

Table S1. Related to Figure 6. Significant oncogenes from Monte Carlo skewing analysis.

Cancer	Gene	Amplified Samples	Skew	Putative enhancers (recurrence)	Additional cancer genes
Neuroblastoma	MYCN	39	3'	SE (4/12)	No
Wilms tumor	MYCN	14	5'	2 SEs* (3/5, 4/5)	No
Medulloblastoma	MYC	28	5'	SE (2/2)	No
Glioblastoma	EGFR	174	5'	2 Es (26/41, 31/41)	No
Hepatocellular	CCND1	9	5'	None (0/1)	No
Glioblastoma	CDK4	64	3'	E (29/41)	No
Glioblastoma	MDM4	27	5'	None (0/41)	No
Breast	FGFR1	39	5'	SE (26/43)	ZNF703 [‡]
Bladder	MDM2	11	3'	E (2/3)	FRS2
Head & Neck Squamous	CCND1	51	3'	SE (3/14), 2 Es (13/14, 14/14)	CTTN
Lung Squamous	CCND1	39	3'	E (1/1)	CTTN
Breast	CCND1	38	3'	SE (22/43)	CTTN [‡]
Glioblastoma	FIP1L1	18	3'	SE (9/41), 2 Es (34/41, 35/41)	PDGFRA
Glioblastoma	KIT	22	5'	2 Es (27/41, 30/41)	PDGFRA [‡]
Breast	RARA	9	5'	SE (23/43), 2 Es (38/41, 31/41)	HER2

Table S2. Related to Figures 1, 4, and 5. Oligonucleotides used in this study.

