTGCGCAAGATGGACAACCGAGCGCGGTAGTAATCGCGAACTGCCAGG CACTTATTGTAGAGGTGAATCGCTAACTAACTCGGTGTAAGTTTCCGTCGATGAACAGGCATCGGAGAGGGCTCTACGGGCCA CCCAGTAGTGACGTCAGGAGTGCATAAGGAAGCAGATTGACCGTGGCGCAGACTCGCGATATGAATAAGACTCTAGGGGGTGT ACAATTGATCGTTGCGTACGGAATCGTGCGACCTCAAAAGTTAAGCGCGAGGGTCACCTTGCTCCGCGCGAGCAGCCTTTGTC CAGGCCTAGTCCTTGCATTCGACCTATCGCACCGAGCGTCTCACCCAGCTAGTACGAAATTAACTGATAGAGATGGTTAACCC CCTCAGAGCGACTGGTTTAAGTCTAGGACCGGACAAACGGTACGATTACGTCTTAGCATCAAGTGGTGCCTGATCTCGTGATA GACAACGTGAGAGTATTTGGATGTATGGCTAGTTACGCAGAGCATGTGGCATTATTCTCATGTTTTGCGGCGGAGCGACTCAA TTTATCCGAACCATGGGAGATCGTCATTCTTGTGGTGCAAAAAAATCACGGGCCCTGATACTGGTCGAAGTTGCGCCCTATGC TTACACGGCGCACGCCGCGGTGGAGCGATCGAGACCTCTCGGATCTGAAATAAACCCGCAACGTGAGGTAGTGTTACGCATAC ATTCGCCCACGCTAACTGATGCGTTGTATTTCTCGGAGTCTTTACCATGAGAATTGGCATATGGAAATCCTGTCATACCACGG GTCGATACTTGTTCTCCGTCTGAAGCGAACAACGAAGCATGTTGACCGTCTAAGATGATTTTTCCGACAGAGTGACGCATATA ACACCTCTGGTCTTACAATGATTCGAAGACACGTGAGACGCACTAGAGGCTTAACCTGGCAGATTGTGATCTCCGATGGTAAT GAAGTCGCCGTACTATCTCTTACTTGCATGACGCGACTACCAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00062	GGGAATTCACTATTGGAGAGAAAGATATCAGCCAGACCTATTTAGTAGCTCCACAGGCGCTAATAAAAGAGGCAGTATCATTA ATTGGAAAGAGTGCTGTTGAGGGGATGATTAGAAGAAGTTCAAATAAATTATTCAAATAATCATAATAAAGTAATACTTATAC TGAATATTCGAAATTATTATTTTGGAATTTTACAATATAGGTGATATTATGGCATTAAAATTCACCATTGAAGAGTTATCAAA TCAAAAAAGAGATACATTAGGAAGAAATATTGACGTAACTGTTTTTAGATTAATAAGATTTATGGATTTGGAAAGATATTTAG GAAGAGGGGCTCATGGAGTTATTTACGAATGTGGAAGAGAGCTTGGACTGGCATTAAATCCAAAAACTATTGAAGATGTAGTT AAGTTTTGTGAGGAATATAAAATTGGAAAGGTGGAGATAGTTAATAAAGAGCCATTGTAAATTAGGGTTTATGAATGTATCTC TTGTTCTGGACTTCCTGAGGTTGGAGAGACATTATGTTGGTTTGAAGGAGGCTTTATTGCTGGATGCTTAGAAAAAATATTAA ACAAGAGAGTTAGAGTGAAAGAAACTCACTGTGCAGGTTTGGGGCATGATTTCTGTCAGTTTGAGGTAAAAGTCCTTTAATGA TATTTTTTCATCTCATTTATTATATATTCTAAAGCTTCAAAACCCTCTTTTCTATGTCTTGCAAAAACGGCTATTGAAGCAAT CCTCTCCCCAATACTTAAAAATCCAGTGTTGTGGTAAAATAAGATATCAATAACATCAAACTTATTTTTTGCCTCCTCAATAA CTAACTTCAACTTTTCTAAGATGTCTTCATCTATCTTCATTCCTTTTGATGGAACTTTTTCTCCATCTTTTAAATCATACTCC CTAACAAATCCATTGAAAGTTACAATACATCCAAATTTCCCTTTGTATTTTTCAATACATTCATCCATCTTTTTGAAAACTCT TCATACTCGTTAAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00067	GGGAATTCGCCGTACTTACACCCTACGTTGCTGATCTCGGCGCTCGTACATTTACACTTGTAGTTGAAGGTCGGGCGATGAGG CGTTCGTTTGGCCAACCTCGTTACATTGCACAAATGCCGGATTTGGCTACTATATATACTCCCTGATCAAGGGTCGAGTTGTC TGTGCATTAGCTCGGAGCTAATGAGCACGTCGGTCACGGACACTGCGAAGCACGACGAAATGGCTCTCATTGCGATTGTGGCC CTTGTTGCAGACAATTGTCAGGCGGGACGGGCCAGGAATGACAATAGAACATTAATCTAATTTACAATTTGACGCCATGACGT ATTAAACATTCGGGCATGCAAATCACCGATTTTAAGATCCCCTGTACGGCTGCGTCCACACTAGCATGATGTAAATCGATTTG GCGGTGACCGCTGATCCTTAACAAAAGGGGGTGGTTCAAATGTAAAACAAGTAGGTGCGAGCAAACGTCTGGTGCTCTAATGG CAAACATCTGCAATCAGCGAACCTCGCGGTATGGCAACTCACTAATTGTCCGTGCGACGACAAATTACCGAGGGAGGCACTTA TGAGTTATCTTCGCTGTGATATCTCCTTCGACTAGCGCGGTCAGTCCAAAAAAAAAAAAAAAAAAAAAA

Table S11

ERCC-00069	GGGAATTCGGGAGAAGTACCAATATCAGACTCCCGAGACATAAGGGGTGTGCACGGCATGGATGTGTCGCTAACCTCCTGGTC CTATAAAGCAACACTCATGGCACCGTGTGCTGAAGGCTCCAAACGGGTCGATACCAGAAGGGTCGATTCTTTCTTCCAATACA TTGTCGGTGTCAATGCTGGAGGCCCAGGAGACGAAATCCTCGGTCAGGTTGTTACTTGAAGGGTTCAACACGAGCTCAAATTT GTCCAGGGGTGGTCACCAGCGGGTCTCGAACAGAGGTGAAACGGGATAAATACCCGAAACATTCATAACCCTGCCAGTCATTA TAAGCAAGCCGCTGACTTGGACACCACAACGTGTGGAACCTCAGGTAAGCTGGTCCGGGAATCTTGGTCGCGAAGCGACCCCA TTGAGTAGGCAATCCAAACCCTGCAAACAATAGGTGGCCATCCGGTCAAATAATGTGGGAGATGCGCACATCATGAGAGCGAC GTATTGAACTCAAGGGACGGTGGTCCCAGGAGAGGGATTACCACATGTTGAAGCTCTTTCAAATCGATTATCCCAATCTGCGC ACTGTAAGGTAACCAACCGCAATAATCCCCAGAACACTGCCCTGGTATCTATCGATTTGGAAGTCCAGACTCTAGTGATGCCG GCTGGTCGCGACAAGAAAACATAATTCGCAAAGGGCCCCTGTCTCATTTGGCGTCTTGTACCCAAACACCATACTTGGGAGGG TGTTGCGGCCGCATATCAACGACTAGAGGCCGTCAGAATGAGTCTTCAACACATATCGCTGAAGAAATGTCACTCCCATGGTG GCTGATATAGAAACATATCCTCGCGGACTTCATCGCCGGGCACAAGGCTACAAGATGGACTGGAACGCCGTGTCAACCTCGTA ACAACTCCCCATGCAATTCACTCACCGAGTAGCCTATAATGGGGAATGTAGACGGGGCCCTATCTCAAATGTGTGCACCTCTA TCCCCACCAAGTATAGTCGACTTAAGGGCGGATCAAATGGCGCGCTGCCATACAAATCCGGTTCCAAGCATGACTCATGGGCA GTACGCCGGTTAGTGGGAAATACGGCTGTCAAACGCTGGTCCAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00071	GGGAATTCCATGCGAGAGGCCTTGAGCCGTTGGCCGATCGCATACAGAGACTATTGCATCAAGGTAACACTTATTAATCCCCA TCGTCATAATCGCTAGATTCTAGGTATTTCGGATCTTCCTAGTTATCAGAAACATGTTAATTGGGCTCGGGCGTCTGCGCCAG GCCTTCGTAGTCCATACCACGATCTGTATTTTGCACCTTTCGCTATGCTGAGGTTGTTGACATAAGGATTAACTGCTGTGGTG TGTCATACTCGGCTACCTCCTGGTTTGGCGTCAAACAACTTCCAAGATTATCTCATACTATAAAAAGACGACATGCACCGCCG TCCTTAAGTGCTTACGACAGAGGGTCGTTATCTCTCTCGGTCTCGGTGCGCCTCTTCACGGAGCAGCATGACCTGCTAACCTG CATCAGCCAATGTCCCGTCTCGAGCTGGCCTACGGATGCGTGAGCAAAGGTGCTAACTCTTTTCATAACCCGGAGATGAACTA CCACGCTTCCTGCGTGGGTCCCGCGAAAACGAAGCAAGGAGATTCTTCGCGACCTGGCCCATTCACTACATAACAGAGTTAAG ACTTAGATCAGCGAGCAGGTGTACGCCCCGGACCTTGGGCTACTTAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00073	GGGAATTCTGTGATAATTTCGACGAGGCGTTACATATTCTGAGAGGGGTGATTAAGTCTGCTTCGGCCTGGGATGGTCTGTCT ACGTGTGCGTAGTTCTGTCATAGCGTCGAGGATTCTGAACCTGTCCATAGTATCCTGTAAGCGTCCAATGTACCTATATCGTG GACCCAAAGTCGATACGTCCGATTAAGCGACGTTGGTCTAGGTAACGAATTATACCCTCGGGTTACGAATTATGGCTGTGCCT AACGAATCTGGGACGTGCCTAAGTAATCTGGTCCGCGACTAAGATGTACGGTGATCGTGGACGCTTGACCGGACTTATGCGTC GCCTTCCGAGTTATTGGATGGCGTTCCGTCCTATTGGATACTATTCCGTGCGTGTGCGACACGTTCCGAGCATATGCTAACAG TTCCGTCACTATGTAACGCTTGACGTAGATTGCTATCAGGTTACGATGACTGCTAAGCCATTACGCGACATTCTGCAAAGTTA CGTCGCATTCTCTCACGTTACGGCTGATTCTCTAGGCTTACGCGCATGAGCTCTAGGTTCCGGGTACTATCGAACGTGTCATT GGTACTAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00074	GGGAATTCTGGACATTAATTAGGGCTGAAAGCCCTAACTTAATGGACGGGAGGTATCCCAATAGGAGGTTTCCTCCTATGGTT TTCAAAACAATCACCATCATGCTATTAATGATATTAAAATCCCAACTATACCAAAGAATATCCCAATTATCCATAAAACTGTA ACTAAGTGAGGCTCTCTCATTGGTTTATACTTCAATATAAGCCTTGGTAGGGATAGATAGCCACCTATATAGTATAGCTTCCC ATCTTCTTTGAGAGTTGTTGGTTTATGCTCATCCCTACTCATAACCCCAGCACTTAGATATTTTAAAGAGGCATCTATCACAT AAGGCATCATTATAACTAAAAATGGGATATATTCCTTATAAACTACTGCTAAGACAGCTAAGAAAGCTCCAATTGGTAGAGTT CCAACATCTCCTGGAAAAACCTTTGCTGGATATTTGTTAAATATCAATAGCCCTAAATAGGATGCAGAGAATATCAAAGCGGA AAAAATCCAAAAAAAAAAAAAAAAAAAAAAA

Table S11

ERCC-00075	GGGAATTCTCCTACACGTTCCCTCATCTGAAACCATACAACTACCAACTGGATTTAATGGAGTGCAAACCGTTCCAAACAATG GGCAGTCAGTTGGCAGTTTCTCTCCTCTCAAAATCTTATCACATATACAACCTTTAGGAATTTTCTCTTTAATCTCTGGAATA TCCTCATGCTCATAGATGTCAAATTTCTTATACTTCTCCCTCAATCCAAAACCACCATTTTTAACAACTGGGAAACCTCTCCA AGGAACATCTATGCTTTCAAAAACTTCATTTATTATTTTTTGAGCTAAAACATTACCTTCTGGCTTAACTGCTCTAATATATT CATTTTCAACCTTTGCCTCTCCACTGATGACTTGCTTTAAAATCATTATTATAGCCATTAACACATCTATTGGCTCAAAGCCA GCAACAACCATTGGAGCTTTGTATTTTTCACACAACCCATAATAAGGCTTTAATCCGGTGATTGTTGAAACATGTCCTGGGCA TATAAATGCATCTAAATAAACTCCCTCATTTAACAAGAACTCCATAACTGGAGGAGTCTGCCTGTGGCAATTTAGGATAAAGA AGTTATTAACATCTTTATTTTTTAAACTTATTAGTTCAGCCCCAGTAGTTGGAGCAGTGGTTTCAAGACCTATTGCCACAAAA ACAAACTTCTTATCTCTCTCCTTCTTAGCCATCTTTACTGCTTCACTTATACTATAGACAATTCTAACATCACAACCCTCAGA TTGCTTTTCCATCAAAGATTTTTCACTTCCCGGCACTCTATACATATCTCCAAGAGTGGTTATTACATATCCATTGTCAGCTA AATATATGGCTGTATCTATCTCTTTTTGAGTTGTTACACAAACTGGACAACCCGGCCCTGGAACAACGGTTATATTCTCTGGC AGAACATCCCTAATCCCATACTTACAGATCGTGTGCTCATGACTTCCACAGACGTGCATAATCTTTAATTTATCTTCTTCTCA GCAAGTTTGTTAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00076	GGGAATTCCTCCTCATGTGAGCGGATCACTATCTACAGCTGGTAATACTCTCAGAATTTCTAACTACCAGTCGTAAAGTAGGC GAGCGTTGGTTGGTTCCTCTTGAAGCGAGAGAACCAAGGTGCTGGCTATTGTCCGCCCCGTCTACGGCTAACGCGGGGTTCTG CCATCCCGGTTTAGCGCAGAATAGTATTAGTCGGTCAGTGGACCCCCTCCTGAATATCTATACTTAGCGGCGGATTACCCGGC CCTCTTCATTGTCGAAAGATTGGGAACCGCCTCTGGCTGTCACGCCCCCAGGCCCTAGGTGAGGTACTATGTGAGGTATTTTT TCAATGTTAGATCATCTATGTAGTGGATCTGAGAGATCACGTGGACCAAAGCTGATTGATTACGGGACTGGCCGTAAGTGCTG CCCGCGAGTAGATCGTCTAGATCCGGCTAAAATTCCCTGCGGTGCCTTAGCCACCACTCCTACGACGGGCCGCATCTTGGTTA TTCTCGCTAGACACGGTTCGGGAAGTGGAGCATCGTTAGCTGCCAAGATGTGTATGTTGTCGCCACTCTCGCACCGTTTTTAT AGTCGTTCTATTAGAGATGGTTGCACATGGGCGTTTCTCATCGGTAAAAAAAAAAAAAAAAAAAAAA
ERCC-00077	GGGAATTCAGTTTTTTCACCTTATGACTTCTCACTCCATACGAAAGACAGATGGTTTGCTCCCAATGAACCCAGAGGGAGTTA AGGTTGATGATTCCCAAGTCCAACATGGAGTTATGCCTATAACGTCATGTTGGACAGACCCCTGTATTGAGCAGACTTAACTT ATACTGATATACAGCTAAAATTTGAACAACAAATCTCTTAAATTTATTGTTGAGAATAAAAAGGATACTATCTTATCCAATAT TGTATTTCCAAAAAAAAAAAAAAAAAAAAAA
ERCC-00078	GGGAATTCGGGGAATTGGATTTGCAGAGCATATTAGCAAGTTAACGCCGATCACTCTCCGGCAGTTGCTCCATTAAATACGGG CCTTCGCAATCGCGTGTTGTTACACATAATGCCGGTATCCATCTACTATCGCCGCCAGGTGCAAGAAATGCATATCCCGGCCT ACCCCCTTAGCAATCGACATTTGTCTTTGCTGGACGCGCATGATTGAGTTATACGGAACTTCGCAAAAGTATTCCCTTTGTGG TCCGTGCGCCATGCTCCTCTGGGCGTAGCTTACAAGGACTAGGCCGTAGCCTGTAATTAGGGAACCGAGCACCAGAGAATCAG GGTCACAGTGTGTGGTAGACGAAATGATCGTGGGCTGAGGGAATTAGGAGGCGCCGGTCCAATAGTCGATAACACCTGACGGA AGTACGGCTGCAGGATCTAATCATATAGTTCAGAATTGCACGCGCGTCTAAGAACGGACCAGTGTAGACACAATACAACTTAA GCGCAGATCTGAGAGAGGGGTGCACAATCCAGGCAAAGTCCGTTAGAAGGTCAACCTTGTGGGTGCAGCGCTTTGCTCCTAAA GATTCGCTCCTCGGGAGCGACGCGACTGCTAGGGACTGGTAAAACGTTGGGCGCTGTCCAAGGTACCCTCAGTCTGTATTTCA TGCCCTCAAATATGCAATCCCGACCCGGAGCCGGCTTTAGATTTATAGCAGAGGGTCTCCGAGGACTGTAATGTCTTTTGCGA GACAGGAAAGGTTGGGCGGTGTACGTCACCTCTACGGTCGAGGCTTGGGTGTATCATGGAGTAATCTATATTCCTTACACGCT TGCTTGCTCCTACCATACAACCACGCAGTCATTACGCGTACATATACCAGCAATTCTTCTACGGACCGTTAGGAAGAAAATGA ACGGAGTGGCTGGCCCATAATTTCGCACCCGAAGCTACTGGTCGGACCCATCAGCGCGTGTCGTAAAAAAAAAAAAAAAAAA AAAAA
ERCC-00079	GGGAATTCGATGTTGGAGTTAACGGAGACCCGCCATCGTTTACGAAACAGGTCGCAGATAAATGTGGAGCAGATTTACGTTGA GGGCCTTCTGGGGACCCAAAGGATGAACGGGGTGTTGTTTCAGAGCGAATAGAGCGATCACCAACGCGCACGTCTCTTTTTAA GATTGAGCGGCTAGGTGTTTCCTACAGTAACTCAATTAGCGTGAGCCAAAGGGCGGAGCCACGGGCCAGTAAGCTATTTAGGG TTTACATGGCTCGATACCGAAACGTGACCGGTACGACGTTCATTTCCTCTGCTTTGGAGTTATCAATTCGTGACCCCGATCAT CCAGTCCAGAAGTCGCGGCCCGAAGATCAAAGACGCTACTGACTTGGACTGGTACGAGAGCCCGAGAGTTTAGTGTGCGCACC CCACGTATTTTTTCGCGTCGATCATGCTTAGATTTTAACAACCCGCGGGCCGAAGTTTGATAAGCGTGTTCTAGATTGGAACT TACCACTGTTAAATACACGACGCCCATCTCCAAATCGCACGCAACAGGGGGCTTCCACCAGATACTCCCCAGGACAGGTGGAG ATACCAACCACGAAGGAGGTCTCGTGCTGAGCCTTCGTCGATATACCAAAAAAAAAAAAAAAAAAAAAAA

Table S11

ERCC-00081	GGGAATTCTTTATGCGGGGTGTTGTTGATAAGACTTCCTAGGCACGCGGACCAAGCACGTTAAAGGGAGGTTCGCTCGATCAA GAGATCCATACAGCAGGCTCCTATCAGTCTATCTGACGCCAGTTGCCATTGGACGGGATGTCGAGGGTTTGCGGTGGGGAACG ACCATACTTACTGTCATTACGACGTGCGGGGAAATTGAGGTTAAGTTGTTTGCCACCCTACAATAACGAAGAATTTAGCCACC AGTTGGCGTTAGAGTTGTCAAGACGTTGGCGTGATGGGATGAACGTCGCTTAAACGTTGGTTCAGGGCTCCATATATACATCT GCCGTGCCCCCCTTAATCTCCATACAGACCCCCCAGGCGGAATGATAAGTCGATACCAGGACAATGACGGCTTCAACGTTTTC ACTTTCCGCAGGTGGCGACCCTCTAGTTGCACGCTGGTACATCAGACACGTACACACGCGCAGTGGGGTGTAATCAAGCAGGA CCATAACTGATAGTTCACCAAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00083	GGGAATTCGAGCTCGAGTTTATAGTCTTTTTTTGATTGCCTCAACTAATGCCTCCTTTGTAGGAGCTCCAATAAACTCAACAT CCCCATTTATTACAATTGTTGGAACTGCCATTATCCCATATTCCATTGCCTTTTGAGGATTCTCCATAACGTTTATGTATTCT ACTTCAACAGCATCCGGCATTTCATTTGCTACCTCTTCAACAACTCTTTTAGCTGCAGGACAGTGAGGACACATTGGTGATGT AAAAAGCTCTATCTTTACCTTTGACATACTAACACCTTAAAAACCTCTTAAGTTTATAATAAAAATTTTATCCAAATTTTTAT AAATAGTTTTCCAAAAATAGAATATTAAATTATAGGCTAAAAATTAATGACCACATGTCCAAACTTGTCTGAAGTGTTCAATT GCTTCAACAATATCCTTCAATTTCTCTGGTGGGAAAGCTACAACAACTTCTTCTGGCTTAATTCCAGCGTATTTTCTTGAACC GTTACAACCTAAAGTCATGTTAGGAGCTTTTCTTGTATAAACTGCCGCTACAGCATCAGCACACAATGACTGAATTCCTGAGA AATCTGCCTGGAATCTTCCACCTTTATGGTAGAGTATTGCTTGAACTAACCTCAACGCATATAATGGCTCTCCAATAAATACA ATTGAGTCTGGAATGAAGTCGGTTTCATCTAATGGAGCATAGACTGTTGCATAAATTTCCTCTTCAACTTTTGGTATTGCATC AACTGTTTTTTTAGCTGCCTCTTCATCTTTAAAGTTTCCTAATTTGACATATAATTTTCCTGTTGCTAATGGTTCTGGTGGGT TTCTAAAGACCCCCATTGCATAAGCTCCTCCCTTACAGAGGTGTTTATCAACTGTTGCATATAATTTTTTTCTTTCTAATCTT GCCATTTAAATCATTTCACAGTGTCTTTTTTCTTCGTCTAATGTTTCATAGCCTTCTGGAATTTCTTCCTTTGATTTTGCCAT TTTACAGCGACAAATGGAAAAAAAAAAAAAAAAAAAAAAG
ERCC-00084	GGGAATTCGCGAATTGTCTGGGGCCTCGTTGTGACTATCCTATTACGGGGATCTCAGGTGTGGTATCCCTGGTTGAGACATTG GACTAGTGTAATTGACAGTCATCGTATGCGGGATACCTCAAGTTGTATTCGAGGGCTTATCGGTGATACTGTGTAATCCCTTC GGCGAAAGATGTATGCGTGAGCATTAAATTTACGTGTTTCCTATATCGGACGCCTAATCTTTACCCGAGAAAGATATCTCTGT AAGTTTTCAAGCAACCGCGTCCTAATGTATATAACTTGGATCATCAGATAGGCCCATTACACTCTTCGGTGCTGCCGATATCC GACGAGCGGGCTTTTCGACTTGATCAGCGCTGTGGGTAGAGCTTGGATAAGCGAGGTCAGTCAAGCGATTCGTTGCCTCCGGG TCCCACGTAGATCGTTTGCCTGCATTTTATAGGTAGTGGCCTGCGTTCGCACTCCGAGGCACTGGGAACGATCCTACCAACAT AACGGTCGAACTCGGTGTCGGATGACCCGGACGGGACGCCCGCGCTCACACAGGTATCTGGCGTGTACACCCGAATCGGCGGG GCTCGGCGACACAAAATGCTTCTAACTCGCTGTGAATCTACTGCAGAACTATGGGTTTGCTAGCGCGCCGGTATCTACCAGCA AAACATAGGAGCGTGGCCGAAACTGGGTCACTGAGTGGAATATATCCGAGTGCAGCTGCCATTAGTGGGGCGGTATCGGGCGT GATTGAAGGTAGGCTAACATTAGTCATCTGGTAGGGCATATTTTACAAACGGTCTAGGCTGCGGTTCAGATAGGGACTGATAT ACTTGATGTGCCCCCGTTCTTCAGCGTGCAGCTATGCAGCGACAGACGTTTGGAGCCTTAATCAAGTACGCATCGGAGCATAC GGTCACTGGGGCATTTGCAGTGAAATTAACCATCCCCGTTCCCGCTTCTCAGTTGCAGGGTGGGGAAAAAAAAAAAAAAAAAA AAAAAA
ERCC-00085	GGGAATTCGATTCAGCCTGACGTACATAGACGAGATAGGGTAAGCCTATTGCAAACCTCCGCTTTGCTACTACAAGGACCTCG GAAGTGTGGAGAATCGAACCTACAATTTTGCCAGGATCACGCCGGTTATCTCTTGCAATTCCTAAGATGGAGGATAGTTTTGG AACCCAATATCCCCAGCCTACGGTTTAGGTGCAAGAATAGAGCGTACCAGGCGTCGCCCGCGGCCTTATGTAGTCTGTATTGT TGAATTAGCCTTCTTCAGAGGGCCTAACGCCAGCACAACATGCTTACCTGGCTAATTGACTAAGTGCTACGGTACACAACGAC TACGTACGTAGCACACAGTTGAGGTTATCTCTGAGCGCCCCGTTAGAACTGAGGGCTCAATTATAGTACCTTAACTGCGTTGC GCTGTCATGGGAAGGTATTTTAATACGGATTCATTACCGCTCCACCGGCAGCGTTCCGTTACATCCAACTAGGTGGACAAACC TGCTCATTCAAGGGCGCCTCCATCGCAGGGTTGCAATTTATTTTCTAGCTAGAGGTGTAACCATGCCGGCAGCGAACGTCCGC ACTAGCAGGTACACAATCAGGCATCGAACATGTACTCATTAGTTCCGAATTATAAGTCGGATACTTGCCTTAAGTCGCATCTG AATCATAGCCGCTCCATTGCCGAGTAGACGGGATCTGCTGTAGAATGGTAATCAGTCTTACCCGTGGGGTCGTTCTGCCCGAG TGCTGCATTCCGCCTACGCGCGGTATTCAACAAGGGTAATCCCTCCGACAACCCTCAGTGTTATCATCCGCGTCAAGGGGGAA AAAAAAAAAAAAAAAAAAAAA