Oligonucleotide Purpose	Name	Sequence
4C adapter	EGFR TSS upstream reading	AATGATACGGCGACCCGGAACACTCTTTCCCTACACGACGCTCTTCCGATCTGGTTCAACAACCCGTGATC
4C adapter	EGFR TSS upstream reading GA index	AATGATACGGCGACCCGGAACACTCTTTCCCTACACGACGCTCTTCCGATCTGAGGTTCAACAACCCGTGATC
4C adapter	EGFR TSS upstream reading AT index	AATGATACGGCGACCCGGAACACTCTTTCCCTACACGACGCTCTTCCGATCTATGTTTCAACAACCCGTGATC
4C adapter	EGFR TSS upstream non-reading	CAAGCAGAAGACGGGATACGATCACACATTGGCTTCAAAGT
4C adapter	EGFR TSS downstream reading	AATGATACGGCGACCCGGAACACTCTTTCCCTACACGACGCTCTTCCGATCTTCTTCCGTCTAGTGATC
4C adapter	EGFR TSS downstream reading GA index	AATGATACGGCGACCCGGAACACTCTTTCCCTACACGACGCTCTTCCGATCTGAGGTTTCCCGTCTAGTGATC
4C adapter	EGFR TSS downstream reading AT index	AATGATACGGCGACCCGGAACACTCTTTCCCTACACGACGCTCTTCCGATCTATTTCTCCGTCTAGTGATC
4C adapter	EGFR TSS downstream non-reading	CAAGCAGAAGACGGGATACGATCACACATTGAGTCCTAA
4C adapter	CRE2 reading	AATGATACGGCGACCCGGAACACTCTTTCCCTACACGACGCTCTTCCGATCTTCTCAGTAAGTGTGGATC
4C adapter	CRE2 reading GA index	AATGATACGGCGACCCGGAACACTCTTTCCCTACACGACGCTCTTCCGATCTGATTTCTCAGTAAGTGTGGATC
4C adapter	CRE2 reading AT index	AATGATACGGCGACCCGGAACACTCTTTCCCTACACGACGCTCTTCCGATCTATTTCTCAGTAAGTGTGGATC
4C adapter	CRE2 non-reading	CAAGCAGAAGACGGGATACGATCACAAAACTACATTTCCAGGG
4C adapter	CRE1 reading	AATGATACGGCGACCCGGAACACTCTTTCCCTACACGACGCTCTTCCGATCTCCTCAAGGGGACAGAGGATC
4C adapter	CRE1 reading GA index	AATGATACGGCGACCCGGAACACTCTTTCCCTACACGACGCTCTTCCGATCTGACCTCAAGGGGACAGAGGATC
4C adapter	CRE1 reading AT index	AATGATACGGCGACCCGGAACACTCTTTCCCTACACGACGCTCTTCCGATCTATCCTCAAGGGGACAGAGGATC
4C adapter	CRE1 non-reading	CAAGCAGAAGACGGGATACGATCACATAAGCAAGGTCACT
4C adapter	5' CTCF site reading	AATGATACGGCGACCCGGAACACTCTTTCCCTACACGACGCTCTTCCGATCTCTGTTTGTAGTCCCCGATC
4C adapter	5' CTCF site reading GA index	AATGATACGGCGACCCGGAACACTCTTTCCCTACACGACGCTCTTCCGATCTGAGGTTTGTAGTCCCCGATC
4C adapter	5' CTCF site reading AT index	AATGATACGGCGACCCGGAACACTCTTTCCCTACACGACGCTCTTCCGATCTATCTGTTTGTAGTCCCCGATC
4C adapter	5' CTCF site non-reading	CAAGCAGAAGACGGGATACGAAAGACCAGGTTAATCTCCAT
qRT-PCR Primer	EGFR forward	GCCTCCAGGATGTTCAATAA
qRT-PCR Primer	EGFR reverse	TGAGGGCAATGAGGACATAAC
qRT-PCR Primer	SQLE forward	GCCTGACAGAATAGTTGGAGAA
qRT-PCR Primer	SQLE reverse	TACAACCTGGGCATCAAGAC
qRT-PCR Primer	TBP forward	GCTGGCCCATAGTGATCTTT
qRT-PCR Primer	TBP reverse	CATCTCCAGCACACTCTTCTC
CRISPRi sgRNA	EGFR enhancer 1 gRNA 1 forward	ACCGGCTGAATAAGAGAGCACAGA
CRISPRi sgRNA	EGFR enhancer 1 gRNA 1 reverse	AAACTCTGTGCTCTTATTACAGC
CRISPRi sgRNA	EGFR enhancer 1 gRNA 2 forward	ACCGGGACTCGAATCACTGCAG
CRISPRi sgRNA	EGFR enhancer 1 gRNA 3 reverse	AAACCTGCAAGTATTGCGAGTCCG
CRISPRi sgRNA	EGFR enhancer 1 gRNA 3 forward	ACCGAGGGCCGTGCTCTCAAGA
CRISPRi sgRNA	EGFR enhancer 1 gRNA 3 reverse	AAACTCTTTGACGAGCACGGCCCT
CRISPRi sgRNA	EGFR enhancer 1 gRNA 4 forward	ACCGATCAGCACGCCGTGGCGTCC
CRISPRi sgRNA	EGFR enhancer 1 gRNA 4 reverse	AAACGACGCCACGGCGTGCTGAT
CRISPRi sgRNA	EGFR enhancer 1 gRNA 5 forward	ACCGCTGGAAGTAACGGGGAAGAG
CRISPRi sgRNA	EGFR enhancer 1 gRNA 5 reverse	AAACCTCTTCCCCGTTACTTCCAG
CRISPRi sgRNA	EGFR enhancer 2 gRNA 1 forward	ACCGATTAACCTTAGGTACGGCGGA
CRISPRi sgRNA	EGFR enhancer 2 gRNA 1 reverse	AAACTCGCGCTGACCTAAGTTAAT
CRISPRi sgRNA	EGFR enhancer 2 gRNA 2 forward	ACCGGGTCTTCCGGCGTGCTGT
CRISPRi sgRNA	EGFR enhancer 2 gRNA 2 reverse	AAACACACACGCCCCGGAACCC
CRISPRi sgRNA	EGFR enhancer 2 gRNA 3 forward	ACCGCCTTACTGAGCCTGGCGCT
CRISPRi sgRNA	EGFR enhancer 2 gRNA 3 reverse	AAACAGCGCCAGGCTCAGTAATGG
CRISPRi sgRNA	EGFR promoter gRNA 1 forward	ACCGAGCGATGCGACCCCTCCGGGA
CRISPRi sgRNA	EGFR promoter gRNA 1 reverse	AAACTCCCGGAGGGTTCGCATCGCT
CRISPRi sgRNA	EGFR promoter gRNA 2 forward	ACCGTCCAGTATTGATCGGGAGAG
CRISPRi sgRNA	EGFR promoter gRNA 3 reverse	AAACCTCTCCCGATCAACTACTGGA
CRISPRi sgRNA	EGFR promoter gRNA 3 forward	ACCGGACGACAGGCCAAGCTCGTCCG
CRISPRi sgRNA	EGFR promoter gRNA 3 reverse	AAACCGGACGAGGTGGCCTGTCTGC
CRISPRi sgRNA	EGFR promoter gRNA 4 forward	ACCGCCAGTATTGATCGGGAGAGC
CRISPRi sgRNA	EGFR promoter gRNA 4 reverse	AAACGCTCTCCGATCAATACTGG
CRISPRi sgRNA	SQLE promoter gRNA 1 forward	ACCGCCCGGAGGGATGCTGGTGA
CRISPRi sgRNA	SQLE promoter gRNA 1 reverse	AAACTCACAGCATCCCTCGCGGG
CRISPRi sgRNA	SQLE promoter gRNA 2 forward	ACCGGAAACCACTTTTATCGGT
CRISPRi sgRNA	SQLE promoter gRNA 2 reverse	AAACACCGATAAAAAGGTGGTTTCC
CRISPRi sgRNA	SQLE promoter gRNA 3 forward	ACCGCCGCATCTGAGGGAGGTAC
CRISPRi sgRNA	SQLE promoter gRNA 3 reverse	AAACGTACTCTCCATCAGATGGCGG
CRISPRi sgRNA	SQLE promoter gRNA 4 forward	ACCGGCAAAACGGGAGGCTCTAA
CRISPRi sgRNA	SQLE promoter gRNA 4 reverse	AAACTTAGAGGCTTCCGTTTCGC
CRISPRi sgRNA	SQLE promoter gRNA 5 forward	ACCGTCTTTTGTGGAGAGGGCT
CRISPRi sgRNA	SQLE promoter gRNA 5 reverse	AAACACGCTTCTCAACAAAAGA
CRISPRi sgRNA	SQLE promoter gRNA 6 forward	ACCGGGGAGGCTCTAAATCTTT
CRISPRi sgRNA	SQLE promoter gRNA 6 reverse	AAACAAGATTAGAGGCTCCCG
CRISPRi library prep primers	Primer 1	AATGATACGGCGACCCGAGATCTACACAATTTCTGGGTAGTTTGCAGT
CRISPRi library prep primers	Primer 2	CAAGCAGAAGACGGGATACGAGAT (Index) GACTCGGTGCCACTTTTCAA
CRISPRi custom sequencing	Read 1	GATTTCTTGCTTTATATATCTTGTGGAAAGGACGAAACACCG
CRISPRi custom sequencing	Read 2	GTTGATAACGGACTAGCCTTATTTTAACTTGCTATTTCTAGCTCTAAAAC
CRISPRi custom sequencing	Index	GCTAGTCGGTATCAACTTGAAAAGTGGCACCAGTC