Table S11

ERCC-00086	GGGAATTCGAGCTCTTTCTCTTGACTTTTTCCATAACTTCCCTAATTGTTCTATAATTCTCTTTCAAAGAGTCCTTATCATAA CCAAATACATAAACTCTAACTCTATTTCCTTTTGATTCTATTGTGCAATCAATGTCCATCCTTGATAATCTCTCACAAAGCTC CAAAAGCTCTTCATCACAACTCACTTTTGATGAAATAATCTTTCTCATAGTATCGCCAAAATAATAAAGTAAATTTACAAATT ACCATAGCTTATATAATAAAGTTTTGCATGAACAAAAATGTTGTGGTGATATATCATGGACGAATTTGAAATGATAAAGAGAA ACACATCTGAAATTATCAGCGAGGAAGAGTTAAGAGAGGTTTTAAAAAAAGATGAAAAATCTGCTTACATAGGTTTTGAACCA AGTGGTAAAATACATTTAGGGCATTATCTCCAAATAAAAAAGATGATTGATTTACAAAATGCTGGATTTGATATAATTATATT GTTGGCTGATTTACACGCCTATTTAAACCAGAAAGGAGAGTTGGATGAGATTAGAAAAATAGGAGATTATAACAAAAAAGTTT TTGAAGCAATGGGGTTAAAGGCAAAATATGTTTATGGAAGTGAATTCCAGCTTGATAAGGATTATACACTGAATGTCTATAGA TTGGCTTTAAAAACTACCTTAAAAAGAGCAAGAAGGAGTATGGAACTTATAGCAAGAGAGGATGAAAATCCAAAGGTTGCTGA AGTTATCTATCCAATAATGCAGGTTAATGATATTCATTATTTAGGCGTTGATGTTGCAGTTGGAGGGATGGAGCAGAGAAAAA TACACATGTTAGCAAGGGAGCTTTTACCAAAAAAGGTTGTTTGTATTCACAACCCTGTCTTAACGGGTTTGGATGGAGAAGGA AAGATGAGTTCTTCAAAAGGGAATTTTATAGCTGTTGATGACTCTCCAGAAGAGATTAGGGCTAAGATAAAGAAAGCATACGC CCAGCTGGAGTTGTTGAAAAAAAAAAAAAAAAAAAAA
ERCC-00092	GGGAATTCAGATGTATATATGATGTCCTTGGACGGGGTGGCGCAGTATTACTGCAAGAGAGCGGACAGATTAGTGTGTTGGAG CCGACACATCAAAGGTTCGTCCGGGGACCGATCTGCAGCCTACGGGACATTTATCCGTAAAAGCATGGCGCTGTTTCGTACTT ATCGGAGGCCAGGTATCGTCGCGGCGAGTCTCCCCGACGACGGAGATGGGCGTTACTATCTGGGCCGTCTCGTACTCTGTTAC TTGGCACAGATGCGAGCCCTCGTAATGTGCATCAGCTAAGGGCGATATTATAATGCGACGTTTGTACGGATTCGTTACTAACG TGTTGGACGCTAGTGGAATATGTGTCGTTGGTTAGCCTACCCATGGCTTTCGCGGCGACACATGCTTAGACTCTTTCAAAACT TCGGTGAAGTTCACTCAAGCCGCGGAGCGCCGTCGTAATTCACTAGGGATGGCGGTACCCGTGCCCGTCCGATTCGTAGCAAC CTGCATCACGATTTTGTCTTCGGGCGACTTATCAGATACGGTAATGTAAATACCTGGCATTTGGGCACTTCTTGCGTTTAAGC GGGAAAGATCGCGAGGGCCCGCTATTTGCGATACTTCCCATGTCGGTGCCGTCGCCTCTATGTACTCGGAGACGTTAATGCAG AGGCTAAGGACAATTTACCATGACTCGGTAATCCGTTCGTCAAGCAGGTAGCTCGAGTCTCCCCACGGACACGTAGTGGGTTT GTAACGATCGATACCGAGTCTTTTTGTCTAGTAGAACCAACCAACCATTAAGGAGTTCACTAGCACATCTTTGCGACCCGATC GTCCGTGTGTCGCGTAATACTTTTGTTATGACGAGACATACGCTCAAGCCCTGGGTAGCTAGTCGCGGAGGCACGTTACCGCG CACAACCCCTATTCGTTTACATGTACATCGCATCTGAGGTAGTACACTTCCGGCGTACGTGAGTATTTGCGCGTAATAAGCGC GTGTTTAGCTGATCCCCTCTCGTATCGAGGTTAAGGCAGATTAGTGCCCAGTAATTGCGTTTTTTTTGTCGTTGTCGCAGAACG CGATTTGCTCCGAAAGCTTTAAGCCGTGGAAAAAAAAAAAAAAAAAAAAAA
ERCC-00095	GGGAATTCGAGCTCTTGATGATGATACTTAACCAAACCTACCACTAATGTAGTCATCTGTCTCCTTCTTCTGTGGATTTAGGA ATATCTGCTCTGTCTCTCCAAACTCAATTAATTTCCCCATTAAGAAAAAGGCAGTGTAATCAGAAACCCTACTTGCCTGCTGC ATGTTGTGGGTAACAACAACAATCGTATAATCTTTAGCTAACTCAACCATTAACTCCTCTATCTTTAATGTGGAGATAGGGTC TAAGGCAGATGTTGGTTCATCCGTCAATAAAACCTCTGGCTTAACCGCTATCGCTCTCGCTATACATAACCTCTGCTGTTGTC CTCCAGAGAGAGATAGAGCGTTTTTATGCAGTTCATCTTTAACCTCATCCCACAAAGCCGCTTTCTTTAAAGCCCACTCAACA ATCTTATCCAATTCTTTTTTATCCTTAATTCCATGAATTCTTGGGCCAAATGCAACATTATCATAGATGCTCATAGCAAAAGG ATTTGGTTTTGAAATAAAAAAAAAAAAAAAAAAAAA
ERCC-00096	GGGAATTCAGATAAAACGAATAGCTCGTAACCAAACATGCACAGCGGTCAAACAGTATGTCCCAAGGGGACTTAAGCGCGGTG GCCTCCCCTATCCCCTACGAGGCTACCCGGATCGATGACGCGAATTGGGGACATTCAAATGAGCATCCTAGTCACCGCGTTTA AAATGAACCTGCCGGCTGATCGTTTTTAGGATATTGTGAGTAATATAGATTGGCGCTAGTAGATCACAGAACAACCGCCGCAT ACGGCCGATTGTCGCAGCCCGGGTCGATTATAACAACGGTGCAATCTCAGCTAAACCGACGCAGTTTTGCTCCTTGGATTCTG AGCCCGGGCATCGCCCCTCGTTTATGAACTAGCCTATCGCAGACGGTATCAACAGGAACATCCTCGTGTTAGATATTGAGGCT GCTTCGTGTCGGCACGAAGTGTCTTCCGATGCAGTGTCCAGTCATGACCTCGATCCATCGCGTATAGGGACGCCCCCTGCTCG CGTTACTGCCAAGCGAGCGTGGTGTGGTGCCCCCGACCTACAACTTGCGCCAATTATCGAGCTGGTAGACGACCAGCGCTGAC GAGCTGGCGCAATGACGACCTAATTGGCGCACAGTACTAGGCATCGTCATCCAATGCGACGAGTCCTACACTATCTTGGATAT GATATGGCGCACTACACATGCTAGCCGCTGGGGAGATTAGCTCGAGTTGCCCCTTTGCCCGATCCCGGAAGATACGCTCTAAG CTCGGCAATCGCTCTTGCCGTGCGAGATGCTAGCAAAAAGGTGTACTTCTCAGCGGAGCAGAAAGATCATGTTTATTGGAAGC ATCAACCTGCGCCGTCTTGTTAACTTGTCATATCGCGCACGTAGTAGCCTAGAGCGCCAGGGGCGGAAATTCGCCTGAAAAGT TTTGCCGGCGCACAAGCACGATCGGCTCCTAATAGGAGGTGAATTAGATAGGGAAAAGATCGGGATGCTACTAGTTTACTGCG TCACGCTGAGGGACTCATCCTGGGCTACAATCCTATTGCCGAGATAGTATTTCTTAGCTTCCTGAGGGAGGTCAATTTGAATG TGGTTATATGCGAAAAAAAAAAAAAAAAAAAAAAA

Table S11

ERCC-00097	GGGAATTCCCTTCATAATACCACCAAAATACCAATTCGAAAGTTTTAGCATATTCAAACAATATAAAATCTTCAGATTGGACA TTAATTGGGACTGAAAGTCCCAACTTAATGGACGTGTGGTATCCACACCATAAAGGGGCTACGCCCCTCTTGGGATACTCCCC TAATATTGCTAATTTACACCTCCGAGCATAAGCGAGGAGGTGTTAGGTTTTGATGAACCTTTTACTAAAAGGTTCATACCAAT AGGAGGTTTCCCCCTATGGTAGTTAAATGTACATTGGATATTCCTTTCTACTCTTTGACATCATCTTTAAATGTTGCTCTGCC AGTTCTTTAAGTTTGTTTTCAATAGCTTCAGCCTCTTTGATGAGATTTTCAATATTTACATTTAGATTGAACATTTTATTCAA AACCTCTAATAGATTAGCCCCCCCTCTTGGGTCTGGTCTAATTCCAACAGTTTCAGCCAACAAACCAATAGCATCAAACCCAT GTCATGGCAAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00098	GGGAATTCGGAGGTCGCAATTACATCGGTTCCTGTCCCGTAGAGGCTGGAAGGGGCATAAGAAGCAGTGATACCAACGCTCTC CCCCGCGCGTCTCGTGAGAGCAGACCATGAACATCGCAGAGGAGAATCCTGCATGACTGAATGCGCAGAGCAACTGTCACCAC GTGGTTAATGAGAAGGCAGAACTCAACAGACAGCTCTGGATCTGCTGCATCCCAGGGCAAGAATCAGGAAAGCAGATGCAGTA ACCATAGGCACGTGAAAATGCTCCCGGCCACACTTTGGAGCTATTACCATGGTCGGGCCCAAACATAAGTGGACAGCTAGAAC GATTTCTCAAGCCTGGCAACGTGGGTTAGAACTCCAACCCCTCGCACGTAGTATGGCGCTGGAGTAAAGAGCGCTCTGTTAGC AAGCGACCAGTCTCCCGAAAGTACAGGATGTGCATGTTCTAACCAAAGGGTCGCAGGGACGATGATTGCTAGTAGCTTGACAA GGCTATCCTAGTCATCCTGAATCCGGCCTATCAAAGGAATGCGTGGCAGGTCAAGTGACGAGAGTGGAAGAGCTTCCCGTTGA CAAGCGGCAAGTAGACTGTGCCTACCCGGGCTTTCCAGACCTAAGATATCTGCATTCAGCAGAGTGTTGTGTTCGGGGCAGCA GTGTGCCTTCATTCGTCAACTGGAGCCTAAGGCCCCAAACTCGATCATTGATGACTACTCGACAAAAGAGGGTGGTATACAGA AAGAGGCTTGTGTCGCCGGAAACGCTTATCCGCACAGTAAAACCTCCCCAGATGACCTTCTCCCTCATAATCACTTAATCTGA GCGCAGGAGGCAGGCTGTATTAATTCCGGCCTCCAACCGGACCGTGGAACGACGCGACCAAGTGGTCGACGGGACATGCCCAG TATTTGGCCGTTCTGCCGATTCTCAGCTAGCAAACCAAGATCGTACTACGTACGCGCCTGGATAGATCGACGGCTGTTTAATA AGAGTCACTCCAGGCCTGTGCTAGGATCAGGGCGACCATGCCAAATATCAACTCAAGGACAAGTTGACGCCTGCCTTCTGGGG TATGGATCAAAAGCCCACGTTACCATGTAAGACCGTGTGGATTTTCGAAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00099	GGGAATTCGAGCTCGGTACCGGGGATGCAAATGAAAGAGGAGACATTTTATCTTGTCCGTGAAGATGTATTGCCCGATGCAAT GAGAAAAACATTAGAAGTCAAAAAGCTGCTTGATCGAAAAAAAGCAGATTCAGTAGCAGATGCCGTTCAAAAGGTCGATTTAA GTAGAAGTGCGTTTTATAAATACAGGGATGCTGTTTTTCCATTCTACACCATGGTAAAAGAACAAATTATCACACTTTTCTTT CATTTGGAGGATAGGTCAGGTGCGTTATCTCAGCTTCTTCAGGCGGTAGCTGATTCTGGAAGCAACGTTCTTTCCATTCACCA GACCATTCCGCTTCAAGGCAGAGCAAATGTGACACTGTCTATCAGTACGTCGGCATGGAAGAAGACATTCATACATTAATGAA TAAGCTCAGGAAGTTTGATTTTGTAGAAAAGGTTGAAATATTAGGTTCAGGTGCATAAGGGAGAGAAAATCGTCATGAAAGTC GGTTATTTAGGTCCAGCAGCTACATTTACACATCTAGCAGTCAGTTCTTGTTTTCAAAACGGCGCCGAACATGTTGCTTACCG CACCATTCCGGAGTGTATAGATGCAGCCGTTGCAGGCGAAGTTGATTTCGCTTTTGTTCCTTTGGAAAATGCTTTAGAAGGAT CTGTTAATCTAACAATAGACTATTTAATACATGAACAGCCTTTGCCAATCGTGGGTGAAATGACGTTGCCGATTCACCAGCAC TTGCTCGTCCATCCCTCAAGAGAGAATGCATGGAAAGAGCTCGACAAAATTTACTCACATTCACACGCGATTGCGCAATGCCA TAAATTTCTTCATCGACACTTTCCTTCCGTTCCATATGAATACGCCAATTCTACCGGGGCGGCAGCAAAGTTTGTCAGTGACC ATCCCGAGCTGAATATCGGGGTCATTGCCAATGATATGGCAGCTTCTACATACGAATTAAAAATCGTGAAACGGGATATACAG GATTATAGGGACAATCATACAAGATTTGTTATCCTGTCTCCCGATGAAAACATATCTTTTGAAGTGAATTCAAAATTGAGCTC TAGGCCCAAAACGACCTTAATGGTCATGCTGCCGCAGGATGATCAGTCCGGGGCGCTGCATAGAGTGCTGTCTGCATTTTCTT GGAGAAATTTAAACCTGTCAAAAATTGAGTCACGTCCGACTAAAACCGGATTAGGCCATTATTTCTTTATTATTGATATTGAG AAAGCGTTTGATGATGTATTGATTCCAGGGGCCATGCAGGAGCTCGAAGCACTCGGCTGCAAAGTGAGGCTTCTGGGTGCATA CAGTCTTACCAATTATAAAAAAAAAAAAAAAAAAAAAAAAA

Table S11

ERCC-00104	GGGAATTCGAGCTCTGCAATCTCTTCAACAGCCTCTGCTAAGTATTCTGCAGCTGCTCTGCTAACTCTCTCAGCACCAGCCTT TTTCAATATTCTCTCAAATGGTGCAACTGGAAGCTCAGCCATAATACCACCTCACAATAGATTTCCAATAAATACTGTTATAA AATCCTTTATTTAAACTTTTCGGTCATTTTCATTTTTTGTGAAAGTCTTTGGAAAATTTTCCCACACATAAAGAAGGTATTAA AAAGTGTGACACTAAAATTATAAAAAACACTATTTATAATGTATGTCACAAATTTAAAATATAATTTTATGAAAGATAGATAA ACATAAATTGGTAGAGTTTAATTGTGATATTTATGATAATTACTATAGCTTCGGGTAAAGGAGGGGTTGGAAAAACTACAACA TCAGCATCTTTAGCAGTAGCACTTGCTAAATTGGGAAAAAAGGTTTTAGCTATTGATGGAGACATATCAATGGCTAATTTAGG GATTCTATTCAATATGGAAAAGAAAAAACCCTCTTTACATGAAGTTTTGAGTGAAGAGGCAGATGTTAGGGATGCAATTTACA AACATAAAACTGGAGTTTATGTATTGCCAACGAGTTTGTCTTTAGAAGGTTATAAGAAATCAGATATTGATTTACTTCCAGAT GTGGTTAATGAGGTAGCTGATGATTTTGATTATGTAATTATAGATGCTCCAGCTGGGTTAAATAGAGAAATGGCTACTCATTT AGCTATTGCTGATAAACTTTTACTTGTTGTCACCCCAGAGATGTTCTCAATTATTGACGCTGTTAGATTAAAAGAAAGTGCTG AAATGGCTGGAACACCTTTAATGGGTGTTGTGTTAAATAGGGTTGGTAGAGATTTTGGTGAAATGGGTAGAGATGAGATTGAA ATGTTAATAAAAGGTAAAGTTTTAGTTGAAGTCCCTGAAGATGAAAATGTTAGGTCAGCAGCTTTAAAAAAGATGAGTGTTAT TGAATATAGAAAGAATTCTCCAGCTTCTCAAGCTTATATGAAGTTAGCTTCAATAATAGCAGGAGTTCCTATTTACATTGAAG ATGAAATTAAAATAATAAGGAAAGAAAGCTTTATAGATAAAATTAAGAGATTATTTAGGATGTATTAATTATCTTGATTTAAA AATTTTAATTATCATCCTTTTCCAAATAAACCGTATATGTTGGGAACGCCCTCTCAATGAACCTTTCAGTAAAAGCTTCACCA AAAATGGATGCATCATCTCGCTTTGCTCGATGATGCCTCTTAGTTATCTTTCTCCAAATAAACAGTATATGTTGGGAATGCCA TCTCTATCCCTTCTTTTTCAAATTCCTCTTTTATCTTCAAATTTATTTCATCAACGGCATTTAAATAGTAATCAAATCCCATG TTTCTAACAAAGTATTCTACCCTCAAATTTAAACTCCAATCTCCATATTCCCTAAAATGCACTCTATATGGAGGGAGAGTAGC TGGATGATTTTCAACAATCTCTTTTATTATCTCCTTAGCCCTCTTAATTTTCTCTACCGGTGTGTTATAAGTTAAACCGATAG TCATTAAAACCCTTCTTCTATCTCTAACTGTTAAGTTTTCAATGGCTGAATCCAACAATTCTGAGTTTGGGATAGTTATTAAA GTGTAATCAAAAGTTCTAATTCGTGTGCTTCTTATTCCAATCTCCTCTACAATCCCTTCAGCCCCTTTAACTTTAACCCAATG GCCTAAACTAAAGGGTTTGTCAATCAATATTAAAATCCCAGCAATGAAGTTTTTTATGGTGTCTTGCATAGCCAAAGCTAAAG CTAAACCCCCTACTCCTAAACCAGCCAATAAAGCAGTGATATCATAACCAACAGAGCTTAAAGCCGTTAATATACCAAGAAGT ATTGTTAATATCTTTACAACTTTTTTCAATGGCTTTATTATGTGTTCGTCCAACTCTGTTTCTGTCTTTTCGGTCAATGGAAT TAGGTAGTGTTCAAATATCCCAAAAAAAAAAAAAAAAAAAAAG
ERCC-00108	GGGAATTCCTCTGTGTCATGATCGTGAGTTGTCGCAGTGTCTGTACCAATACTCTGGTGGAGCTATATAAGCCGCTGTTGCGT AAATCAACGGCATGATCCCTATGACCGCGTCATGCTAACTGATACACGCTGCTCGAACAGTGATACGCACACTGATAACTATG CGCAGACGCTTGAAACGATGTGACATCGCTTCTAGAGTATGAGCCGCAATGCACGACTGATACTCGATATGAGCAGCAGTCGG CTATGATTTGCAATGCTTGCAGTATGTATCCTGATCGTGCGTGCGATGTCTGATAATACGCTCGCATGATATGTATTGCGCTC AGATGCTGGAGATATGCCATGCGTGCTGTCAGTATGCCATGTATGCTGATATGTCGCGATCTATGTGGTGACTATGAGATCCA TGTGATGACGTTGCAGTCTCTGTGACCTTATCGACGCGCATGTGAGCCTATAGACAGCGATGTGAGCACTCTCATCTGCGGAT CAGTCTATCCTCGCTGATGCTCAGTGATACACGCTGATGCACGTAGTGAGCATCCTGTGCTCGCATATACCGCTGCTGCACTG ATATGAGCCAGTGCTGCTGCTCTCTACGGAGTGTGCTCGGCTATAACAGCGAGTGCTACGCCTAAACTGGCTGTCTAGCACTG TAGCTGGTGCATGTACTCGACTGCCGCTGCATCTACTATAAGACTCTGACATTAGCGTATAGGCTGATACATTAGCTCGGATG CTATCAGCTTGCGCCTATTATATGCCTGACGCGGGATCTATCAGAACGACTCGGTAGCTCATATACTGGATCACGGTGCCACA ACATGCTACACGAGGTCTCAGACTCTATCCCGTGGACTCAACGTGCATCTGCTATGCTGAGCGCGTATCTGTGTACCTGTCCG ATGCTCTGATCTACACTGCCGTGATCGTTATATGACGAGACTGTGCGCTCATAGCCGACACTGTGCTCGATAAGACCACGCTG TGCGGATATAAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00109	GGGAATTCTAGCGGAGTGTCAAATTTCGGAAGGGGGCCATAATGTTTCTTTACAATCGCACCAGTTAGCGTGGCGTATACCAT GTTGTTAACAGCGCCATAAGTGCCTGATCCGCGGGCAAAACTACGCAACACTGTGACTGGGTGCTAGGTCGACGAACAACTGA CGCAACTAGATCATGGGAGTGCCCCAAGTAAAAATTGTGTGTCAGGGCAACAAGTGACGATAGCGCGCGTAAATGGTATCATG ATTGTGACCTCGGTATCTCTTGTACAGTTTACGTCGACGCGAAGTCTGATCACGTTTAACTAGCTCAGGGGTATTAAATAACC GAAAGGTTCATGTGGATGTGTGAACTTGCAGACAGAATGACCCATAGTCCTTTACCCAGGTAGCTGAGGGCGACGCACTTGAC CATCCGAATCAAACTGAGAGATCGAAATAGCCTCACCCTTGAACCTACAAAGCTCACTTTAGCCCGTTAAGTTGTCGAAATCA CTAGATCAGAAGTCTCCCACTCAAAAAAAAAAAAAAAAAAAAAAA

Table S11

ERCC-00111	GGGAATTCGCCCTAAGTTCCGGTCCGCAATTTCGTTTCGTTGGGACGCTTGAAGCGCAAGTAGAAAACGAGATAGGGTGTCCC ATCTAAACCGCCGTGCCAATAGCTTTAAAGGCCAGGAAACATTTAATATCCCTAACAAGCACGGTCCACCAACGGCATTACGA CTTTACGAGTTCGCAGAACAAAGACTTTGCAACTGCAGGGGAGCCCTTCGATGCATCCGAATGAGGGCGAGCGTCGCAGATTA ACTTCGAGCAGTTAACCAGGCAAGGATATTTCCGGCATCAAGCGTTTCTCCCTACTAATATCCTTCCTTATGTCCCGCATTAA ACAGCACTCAGCATCTCAAACAATCACAAAACAACCCACCTCATCGTTGACCAGATGATAACGTGGGACATTATCTTTGGGCA ATACCACCAAAATCGTTCTTTATGGGGTATCGCTCTTAAGCAGCGCACTTCTGCATAACTATGCCATACAGTTAGGTGCTACC ATGAACATCCCGAGCTGCGTTGCATGTATCGGGTATGCCCAAGACCATACCTCCAATGCTGCAGGGGTTAAATTCTCCGTTCT CGTCTAATCTAAGAGAATTGTATAGCTTGCAGGCTAACATCCTGGGTCCAACCCCACATTGTAACTTCGCTGATTCCCACCAC TAATTTCTAGGGTTAGTGAAGGTTCGATACATCGCGCATTGGGGGTCTCGGTCAAGAGGAGCGCGTAAGTAAAGACGCCTATC TTCCAGTTTGATCGGGAAACTACCCGAGGGGGATGGTGCTCAATTGGGCCTCGTCTGAACACAAGAGAGATCGCACGCGGAAA CCGTTAACGCAAGAATATACAGCATATGGCATGTAAGCGAAATAACATCCTCCCACTGGGTGCACAGCGAATTAGTATCATAG TAGAATTAAGCGAGATCCATGACGTCACCGCTACTCAATCATCATCCACGTCTCGCGTCATACCCAAAAAAAAAAAAAAAAAA AAAAAA
ERCC-00112	GGGAATTCAGATGCCTGGATAGGTTCAAGTTACGTTTACACCGTTCCCACCCCACTAACCACGACCTTTCTCGCCTTTGTTTT ACCAACGCCGGCTAACAGGTCGGGCCCAACTAATATTGTTAAGGCAGGCGTTCTGTACTTACTCGATCGTTCATAGCCCCACG ACATAGTTTTTAGTCATTACGTAGCCGTTATAGAAACTCACCTGTTGTAGAAGGTTACAACCAGATCGTCTTACTTATGGCAT GCTGGCGTAGACAGGTGCCAATTTGCGGCCAGTACTCGGATGTTCGTGGACTGATCTGGTCCTCTGTTCCCCTGGTGAAAACG TCGCTTCACTCCGGTAAGGGCGAATGTAATGACCGTATTCTAAGGTACGGATCTACACTATGTGCGGGCGAATAGACTCGGGC CCGTAGCGGGGAGCAAATACTTGATCGCAATCTCTGACGTCAACTGATGTCGCGGAGACTGCTGCGCACCCAATAGGTACCAC TAACGTCCGTGTGATTTTAACCGGTAGGAATAAACACCGTCTTATACAGCTACGTTTTTCGATTTACTACCGAGCCGTTTGCG AGAACATATGGATTGGGAAATAGGCTCGAGTCCACATACAGCCTACGGTAAGTTGCTAGGCTCGCAATTCTATCCGGGTTTGT GAGTCTTAGTTGTGCTCCGGCTTTTGAATGAGCATACTCATGAAAGCGCTGCTACTATGATAAGAGTACACGTACAGGTCTCG CCCGATTGGATTATGGCGAGCTGCCGCATTGACGGACATACCTTTGAACGTAATCGCGCACGAGTGCGGATTAAGATTCTCCG CTTCAATCATGCAATGTGGTACAGCTGACTATCATTGACACCAAGCCGCTTGCAGGTATCGCCTGTCGGATAAGTTAAGAGTG AGACGAAGAGTATTCATCGAGCGCCAGGTAAGATAGTGCCACTCTAAGCATCGGTATCTAGCTTTAGTAACCTTCTCGATGGG GAATACACCTCTGCTTAACGGTCTTAATAATTGACGCGTCTTGGACGTAGTACTCTGCAGTGCCTAAACTCATAGTAAACGAT CTGGTAGGTCCTTTTACACACGGTTTTTATCGCTTAGTGCTAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00113	GGGAATTCACACCGGCGCACGCCACAGGCGTCATACTTCCCAAGAAGCGGCCATAGCCCAGATGCGAGGTGGAAAAGTCACAC TAGAGCGACACCAACATCGTTACGCTTACACACCGGACGCTTGGATCAGTGGGAAGTGCTCACGCGCGGAGCCCACTGGGCGA ACAGCAACGTTATAACGGCCACTCAGTGGTTCGTCACGCGCAGCCCCGGGTTCGTCCCCTATAAGGGCCTAGTACCTTTCGAG CCCCGCGCGTACTAGGCAGATAAGAACCCTCCAGCTCGGGGCCTCAAACCGATATTCCATGTGGGCCAACTGCCATGTTGTGT CCAGTCGCTATCGGAGTAGCCGCGCTGGTGCCACACGACTACAACCCTCGTAATAGGGCTGCGTGCGTCCTAAATACACTCGC TGTTGAGATACTAAAATTATCTGTGGATTGCCGGCATTGAGCCCACGGTAAACCCCAAATACATAAGTGTATAATGTCTCGGA CCCGTCGCAACGGTTGTTAATATGACAGGCCGCTAAAGACGTTCTACTCCGCCATATGAGATAATATCCTTATCTTGAGACGC ATAGCAAATGTAGGAGAGAGAGGTTAATAAGGCCTAGCCTAAAGGTTCTTGCAGAGCAACATCATATACCCTGTAGAACCCGA CTTTTGGGTTTAGGGGCCTGCCGTCAGCTACAATTCATGCTTGAAGGTTTCACTAGATCGTGTTATGGACGATGACTATAGTG TAACAGGTGCAGAGCTTAACTTTGGACACATGACACTCAGTTCTGTACCAACTAGGAAGAGCGCCGGGGTAGAAGAATAAAAA AAAAAAAAAAAAAAAAAA

Table S11

ERCC-00116	GGGAATTCAAGCGTTCACAGCTCGGCAATACCTGTGACGAGCTGCTCGCAAGATTTACGCAGTGTGGCTATACTTGACAGTGA TGGCGCTTACTTCAGATGTATGGGTGATACTTCGCTATATGGGTGGTCACTTCTCTATGGCGCGTGACAATGTACTATGGAGC GGTCAATGTCAGTACGGATCGCGTCGATCTAGGTGACTACGCACGCCTCTGGAGTAAATCGAGTGCTCCGTGCGAAATACGCG GTCATCGTGCGAATAACCGAGTCATCGTGAGTAGTATGAACGTGTCGTGTTATGCAGCGGTATGTCGTGCTATAATGGCGTCT GTCGTGCTCATAAGGTTCCTCTGATGTGCTAGACGTGTCCATCGAGCTGCATAGCTATACTTCGAGTCACTTGGGATACTTCG ATAGCGTTGTGAATAGTGTCGTAGGCTCCCGGGCACGTTGTTAAACTGTTGCCGCCAATTCAAGATTAGTCCAGCTCGTACTA TCGAATACACCATCGTCGTATCGAATAATCGCACCTCGTAGGAGTCGGTTGCCACTCGTTGATAGTCAACCAGGCTCGTTAGA TAGTAGCCCAGATCCTACGAGATGAGCTACGTAACTACAGTGATAGCATATAGGGTACGCTAGAATGCCAGGTCGTAGTCGAA TTAGTCAGGTTGGATGTCTACTAGTTGACTTGGAGTATGCCATGAAGACTCGTCCCTCGATATCAATACTCGTCCGCAGGTGA ACACTGTAGTCGGTGCTAGTGCCCACTTCTCGGTATGTGTCCTCAATTATCGAGTAGGATTCTAATCAATCGTCGCGGCTCAC TAATTGTCTGCGGTGGCTACTAATGGTTACGGTGCCTGACTAATCGTGTAGGTGTCTAATACATCGTGATACGGGCGATATAA TGCTCGATACGGCAAATATAGCTCCGTCCGGTGGATCCAGATCGCAGGGTATCGCATCGACAGACCTGGTATCGTCGTGACGA ACGTGCTACTCGCTTATCGGGCCTGCTACATCAGTGGCGATGTTCGTAACCCTTAGCCGATCTTCTTACTTACGAGGCTACTA TTCGATCAAACTCGCCTATCTGGTAATAACTGCGGTGATCTGGTAGCCACTACGTGCGCCTGGTAGCAAATACGGCGAGCTGG TATCACTATCGGCTCAGTGGTCCGACATAGTGCCCAGTGGTTCGCATAACTGCCGCTGGGTCCAATATAACACGCAGTCGTCA ATCATACGAGCCGATGGTCGGCAATAGCGCCTGTGGTGACACTATGCCACCTCTGGTCTAATATAGCGCCCTGTGGTCGTATA ATCGAGCGCGTAATCGTATATCCGACTGTAGGTGCGTAACTCGCGACTAGGTGGCTCTAATCTGCGTTGGTTGTCGCTCACAG TGTCTGGTGTTCGATACCCGGATCGGGTTCCGTAATCTTGGCATCGAGGTTTCGTACATGTCACGCGGTCTCGTTCATTCTCG GTGGTGCTCAGTACATCCAGTGGTGAGTCGCTACATCACACGGTGATCCGGCTAAACCTCTGGGCATCCGTATTAAGCGACAT TCCTACGACTTATCAGCACGTCCTACGGTATAACAAGGCGTGCTACGGTCTAACGACGCTGGTAGCAGTCTATCAGATCGCTA GTACGAGTTAGAGATGCTTAGTACGCCTTCGAATCTATGATGCTCGTGCTCACGCGATGCACTCGGATTATGGCACATGCACT CGCGTAATGACGCTGCATCGCTCAGTATGATCCATGAGCGCCGTGAATGACGCATGAGCCTCGTATCGAGTGCATGAGCTGTC TTTCACATGATACATCGCTCTAAATCATCATGCGACAGTCTCGACAGCAGCTCAGCATCTATGCATCATGTGCCTCACTAGGA CATCATGCTCGACTCTGAGACACTGATCGAGCATTAAGACTCTAGAGCGGCCGCCGACTAGTGAGCTCAAAAAAAAAAAAAAA AAAAAAA
ERCC-00117	GGGAATTCAGATACTATCAGGCGCCTATGGGCAAATCTGGCCTCCAAACTCCGAGTGTCACCGAACCGTAGGAAATTCCTTCC CCAAGCGTGTGCAATACTCGTAGCACACCGGGATAAATAGGAAGGAAACATCCGCGGGTCTTACGGTGAAGCTGTGGGACCGC TTCTGTACACGGCGTCCAATCAAGGGGCTTGGCATTTGGCCCAGATCGAAAGTGTTGAACCACAAACGACTCTATCGGTGACG CCTCCAAGCGCGAAACTCCAGGCAATGGGGAACCGCAGAAAGATGTTCCGCTAGACCGCATTAATACCACATCTGGGCTTAGA AGCCCCTCGGTGCTCCAGGGAGGACGGATCGGAATTAAACGTGATATGGAACTTTAACTGATCAGGCCTTGCCCTTACTAATG GCGCGTTGTAACGGGCCTTGAGGGAATGTCACTATTGAGGCACCCGTTCGACCCTCAGAGATATACCATTCCGCCTATTGTAG CTCTCCTCGTACCACAGTCTTGCAAATACTGTCATAGCTATGGAACCGCCCCGACGCCGGGATTATGGCCTCTCATGGACTCA GTGTGATCAGAACCTGCTCGAGTGGGGACTGGATGCAGAGCTGATCTCTGTAGTGTGTTGTGTCGCGGGAGCACCACCGGATG ACAACCGCCATATTCCAGTGCCCAAATACTCACTGGTAACGGCTTGAACTCATGCTAATTCCATTATAGTTCTTTAAACATAA GCTTTGCCCTCGGGGCCCATCCCCTGAACCATGCGGTGAGTCACGTACGCAGACCTGAAAATTAAAGATCCGGACAGGCCCGA CCTTAGCCAAGGGTAAGAACCGCTTCACTTAGTGAACATCCTATCCAGTCCGTGCAGCATCGTCTACGGTCCGGGCTTCTGCC GAAAGGTCCATTAAACAGACAGAAGGATAAATGGCTCCAGCGGATACGCGCATATTCGGTTATCGCAGTTACCGTGCAAAACT GCATCCCCGCTGGGATAAGCACATGAGATGGACAAGGCTTCCTATGAGTGATTCCAAAGAACATTGCCCGACGACCGAGCCTT CAGGTAATCCACGAGACATATGCTAACCAGTGGTGCCATGGAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00120	GGGAATTCGGCGTCTCACCTGGCTTGATTCAGTTAATGGAGCACTTGTGGGAGTGCCGCGACACAACATCCGCTAGCCTCAGT CGAATGACAAGTTAGAACAGGAGTGGGGCCGATCTCTGCAAACTCCTATTGTCAGGGGTGGTGGACGGTATAGGGTTTTGCGC CTACCTGAATGCAAGGGCTTACCTCCAACGGCTTAGATGTGCCTAGAAGGTACGCCCTTCAGTCAAGACCGGCCCGGCGTTAG TTAAAGCAGGCTTGTCACACATCACGTAGTTCCTGCTGCGTTTTAAGTCATTAGCTCCCAGTAACCCATCAACCATTACCGTA TAGACTTATCCGAGTGTGATCAAATAACGCTGAGCCTTATGATCCTCGTCGACCCAACAACCGCCGGATATACGTTGGGATAT AAACGAAACACGTACCGCGCGAGTGACACGCGTTGACGTTACATGGTAAACTCGTAGCCAACCTTAACATTCCCTGCACTATG TTAGTGCGTACAACATTAAGGGAAAAAAAAAAAAAAAAAAAAAAA

Table S11

ERCC-00123	GGGAATTCTTAAGAGAGGAATAATTACTTTTTCATCTTACCCACCAAGTTTTAGTTTTCTTATTCTTTCACTTAATTTTTCGA CCTCCTCCTTTGTTAATCTTGTAGCTTTTTTAACCTCCTCCAATTCTTTTTGTAACATTATTACTTTAATCCCCAGTATTATG TTGAGGAGTATGCTAATAGCCACAATTATATACAAAATCATCCTTATCTCCTCCCGAACAATCCTTTAATAAACTTAGATATG AATGATTCTTTCTTCTTCTCAAGTTGTGCTTCATATTTAGCTCCAATTAACTTAGCTGCTATCTCCATGACTGCTTGAGCGGC TGGAGAATCTGGATACATAATAACGAGAGGTGTTCCAAATGCAGCTGCCTTCCTAACATGAGGGTCCTCTGGAACAACACCTA TAACAGGAACTTCTAAAATTGTCTCTATAGCTTTAACCCCCAACTCTGTACTCTCATTTGAAACCCTATTAACAATAGCCCCA ATGATGTCAGTTCCCAATCTTTTTGTTATAGCGATAATTTTTAATGCATCTGATATTGGGGATATCTCTGGATTTACAACGAC AATTAAACCATCTGCTGATGATATTGCTATTAAAGTCTCTTTTCCAATACCTGCTGGACAGTCAATAATTAAAATCTCAACTA AATCATGTATTGCCTTTAAAACTTCCTCAAGTTTTTCTGGTTTAGCTCTTCTGAACTTTTCTAATGAAACACCTGCTGGAATA ACTAAAACTCCTTCAGGACCTTCATAAATTGCGTCCTTTATATCTGCTTTACCAGCCAACACATCGTTTAAGGTTACTGGCTT TCCTTCTAACCCCATGATAGGCTCTAAGTTTGCCATTGCTATATCAGCGTCCAAAACAGCCACTTTTTTTCCAAATTTTGCAA GAGCCACAGCAAGATTTGCAGATATCGTTGTCTTTCCAGTACCTCCTTTTCCAGATGCTATCGCGATAGCTATTCCATTAATG TCACCATTCTAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00126	GGGAATTCGAGCTCGGAGACCGACCGCGCATTAGTCAATCATATAGTTCGATAAATGAGACGTCACGGATTTGAGTATCATTT GCTAGAACTGCTTACCTATCTAAACGCTCAGGTATGCCTGCGCTGAGACTCAGCATCTCAATGTGACCGAGCTTGTGACTCCG CATCCTCCTGCAATATACCCATCGGCCCTCACGGGGTAACGTAGCTCTTCTGCGTACACCTGGCTAGAGGGTCCTTACCGGCT GTAAGCTCACTACAATCCAGGTACAGAGTGCGTTAACCGGCCATTAGAGGGCCGCTACACCCGTCAGAATTTAAACGTATGGG CGGCGAAGCGCGATAATGGTTAGACCTTCTTGCAGGGGCAAATAACGATTTTGCGACTGCCCCTTTAAGATGGAGAATGGACA AACGCTCATTCCTAGTGAGGACATCGACATCGTTACGATGCAACGTCGAGTGGCGGCATAACACTTGGCTCGGTCCTACCCGC GACAGTGCAACAAAAACAGTTGCTCTACATTCGCTATGCATTTTAACGGATATGCCTTTGCCCCCCGTCCGTCATGGACGAAA AGTTTGGCTATGCGCGGAACATTATGCCGGATTACTCGTTATCGCTGGGTAATCGTCCGTTGGGCCCGCTCTTACGCGATCAG TGCCGTTAGCACATGCGCGAATAGGGCGGATTCCGAAAGCATGTGCCAAATTCCCCATGACCCTGTTCCAGGTGAGCTGACAC TATCAGTCGAAGTTGTTTCCTTAACCAGGAAAAACGCTGTTTCTCCGTTTGCTTGTACCATGGGGGCAGGGAATTCTTCGAGC GCGCGAATGTATACACTATTATCTCATGTGCATGTCCAGAGCGGGCTAACCTAATATACCTGGTCGCATCGTCCGAGATCAGT TGGGAATAGCGGAGCGGATACGCCTGGAACGCTGGGGCGTGCCAGTAAACTTACTGTTCTCCAGTTCCTCCATCATGTTCCGT CTAATCCGGAGATGTGTAGCTGCATTGTGCTCCGTTGCGGTACTCCTCGACTGGGTGCCATATGGGCTACTGGCGAGAGGAAA TTTGCTTTTGTGTATTTAGGCCCGTGGCACCTAAAAAAAAAAAAAAAAAAAAAG
ERCC-00130	GGGAATTCGAGCTCGCATTTTGAAAATTCTATGGAAGAGCTAGCATCTCTGACGAAAACAGCAGACGGAAAAGTACTGACCAG CGTCACACAAAAACGGAACAGGGCTGACGCCGCTACATATATAGGAAAAGGGAAGGTAGAAGAGCTGAAGGCACTCGTGGAAG AGCTTGAAGCTGATCTCCTCATCTTTAATGATGAACTGTCGCCAAGTCAGCTGAAGTCATTGGCAACAGCAATTGAAGTGAAG ATGATTGACCGCACGCAATTGATATTAGATATTTTTGCAAAGCGGGCGAGAACGAGAGAAGGCAAACTTCAAATTGAGCTGGC TCAGCTGCAATATGCACTGCCGCGTCTGACGGGACAAGGGATCAACCTTTCCCGGCAAGGCGGAGGAATTGGGGCAAGAGGTC CCGGGGAAACGAAACTGGAAACCGACCGCCGCCATATCAGAAATCGCATTCATGAAATCAACACACAGCTTTCCACTGTCATT CGCCATAGAAGCCGATACCGTGAAAGAAGAAAGAAAAACGGTGTGCTTCAAATTGCGCTTGTCGGCTATACAAACGCAGGGAA ATCAACATGGTTCAACCGCCTGACGAGTGCTGACAGCTATGAAGAAGACCTCCTGTTTGCCACGCTGGACCCGATGACCAGAA AAATGGTCCTGCCAAGCGGCTACAGTGTTCTTCTTTCAGATACAGTAGGATTTATTCAGGATCTTCCGACGACATTGATTGCT GCATTCCGCTCAACGCTTGAGGAAGTAAAAGAAGCGGATTTAATTCTGCATTTAATTGATTCTTCAAATGAGGATTATGCGGG ACATGAAAAAACAGTGCTTCGGCTGCTTGAGGAGCTTGAAGCAGATGATATCCCGATGCTGACGGCTTACAATAAACGTGATC AAAAACTGCCTGATTTTATACCGACCGCCGGAAGGGATCACATTATGGTCAGTGCGAAATTTGAGGACGACGCTGCAGCCTTT AAAGAAGCGATTCAGCGCTATTTGCGCCAAGAACTGTTAACGTCTTGAATTCTGGAAAAAAAAAAAAAAAAAAAAA

Table S11

ERCC-00131	GGGAATTCCGCCGGATAAAGGCTTCTTCGGTACTATACAAGTTGTCTACGCACATTTGCCTTGGGTATTAAACTCTAGTAGGA GCGAAACTTGACATATCAAACCTCTCTGGAGAGGCATCTCCCAGACATTACGGATGATCAGGTCTCAGCGAATCCTAGCTGTG CGGATAATTTGTGGCCCGCACAACCGCAAGACACCGCCGTGTCTATTCCACAAACTTCGACATATCAATAACGCAGTAACAAC GTTAAGTAGGGGGACAGGCAGTGCGTCCTAAGGGGCTTGAGGTCGCCCGATTCGCGATCTAATCTTAACAGACGAGGTGGCGT AAGATGTACCTCGTTCAATCTAAGTATGAATTTGTCCGCTGGGTAATGGTGGAATTAAAGAACATGCGTAAAACGACCTCGTT GTAATTTGGGTCGGCCCGTCTCGGCAAATTTGCCCTTGCAGTGAAGCTCGGATTGGATGTCTCGTAAGGAATACTTATTGCGG GTGGTACGCAAATTCGCAACCATGTGAAGTAATGTGAGCGTACTTCACCTGCTCCGGTACAAGCCGCCATGTGCTCATGTTGG GAACCTCCTGCGTAACAACCGGACGCTTGCGAAAGTCATTCCCCTATCGGTACACTATTGGAAAACATGACAAACGTATAATG CGTGATGACCGCAACAGGTGTAAGTGCACCAACTAGTATTGGCTCCTGTCCACATGGTCGGGTTTTCCGCCCCCAAACATGCA AACATCCGAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00134	GGGAATTCAGGCTTTGTTATTGGTATTGACTTACAAACAGTTAAGCCATTTGAATATGATAATGTAGTTGCAATAAAAGGAGA TTTCACCTTAGAAGAAAATTTGAACAAAATTAGAGAGCTAATTCCAAATGATGAAAAAAAGGTGGATGTGGTTATAAGTGACG CCTCCCCTAATATAAGCGGTTATTGGGATATAGACCACGCTCGTTCAATAGATTTAGTAACTACTGCCTTACAAATAGCTACT GAGATGCTAAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00136	GGGAATTCGAGCTCTTTCGACGTTTTGAAGGAGGGTTTTAAGTAATGATCGAGATTGAAAAACCAAAAATCGAAACGGTTGAA ATCAGCGACGATGCCGAATTTGGTAAGTTTGTCGTAGAGCCACTTGAGCGTGGATATGGTACAACTCTGGGTAACTCCTTACG TCGTATCCTCTTATCCTCACTCCCTGGTGCCGCTGTAACATCAATCCAGATAGATGGTGTACTGCACGAATTCTCGACAATTG AAGGCGTTGTGGAAGATGTTACAACGATTATCTTACACATTAAAAAGCTTGCATTGAAAATCTACTCTGATGAAGAGAAGACG CTAGAAATTGATGTACAGGGTGAAGGAACTGTAACGGCAGCTGATATTACACACGATAGTGATGTAGAGATCTTAAATCCTGA TCTTCATATCGCGACTCTTGGTGAGAATGCGAGTTTCCGAGTTCGCCTTACTGCTCAAAGAGGACGTGGGTATACGCCTGCTG ACGCAAACAAGAGAGGCGATCAGCCAATCGGCGTGATTCCGATCGATTCTATCTATACGCCAGTTTCCCGTGTATCTTATCAG GTAGAGAACACTCGTGTAGGCCAAGTTGCAAACTATGATAAACTTACACTTGATGTTTGGACTGATGGAAGCACTGGACCGAA AGAAGCAATTGCGCTTGGTTCAAAGATTTTAACTGAACACCTTAATATATTCGCTGGTTTAACTGACGAAGCTCAACATGCTG AAATCATGGTTGAAGAAGAAGAAGATCAAAAAGAGAAAGTTCTTGAAATGACAATTGAAGAATTGGATCTTTCTGTTCGTTCT TACAACTGCTTAAAGCGTGCGGGTATTAACACGGTTCAAGAGCTTGCGAACAAGACGGAAGAAGATATGATGAAAGTTCGAAA TCTAGGACGCAAATCACTTGAAGAAGTGAAAGCGAGACTAGAAGAACTTGGACTCGGACTTCGCAAAGACGATTGACTAGTTT CCCTTGTGAACTAGGATTTTCCCGGGTACAAAAAAAAAAAAAAAAAAAAA
ERCC-00137	GGGAATTCCAAAGCAAACCTAATGAAGCCAGACACGAGATCACAGAAAATCGCTGACTATCCCGAGTGCGCGGCGAGCTACAA TCCAAGATGATTATTTTTTCACGACCGGGCGCTGGTCAGGTATATCGCTGGTACAGATGGCGGCAAGCATCGTTGTCACCACT TCCTTCACGATTTCCGTTAGAGCCGAGTGGTACAGCACGTACGTTATATATGGGAGTACGGACATGCTTCCCACCTCGTCAGC CAAGATGATAGATACCCGTAGCGTGATGGTCTTATAGCTGCTCTGATGGACTTCGAAAGATCACCGTGCAGCTATTCAAAAAA GCAGCCGGGGAAAAGGTGGTCTCGCCCGAAAGCCATGACCTCCGATCACTCCTGGCCGGTAGTCGGTTTATTGCATATTGTAC AGTTGCGCGCGCGGCAGGTCACATCCCCCTGGTTAAATAGAGGCACGAGCGCTCGTTTTTGGGTGATCAATATGGCTTACCCC CGAGAGAGTTGTGAGCTTGCACGAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00138	GGGAATTCCCTGCTAAAAGAGGTTGGTTGTATAAGATTTGGAGAATTTATCTTAGCCTCTGGTAAAAAAAGTAACTACTACAT AGACATAAAAAAAGCCACCACAAACCCAGAAATTTTAAAGTTAGTTGGAGAAATTATTGCTGAGCAAATAAAGGATGAAGATG TAAAAGTTGCTGGAGTAGAGCTTGGTTCTGTCCCTATAGCTACAGCTGTCTCAATTATTGCTCAAAAACCACTATTAATTGTT AGAAAGAAACCTAAGGATTACGGAACTAAAAATAAGATAGAAGGAGAGCTAAAAGAAGGAGATAAGGTTGTTATTGTGGAGGA TGTTACTACAACTGGAGGAAGTGTGCTAAAGGCAGTTAAAGAGATTAGGGAAAATGGTGGAATTGTTGATAAAGTTTTTGTTG TTGTTGATAGGTTAGAAGGAGCTAAAGAAAACCTACAAAAAGAGAATGTTGAATTAATCCCATTAGTTACTGTTAAGGAGCTA CAATCCACTCAATAAATCTAAAAACCTCTTAGTCCATAGGGGAAACCCCTATTGGGATACTCCCCGTCCATTAAGTTGCTCCT TTCAGGAGCAATTAATGTCCATTTTAAGCTTATAATCCACTCAATAAATCTAAAAACTTCTTAGTTTTCTCTTTTTTAACCTT ACCAAATTTCTCTAATTTGCTAACATCTACATTTTTATCCTTTAAAATTTCTTTTATTGGTTCTATGAGTGCAATTTTTTAA GTAAGTCTTCAATATCCTTCTTTTTGAAGTTAAATCTTTCCACAGCATCCCAGTCGTGAATTAAGTATAAAGCAACTCCACCA ATGTTCTTTAAAGGAATCTGATATTTTGGCAACTCCTCCTCCAATTTAAATTTTAAATCTAAAACATCCACACAATTAATCCC ATCAACACTCATCCAAGATAAAAATCCTCTCTGTGGAGTAATCATAATAGATGGGAACAAATTACTCCTTGCCCTTCATCTGG TGTTTGGATAAAAAAAAAAAAAAAAAAAAAAAA

Table S11

ERCC-00142	GGGAATTCCACCTGTCACATTTCCAATCGGCTCCAGGAAGAGAGAAGTGACGGCTTGATCCTGTAGTAATCCGGGATCGACTT AAGGGGTGCAGCGACCACGGCGGATCGGGCGTCGCAATAGTCCTCCTGTTAGGAGGGTCCTTCTAATGTTAACGCCCGAATAT TAGTCATATTTTGCTAGCGCCTATCAGCGTAAGATATGATTTAAGTTACACCAGGAGAGTAGCGAGATAGAACCACTCGTTGG ATCGGTCTTTCTTAATTGACTACTATCAGATCCGGCGCATGGCGCTGAGGTCAAACTACATTACAGGCCCTGGTTTCCATGGG TCAGCGCAAGTACAGGCGAGCAGATACAACCTTCCGGAGACTTCGCCTCCACACACCGGAGACCCTAACCGTACCCAAATGTA ACTAGCGCCTCTGGTGTGAGCTTACTAGAAAGTAGGCCGGGCCGGTCGACAGGAGGTTGCGCCAAAAAAAAAAAAAAAAAAA AAA
ERCC-00143	GGGAATTCATGCAGCGTAGGTATCGACTCTCACTGTGGAGTCGTCTATGATGTCGTGGAGTCCTCTCAGAGTGCTGTAGGTCC TCATAGGTCGTGCTGTCTCTCTACACGCGTGCGTGAGTCTACATTTCTGCGAGTTGGTGCTCTCACTGCGGTGTCAGTGATCT CTCCGCGTGTGACATGAGTCTAGCTTCGCGGTCATGGTCTATCCCAGCGATGGATGAGACTACTCTGTACTAGATGGTCATGC CTGCGAATGAGTCGTCAGTGCCCACAATGTCTCGATAGTGCGCCGAATGTGTCTGTAATGCCTCGAATGTGTAATCGTCAACT CGTATGTGAAGTGCTAGGCTAGTATTGACATCTACGGGCGGCTATTGACGAACTCTCCGGTATATGCTCTACATCTGCAGGGA ATTGCCGACCATATATGGGTCTTGCTGATACGCTAGGGTGCTTGCTACTTAGATAGGCGTCTTGGCCGCTATTCGCGGCGTGT CTCAGAATATGCGCGACGTGTCTGGTATATGGCGACTGTGTCCGTCTATACGCATACTGGTCCACATATAGACATACTTCCAC GACATGACAAAGCGTGCTCCTACATAGCACGAGCGTCTCCTAAATAGATCCGGTCTTATCGCTGAATGTCTAGGATTCTCGTC AATGATCTACGATCCTCGCTAAGTATTCAGCCACCTCGTATAGTATTCGCGCACCTGAGGATTTATTCACCTGACTCGCGTAT AATATGCCGTCACCTAGTCTAAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00144	GGGAATTCAGCTAGGATAAATTGACCCGTATGAACTGTTGCCGGCTCGGAAATGTTAAGGCTCTGCGCACGCACTTTATCATT CGCAGCCTGTTCTGTCAGCGGGTCAGCCTAGGTTACGGTGGAACCACTCGGTATCGTGCAGACAGGGATCGTAAGGCGATCCA GCCGGTATACCTTAGTCACATATACTATCGTAATATTGGCGGTTGCTGACAAGTAAATACGGCTAAACCGGTCGTTGACCAAC CACTCTCGCGGGGGTCATAAATATCACTGAGCCCGGGAAGTACCCCGTGACAGACATACGAAAAGCGTGATAACGTATTCGTA GGTATTATTTCCGTTAGCTGGAGGTAAAGGGGTTCTGGTCCTAGCCGTGTTATGTCTATTTATGAGATGGTAAGCTCGTCACC AACTCGTCACGCGATCGAAATAGCTTGGACTAATGTCCGGCACATAATCAAGTCTACATCAATCATGAATGGTTTCTGATTTG CTACCATCAGATATCATGTGAGCAAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00145	GGGAATTCACTGTCCTTTCATCCATAAGCGGAGAAAGAGGGAATGACATTGTTCTTACACGGCACAAGCAGACAAAATCAACA TGGTCATTTAGAAATCGGAGGTGTGGATGCTCTCTATTTAGCGGAGAAATATGGTACACCTCTTTACGTATATGATGTGGCTT TAATACGTGAGCGTGCTAAAAGCTTTAAGCAGGCGTTTATTTCTGCAGGGCTGAAAGCACAGGTGGCATATGCGAGCAAAGCA TTCTCATCAGTCGCAATGATTCAGCTCGCTGAGGAAGAGGGACTTTCTTTAGATGTCGTATCCGGAGGAGAGCTATATACGGC TGTTGCAGCAGGCTTTCCGGCAGAACGCATCCACTTTCATGGAAACAATAAGAGCAGGGAAGAACTGCGGATGGCGCTTGAGC ACCGCATCGGCTGCATTGTGGTGGATAATTTCTATGAAATCGCGCTTCTTGAAGACCTATGTAAAGAAACGGGTCACTCCATC GATGTTCTTCTTCGGATCACGCCCGGAGTAGAAGCGCATACGCATGACTACATTACAACGGGCCAGGAAGATTCAAAGTTTGG TTTCGATCTTCATAACGGACAAACTGAACGGGCCATTGAACAAGTATTACAATCGGAACACATTCAGCTGCTGGGTGTCCATT GCCATATCGGCTCGCAAATCTTTGATACGGCCGGTTTTGTGTTAGCAGCGGAAAAAATCTTCAAAAAACTAGACGAATGGAGA GATTCATATTCATTTGTATCCAAGGTGCTGAATCTTGGAGGAGGTTTCGGCATTCGTTATACGGAAGATGATGAACCGCTTCA TGCCACTGAATACGTTGAAAAAATTATCGAAGCTGTGAAAGAAAATGCTTCCCGTTACGGTTTTGACATTCCGGAAATTTGGA TCGAACCGGGCCGTTCTCTCGTGGGAGACGCAGGCACAACTCTTTATACGGTTGGCTCTCAAAAAGAAGTGGATAAGCTGTAC AATCGTTTCATCATTCGGCGTGCGAATTAAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00147	GGGAATTCCCTTGCTTAACCTTAATCTTGCCTTATTACAATATTTTTAGAAAAATAAAAAGTAAAAATAAAAGCAAATCCTTA ATCTTTGGTGATATTGATGGAGAGGTATGAAATCCCTAAAGAGATTGGAGAAATAATGTTTGGCTTGTTGTCTCCAGATTACA TAAGACAGATGTCAGTTGCTAAGATAGTTACACCAGACACTTATGATGAAGATGGTTATCCAATAGATGGAGGTTTAATGGAC ACAAGATTGGGAGTTATAGACCCAGGTTTAGTTTGCAAAACATGTGGAGGAAGGATTGGAGAGTGTCCAGGGCATTTTGGGCA TATAGAGTTGGCTAAACCAGTAATTCATATAGGATTTGCCAAAACAATATACAAGATATTGAAGGCAGTTTGCCCACACTGTG GAAGAGTAGCAATAAGTGAAACTAAGAGGAAAGAAATTTTGGAAAAGATGGAAAAATTAGAGAGAGATGGAGGAAACAAGTGG GAGGTTTGTGAAGAGGTTTATAAAGAAGCTTCAAAAGTTACAATCTGCCCACACTGTGGAGAGATAAAGTATGATATAAAGTT TGAGAAACCAACAACCTACTACAGAATTGATGGAAATGAGGAAAAAACATTAACTCCATCAGATGTTAGAGAGATTTTAGAGA AGATTCCAGATGAAGATTGTATCTTACTCGGCTTAAACCCAGAGGTTGCAAGGCCAGAGTGGATGGTTCTCACCGTTTTGCCA GTTCCACCAGTAACTGTAAGGCCATCAATTACCTTGGAAACTGGAGAGAGAAGTGAAGACGATTTAACCCACAAGTTAGTTGA TATCATCAGAATCAACAATAGATTAGAGGAGAATATAGAAGGAGGAGCACCAAACTTAATTATTGAGGATTTATGGAATCTGT TGCAGTATCACGTAAATACCTACTTCGATAACGAAGCTCCAGGTATTCCACCAGCTAAGCACAGAAGTGGAAGACATTAAAAA CCTTAGCTCAGAAAAAAAAAAAAAAAAAAAAAAAA

Table S11

ERCC-00148	GGGAATTCCATCTCCATTTGGTCACGTTTACAACCGGAGTAGACGGCCATAGCAGGAGGGGTGTGCGACAGGCAGGAAGCTCT CGCGGGGTCCAAGCATTGCTGCAATGGGCGTCCTTGCTCGATGTTGACCCGAAGCTCTAACTGCATTTCAAGTCCGAATCTCT AGATATCTCGAGAGCCAATGGTTAAGGAAGGGGCGTCAATTTTGCGCGGACACGCTGCAGGATGTAATGATTAAGCCGTAGTT GAATTTATGGAGCGGTGCCCCGGGAAAGGTATAAATCGGAGGCAGGGGTTTACGGCGTCAGGATAGTTCATAGCGTACGCAGA ACGAGAACAAGTGAGACGTGTATAGTTGCCATGCTGAGTAGACCTGGCGTCTACCCCTCCAAACGCATTCTTATTGGCAAATG GAAGTAGCTTCCACAGTTTGTAACAAGCCGTGCCTGCGCATGTTATTTACCAATGGAGAATCGAAAAAAAAAAAAAAAAAAAA AAAA
ERCC-00150	GGGAATTCAGCTTGATGTGACATCACGTCCCAATCAATTTGGTTTTACTCCCCTCGATTATGCGGAGTTATCAGTAAGAGCGG GTACCGTTCTGCTGAATGCACTATGAGGGCGACCCTTGATCTTCATTCGTTCCATAGATGCAAATACCCGGGTACTAGTTGGC GAAGTTTGGCTAAAGATTGCCCACTTACTAGGTGACTGTTAACTAGAAAGTTGCATGAGGCTGGTAAGTGAGGGGCTCAGTGA AACAGGATACACCGTACCGTGACGATTCCCGTGTGGGCTTGACATTCAGCCAGCCTCCCGCTTGTACAGAGGCAGACTGTCCG ATGCCTAGTATGTTCACTATACGATTTCTTGGGCTAGCTAGGTGTCTTGACCCCATATTCCAAAGATCCGAACCTGCTTGTAC TTATCAGTACGAGTTGATGCTCTTGGGGTACCTATTTTTTGATCCGATAGTATTGGTTCTGGCGTGTTCTCGTAACCCCGGGC ACTAGATTATGGTGAATGGTGTGTACACACTACTTGACGGGGCGTTACCATTTTCAGGTGGGCACAAATAGCTAAAGCCTCGT CCGCATTACGCCCCATGGCTCACGTCTCAGAGGAGGCTAGCTCGAGGTCACCCATAAGGGATTACGGAGTTACACCCATAGTA ACAGACGGAAATTGTTGATAACAGATAGTTAATACGCCTTGGCTGAGGAGACCAACGGACTTCAAAAAAAAAAAAAAAAAAAA AAAA
ERCC-00154	GGGAATTCTCACTAGATCAGAAGTCTCCCACTCGAGACTAATCTTGGACTATCTATGAGCACCTATTGCGCTGTGGAAGATTG CCCCTAGGTCTCTGGCGGCTCCGATTGCGGGATGAACTGGTTGGTCCGAGGAGGCATATAGGAAACGATGGGCACGCGCTATT CAGACGTTATTTGGTATGGAGTAAGAGGCCGGAAACTGGGCTCGATTGATGGATACTGATCAGTCAACTCAAGCGAGGATATC CATACCCACCGACGGTATGGTCATTAATACCCAGTATTGACTAGTCGGAGGTCTAATTTGGAACGTATTCCGCCGCACACACG AGATTCACTTACATGGACGTGAAGATTGATCGCCGGGCGACTATTATTGCACGACCTTCGCCTGCCCTCAGCTGCGCCCTTTT TGTCCACGACGCAGGCTGGACCAAGCAGCCGAGGCTGCGCTCCGGCATCAAAGTCCACGAGTTACAGCCAGCGGGTTTTAAGG GGGTATTAGCATCTCGAGTGAGTAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00156	GGGAATTCCACAAGAATCCCTGCTAGCTGAAGGAGGGTCAAACTATAACACCTTTAGCATTCGTACAGGCAGGCTAAGTGAAT ACTAACCCACCGGCAGCCCGTTGTAGTAACGTTGACCCCTGGCTCGGAGACATTTGGTGTTGCCTAGTACTAGGTGACTGGTA CCGATTCATAGGTTCGCCATTCTCTTATCGAGAGCCCGAGGTAGACTATCTTCCAGATGATGCCATACGTTCACTCAATCGCG CGGCATGCACGGTGGGGCTACGAACTTGCTATCCATAGGCTCTAGATGTGGTAGAAATATGCTGCAGGGGTTCTGTCGAATTT GCTCGGCAACCGTGGCCGTGTATGCTTTCATATCCCGGCGGTGTGATCTAGCCTTCTCGCCATATGAGGGCGCTGAGCATAGA CCCAAACCCGACTAGTCGAATCTTAGGGTTGTATGCTAGAACGGCATGGTATAAGCCGTGCTCAAAAAAAAAAAAAAAAAAAA AAAA
ERCC-00157	GGGAATTCGGTCTTTGTCACCTCCGTCAATTTGTATTAGAACCCGTGAAGGCCCAAGTAACAGGCCCAGGGTTAACATGTACG GAACATACTCCTTCCACGGAAGATTGGGGATGAAAGTTGATACCCAAACTTCATTAACACAAAGGCGATGTGGGCCGAGTACT GTGCTTACACCAACAGGGCGGCTCAACTGGGTTGGTAGCCAGCACTAGCTTATTCACAATTAAGGCCGTATGCATTCTACTGC TTATCCGGTGGTGATTGCAGCCAGGGCGGAAGTGAACACGCTTGTACGATGTGTTTGCATAAGCGGTTACCACAGGCGCTACT CTCGTCGATAGCCGACTACTAATATTCAGCCGGCGCCGGTAGATAGCGAGGCTTTGGGGGTAGCTTTAAGTGCGGTCTAGGCT CAGTTGACGATACTTACTTAGGCAGGGTTACAACCCTTATGATGGGGTATGAGGCACGTGGCCATTCATCCGGACCCGATGCT GTCGTGCTTCTCGTTGGCAATAGCGCGGATTAGTACAGGTGACTAGTTCAGCTGTTGTTCGGATTCCAAGTAAGCTCGCATAG AGCTGGACTTCTCGGAACGGTCCTGACGCATTCCTGCATCAATACGCGGCACCGGGGGTCCGATAGCATCTCGCCTTAGATCC GGCGGGGGATACTTGGTCAAAGCTCACTACGGGACTAGAGTGGCTAGTGCAGATGCGCAGCGCAGATATGCTATACGAGATGA GCTTCAAATTCATGGAGTTATGACGATATAACGCTAGGATCTGACGCAGTGACACCGGTCGTGTGACAACTGGGCTTTAAGTG AGGCATCAGAAGTATACTTTTAATGGTGCCGCTCCCAAATCCCCGATCTTGCCACGATTGCCTAAGCCGTCATGTTAGAGGCG GTCACAGCAAACCCTCAGTTTACCGGTTCGATGATTATACGATGCCGGAGCGAACGACTACGCTCGAAGTTTGGTTATCTAGA GCACGTCAAAAAAAAAAAAAAAAAAAAAAAAA

Table S11

ERCC-00158	GGGAATTCGAGCTCTTTCAACAGATCATGGAACTACGGGAGAAATAAACATTTGGATAGAAAATGTAACATTTAAAAATGATG CAAAATCATATTCCTTTAATTTAACGAATCTTAATATATGGGCAGTAAATAAATCTGCTTATGAGTTGTATTGGAATCCATTT AACAAATCTATCTGGATAGATGGGAGTAATTACACTATAACTCCAAATATTGACATACCTCCAGGAGAAGTATGGAACTCTAA AACCTACAACTTCACATTTAGTGGAGTTCCAATCGTTTGGGCAAACTGCTCATTTACACTGTCAAAAAAAGATTATATCCTTT TAAATGAAGTAAGTCAAATAGGAAGTTCCTATGTTGTTGTTGAGGAGATTTATGTTGTGGGTAGTTATTTGATTAAGGTGACT AAGCATATTGTTCCGGATGCGGATGGGACTTATGATATTTATATAGTTGTGGAGAATATTGGTAGTGTGAAGACTCCTGAGTA TGTGTATGTTTATGATTTGATTCCTAAGAACTTCACCGTCTCAGATGAGTGGGTTAATCAATCAAGTATGTTGATTGCTGAAG GAAATCACACCATTACAACAAATCCAAGGTATAATTTAAGCATGTGGTGGGCGTTACATGCAATATATCCAGGAGCAGATGGG GACGGTAACTGGAACGACACTGCTGAAATACTTGCAAATAAAACAGTAGTCATACACTACAAACTAAACGGAACTGGCGAATT CTACCCAAGCGACGCATTTATCGTTGGTATCGACCCTACAAACTCACTACTACCAACAACCTCACCAAAAATAACAACAGTAG CCGGAACAGTAGAAAACAACTTTGAGATATTTTTAATACTGATAAACGTTATCTTTGGATTAGGTATATTAACAAAGAGGAAT ATAAGGAATAATAAATAAAGTTGGGGGATGATGATGAAGAGATTTGCATTACTCTTTATTTTCCTTGCATTTATAACACCACT TTTGCAGATGTTGAGGAAAAAAAAAAAAAAAAAAAAA
ERCC-00160	GGGAATTCTCCTTGGTTTGAAATCAAATTACTATAGATTGCATGCAGAAGTAGGGCTTTACAAGTTTGTTCCTAATTCCGTTG AACAATAGCGAATGTATGATGGTCGGTCATTGCCGCAACCCTGAAGCAGTGAGCGTGGTTGAGTAACCACGTACTAGAAGTCC AAGGATGGTTGCAGTAGCTAGCTCAATTGCCATTGCTGGAATAGTGTCGGTAAACCACGCACCGGGGAGCCGCGTTTCGTTGC GATAACCTCATATAGTCCCAGTCTCGGACGCGAGCACCTGCAGCGTAATTAATAAGGTCAGGCTATGATTCACCACCGTGTAG GAGTTATGCGCCTTATCGCGAAGGTAGTTACTCTTGCCAGTGGGCATGAAATTGCGAGCTTGCCCTAGTAGCGTTAGTACCGT CATAAGCCACTCTAAGAGATCGAAATTTTATACAGTAGTACTAACAGCAGACCTGCAATATCAAAGTTATAAGCGCGTCGACA CGCCTCGTCTAAGAAAAACTACTTCCATTAAAGTTCGAGGACAAATGCGGTCTGATTCAGTCCTATAGCGAGGCCATTGCAGT GTGGTCTGCCGTGGTCGGCTCGATAATACCATGATAACTACTGACTGCGCAGTTGTAGCGACCGCAATGGGGAGTGTGTGTTC TTTATTTCAACTGCGTGGCTTATCCTACTTAGGAGTTGTGGATACCAGATTATCTCGCGGTGGAAAAAAAAAAAAAAAAAAAA AAAA
ERCC-00162	GGGAATTCCTCCACAGATTCCCATGTGTCCAATTCTGAATATCTTTCCAGCTAAGTGCTTCTGCCCACCAGCAACAACTATGT TGTATTTGTTGCTTAATATACCTCTAAATTTGCTATCTTCAATGCCTTCTGGATATTTTGCTGATGTAACTGTTACTGACCTT GCCCTCTCCTTGGCAAACAACTCTATTCCCATTGCCTCCAAACCAGCCCTTGTTGCTTTTGCTAATCTCTCATGTCTTTTAAC CCTATTCTCGATTCCTTCCTCTAAAACTAAATCTAATGCAACATTTAAGGCATAGGTTAAATTAACTGATGGTGTGTATGGGG TTTGTTTTTTCTCTTCATAGTATTTTTTATAAGCCAATAAATCTAAGTAGAAACCAACTTTGTCATCATTCTTCTTAATAACT TCCCATGCCTTTTCACTGACTGTTATTGCAGCCAATCCTGGTGGAGCTGCCAAACATTTTTGAGAACCAGTAACACAGATATC ATGTGGAATAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00163	GGGAATTCATAGACTAGCCTGCCGGTCAATAACTGATGACGCGGAGTCAACCTGATAACCCATAGCGGAACAGTCTAACCTAC GCGAGATACGTCTTACCGCACATAGGTAACCTATTCGTGACTAGCAGGCCTTATTCCGGTGCTATGAGTATCTTACCTGGTCT AGGTATCTAATTCGTGGGTCGGGTACTACATTCGTGCGATGGGTCCTCGCTTCGTCTATGAGGTCTCGTCTTCGTGAGTGCAA TGTATCCGAAGTCGTAGTGATAATATGGAACTAGGCGCGATTTGACGAACGTATGCCGCATATTCGGAACGTCGCCTGGAAAT TCGCCACCTAGATCGAAATTATCGGAACTCGTCGCTTATTTACGAACCTTGGGAGCCGTTCCTAAAGCTGAGTCTGGTTTCTT ATTAGCGAGGAGCATTTCGTGAATACTGAGCCGAATATCGTAAGACACCCGCGAGCGACTGTAAACTAATCGGGGAACTTATT ATAGGGCCGGTCCAGGTCTTGAACGACGTAAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00164	GGGAATTCAGGAGCTCCAGTAGTTTTCCCCTCAAAAATTCCTGATAAGATTTCAACTTTATCCTCTTCTTTTCTTGGTGTTGA GAAGATGCTCTGCCCTGGTCTTCTCCTGTCAAGCTCTTTTTGGATATCCTCTTCAGATAAAGGCAGATTAGTTGGACATCCAT CAACAACTGCTCCAACAGCCTTTCCATGACTTTCTCCAAAAACTGTAACTCTAAACATATCCCCATAGGTGTTCATTAATGTC ACCAAAAATTTTTAATTGCTTAGTTTTACATTTAAAATAAAAATTAAAATAGTCAAAAAATAAAAAAGGTTTATCTGTAGAGA ACATCCAAGTGTGCTGGTTCCTTAACTTTAACTTTCTTTTTCTCCATAATCTTCTCAACTGCCTTTCTAAAGTCATCCATTGT TACATAGTCCCTTAACTCCCTAATTGCATTCATCCCTGCCTCTGTGCAGATTGCCTTTAACTCAGCCCCTACACATCCTTCAG TCATCTTAGCTATTTCTTCTAAATTGACATCTTCCGCTAAATTCATCTTTCTTGTATGAATCTTCAATATCTCCAATCTACCC TTCTCATCAGGAGCTGGGACTTCTATGATTCTATCAAATCTTCCAGGTCTTAATATTGCAGGGTCTAAAATGTCAGGCCTGTT TGCGGCCCCAATTATCTTAACATCTCCCCTTGCATCGAATCCATCCATCTCTGCCAACAACTGCATTAATGTTCTCTGAACTT CCCTATCTCCACCAGTTAAAGCGTCTGTTCTCTTTGCTGCAATAGCATCAATCTCATCTATGAATATGATTGAAGGAGCTTTT TCTTTAGCCAATTTGAATATATCTTTAACTAACGGAGCCCCCTCTCCAATAAACTTCTTAACCAATTCAGAACCAACAACTCT TATAAAGGTAGCATTTGTTTCTGTAGCAACAGCTTTAGCTAATAATGTCTTTCCAGTTCCTGGTGGCCCGTAAAGAGAATACC TTTTGGTGGTTAAAAAAAAAAAAAAAAAAAAAA

Table S11

ERCC-00165	GGGAATTCGATATGCGTTACGTGAGTCTGATAGCAGTTCACTACCTGGATATCTGATCCACTAGCTCGATCATGCTCACCCAT AGTTTATCTGCATCACTCGTACTGAAATGCTCACATCGCAGGTAGAGCAGCATCGTAGAGCGTCAAGCTGCATCCTAGCGTCA TGAGTCATAGTACCTCATGCTCACGTGATCTACCCTAGCTGACCGCTAATGACGGCAGTGCAACCTGAGATACCGACGGCATA CTGTCGTCAACGTCAGGCAATGTGTCCGAACGGCGAGCTACGTCGCCTCACGGAGTAATCGCGTCCCTCTAGGTATAGTGCCG TCGGTTCAGGTCATATGTCGCGGGTTCTGCACATATCACGGACGTATCGCTATCAGACGGACGCTCTCGGACCTAAACCGTAG CTCTCGGCAAGATCGTCCTCGTCTCGAATATAGCGCCCTAGTGCTGCAAATGTCACCGCTATCTCGTAAGGGGTCCGTCTGTT GAGTTAGGCCTCCTCTCGTTGGATGTGAGCTCGGTTGCTTGGATGGTGCAGCTTACTTCGCGTACCTGCTGTTTGCATCAGTC CTCTGCATCTATAATCGCGTATCTCTCTCTAGTAGACCATATAGCCATCTAAGCGCTCGATATTCCACCTAAGTGGCGCCTAT TGAACTAAGTGGCAGCCGAATGGACTATCGCTCCTCGATATGTACGGATAGGCCACGGCATGTACGAGCATAAGCCGAACTGC ACGAGCATACCCGACACTGATCTGAGAGTCGCTTAAATCATCTGCGTGTCTTAGAGCTTATCGCCATGTCTGTCAACTGTACT GTCATCCTGTAACTGTAGCGTATGTGAAAAAAAAAAAAAAAAAAAAAA
ERCC-00168	GGGAATTCCCAATGAACTCAGCTATTCTTCTTAACAAATAACTTTCTCCAGAAAATTCAAATGTATCATCTTCAGGATTCCAC CTAAAAACATCATGTAATATAATATCATCAATTTTTGGGTCGTATTCAACAATCTCAGTTATACTCTCAGTTCTTCTAACAAA TCTTCCTTTATAAATCAATCTAACCTGCATACATATGGCATTTAGTTGTTCAAGCATAATCTTTGGAATGTTCATTGGTTCAG CATTCAACCTCCTTATAACTGCCTCTGGGGATTTTGCGTGTATCGTTGATAACGCCAAATGTCCTGTAGTTATTGCTTGAAAT AATATCTTCGCCTCCTCACCTCTAACCTCTCCAACAATTAAATAATCTGGTCTTTGCCTTAAAGCCGCTTTTAATAAATCCAT CATAGTTATTTCATATTCTTCTCCACCGAATCCACTTCTTGTAGTTCCAGCAATCCAGTTTTCATGATACAACCTAATTTCTG GAGTATCCTCAATAGATACGATTTTCATTTGAGGAAGGATGAAAAGAGAGAATGCATTTAAAAGGGTGGTTTTTCCAGTAGCT ACCTCTCCAGCAACCATAATAGAATTTTTATATTCAATGAGTAACCAAAGATATGCAAGCATCTCTGGAGAAATACTCCCATA TCTTATTAAATCTGTTGGCAATATAGGAGTGTGTGTGAATTTTCTTATTGTAAATGTTGAACCATATCTTGAGATATCCCTTC CAAGGGTTACATTTAGCCTGCTACCATCTGGGAGAGAACCATCCACTATTGGATTAGCCAATGTTAAAGATTTTCCACACCTT TGGGCTAAGGATATACAAAACGAGTCTAATTCTTCATCAGTTTCAAATTTTATATTTGTCTTTAAATGTTCGTATTTTCTATG AAACACATACACTGGCTTTCCAACACCTGTGCAACTGATATCCTCCAAATTCTCATCTTTCATAAGAGCATCTATTTCCCATA TCCAATGAGGTAAAAAAAAAAAAAAAAAAAAAAA
ERCC-00170	GGGAATTCTATTGGTGGAGGGGCACAAGTTGCTGAAGTTGCGAGAGGGGCGATAAGTGAGGCAGACAGGCATAATATAAGAGG GGAGAGAATTAGCGTAGATACTCTTCCAATAGTTGGTGAAGAAAATTTATATGAGGCTGTTAAAGCTGTAGCAACTCTTCCAC GAGTAGGAATTTTAGTTTTAGCTGGCTCTTTAATGGGAGGGAAGATAACTGAAGCAGTTAAAGAATTAAAGGAAAAGACTGGC ATTCCCGTGATAAGCTTAAAGATGTTTGGCTCTGTTCCTAAGGTTGCTGATTTGGTTGTTGGAGACCCATTGCAGGCAGGGGT TTTAGCTGTTATGGCTATTGCTGAAACAGCAAAATTTGATATAAATAAGGTTAAAGGTAGGGTGCTATAAAGATAATTTAATA ATTTTTGATGAAACCGAAGCGTTAGCTTTGGGTTATGAAACTCCATGATTTTCATTTAATTTTTTCCTATTAATTTTCTCCTA AAAAGTTTCTTTAACATAAATAAGGTTAAAGGGAGAGCTCTATGATTGTCTTCAAAAATACAAAGATTATTGATGTATATACT GGAGAGGTTGTTAAAGGAAATGTTGCAGTTGAGAGGGATAAAATATCCTTTGTGGATTTAAATGATGAAATTGATAAGATAAT TGAAAAAATAAAGGAGGATGTTAAAGTTATTGACTTAAAAGGAAAATATTTATCTCCAACATTTATAGATGGGCATATACATA TAGAATCTTCCCATCTCATCCCATCAGAGTTTGAGAAATTTGTATTAAAAAGCGGAGTTAGCAAAGTAGTTATAGACCCGCAT GAAATAGCAAATATTGCTGGAAAAGAAGGAATTTTGTTTATGTTGAATGATGCCAAAATTTTAGATGTCTATGTTATGCTTCC TTCCTGTGTTCCAGCTACAAACTTAGAAACAAGTGGAGCTGAGATTACAGCAGAGAATATTGAAGAACTCATTCTTTAGATAA TGTCTTAGGTTAAAAAAAAAAAAAAAAAAAAAAG
ERCC-00171	GGGAATTCCTGGAGATTGTCTCGTACGGTTAAGAGCCTCCGCCCGTCTCTGGGACTATGGACGGGCACGCTCATATCAGGCTA TATTTGGTCCGGGTTATTATCGTCGCGGTTACCGTAATACTTCAGATCAGTTAAGTAGGGCCATATGCCTCGGGAATAAGCTG ACGGTGACAAGGTTTCCCCCTAATCGAGACGCTGCAATAACACAGGGGCATACAGTAACCAGGCAAGAGTTCAATCGCTTAGT TTCGTGGCGGGATTTGAGGAAAACTGCGACTGTTCTTTAACCAAACATCCGTGCGATTCGTGCCACTCGTAGACGGCATCTCA CAGTCACTGAAGGCTATTAAAGAGTTAGCACCCACCATTGGATGAAGCCCAGGATAAGTGACCCCCCCGGACCTTGGAGTTTC ATGCTAATCAAAGAAGAGCTAATCCGACGTAAAGTTGCGGCGTTGATTACGCAGGATTGCGACCAAAGAACGAGAAAAAAAAA AAAAAAAAAAAAAA

Table S12

Sample	Method	Number Reads (millions)	min density	min sum	min value	max width	min width	min pos with data
Comparison (K-562)	CAGE	20	5.4	81	1	300	3	0
Comparison (K-562)	RAMPAGE	20	4	60	1	300	3	0
Comparison (K-562)	STRT	20	8.8	132	1	300	3	0
Comparison (K-562)	Oligo capping	20	4	60	1	300	3	0
Comparison (K-562)	NanoCAGE-XL	6.9	9.2	138	1	300	3	0
Comparison (K-562)	GRO-cap	20	7.2	108	1	300	3	0
Comparison (MCF-7)	CAGE	13	9.2	138	1	300	3	0
Comparison (MCF-7)	Oligo capping	13	3.4	51	1	300	3	0
Comparison (mouse hippocampus)	CAGE	13	2.4	36	1	300	3	0
Comparison (mouse hippocampus)	STRT	13	6.6	99	1	300	3	0
Reproducibility (K-562)	CAGE	7	2	30	1	300	3	0
Reproducibility (K-562)	RAMPAGE	5	1	15	1	300	3	0
Reproducibility (K-562)	STRT	5	3	45	1	300	3	0
Brain-related human samples	CAGE	13	3.2	48	1	300	3	0
FANTOM5 (Temporal, Occipital)	CAGE	10	2	30	1	300	3	0
FANTOM5 (Parietal)	CAGE	6	2	30	1	300	3	0
FANTOM5 (iPS, Frontal Adult)	CAGE	20	5.4	81	1	300	3	0