

**Supplemental Table S3. Primer sequences for gRNA synthesis and homologous recombination arm construction of the 105 targeted lncRNAs.**

lncRNA name	Primer name	Primer sequence (5' -3' )
lncRNA: TS1	lncRNA: TS1-gRNA1	TAATACGACTCACTATAGGGTGGTGTGGTTGGTTGTTGTTTTAGAGCTAGAAATAGC
	lncRNA: TS1-gRNA2	TAATACGACTCACTATAGGGTACAAGCACTGTTTACAGTTTTAGAGCTAGAAATAGC
lncRNA: TS2	lncRNA: TS2-gRNA1	TAATACGACTCACTATAGGAGGAGGAAAAGGGTTCGGTTTTAGAGCTAGAAATAGC
	lncRNA: TS2-gRNA2	TAATACGACTCACTATAGGAACCAGTGGATATGGTTGTTTTAGAGCTAGAAATAGC
lncRNA: TS3	lncRNA: TS3-gRNA1	TAATACGACTCACTATAGGAGAACTGGAGTAGTTGGTTTTAGAGCTAGAAATAGC
	lncRNA: TS3-gRNA2	TAATACGACTCACTATAGGACGCTACAGTAGTGCAGCGTTTTAGAGCTAGAAATAGC
lncRNA: TS4	lncRNA: TS4-gRNA1	TAATACGACTCACTATAGGAGAATAAACTTTCCAGCGTTTTAGAGCTAGAAATAGC
	lncRNA: TS4-gRNA2	TAATACGACTCACTATAGGACGACGACGATGGAGTCGTTTTAGAGCTAGAAATAGC
lncRNA: TS5	lncRNA: TS5-gRNA1	TAATACGACTCACTATAGGGTTATAACCTTGAAAAGTGTGTTTTAGAGCTAGAAATAGC
	lncRNA: TS5-gRNA2	TAATACGACTCACTATAGGACAGTCCAGTTTTCTGCGTTTTAGAGCTAGAAATAGC
lncRNA: TS6	lncRNA: TS6-gRNA1	TAATACGACTCACTATAGGAACGAAAACGAAAAGTAAGGGTTTTAGAGCTAGAAATAGC
	lncRNA: TS6-gRNA2	TAATACGACTCACTATAGGAGCCCAGCGGCTCCAAGTGTGTTTTAGAGCTAGAAATAGC
lncRNA: TS7	lncRNA: TS7-gRNA1	TAATACGACTCACTATAGGAATACCTTATGACGCTGAGTTTTAGAGCTAGAAATAGC
	lncRNA: TS7-gRNA2	TAATACGACTCACTATAGGGAGAAATGGAGAAGTGTGTTTTAGAGCTAGAAATAGC
lncRNA: TS8	lncRNA: TS8-gRNA1	TAATACGACTCACTATAGGGACTCCGGATCTCGGGCGTTTTAGAGCTAGAAATAGC
	lncRNA: TS8-gRNA2	TAATACGACTCACTATAGGATAGATGTTGTATCTATGTTTTAGAGCTAGAAATAGC
lncRNA: TS9	lncRNA: TS9-gRNA1	TAATACGACTCACTATAGGAGGGTGTGGCAAAGTGAGTTTTAGAGCTAGAAATAGC
	lncRNA: TS9-gRNA2	TAATACGACTCACTATAGGGTTCAGGTGCAACGAGGGTTTTAGAGCTAGAAATAGC
lncRNA: TS10	lncRNA: TS10-gRNA1	TAATACGACTCACTATAGGAAGGAAAATCTAGCCAGCGTTTTAGAGCTAGAAATAGC
	lncRNA: TS10-gRNA2	TAATACGACTCACTATAGGATGAAAGCGGTCGCCAGCGTTTTAGAGCTAGAAATAGC
lncRNA: TS11	lncRNA: TS11-gRNA1	TAATACGACTCACTATAGGGTGAATCCCTGGCCATAGTTTTAGAGCTAGAAATAGC
	lncRNA: TS11-gRNA2	TAATACGACTCACTATAGGATGTGGCATTCCGGGCGGTTTTAGAGCTAGAAATAGC
lncRNA: TS12	lncRNA: TS12-gRNA1	TAATACGACTCACTATAAGGTGTCGTGATGCCGCTAGGTTTTAGAGCTAGAAATAGC
	lncRNA: TS12-gRNA2	TAATACGACTCACTATAGGGCTAGCTGGGAGGTAAGTTTTAGAGCTAGAAATAGC
lncRNA: TS13	lncRNA: TS13-gRNA1	TAATACGACTCACTATAGGAGGAGCAGCTGTGGATGGGTTTTAGAGCTAGAAATAGC
	lncRNA: TS13-gRNA2	TAATACGACTCACTATAGGAGAAAAATGCCACGAAAAGTTTTAGAGCTAGAAATAGC
lncRNA: TS14	lncRNA: TS14-gRNA1	TAATACGACTCACTATAGGAAGCGATGGAAGGGTACTGTTTTAGAGCTAGAAATAGC
	lncRNA: TS14-gRNA2	TAATACGACTCACTATAGGAGGAGCGGATGACCATTGAGTTTTAGAGCTAGAAATAGC
lncRNA: TS15	lncRNA: TS15-gRNA1	TAATACGACTCACTATAGGATGCGAAACGCGGGCCGTTTTAGAGCTAGAAATAGC
	lncRNA: TS15-gRNA2	TAATACGACTCACTATAGGAGTTGGTCCAATGTAAAAGTTTTAGAGCTAGAAATAGC
lncRNA: TS16	lncRNA: TS16-gRNA1	TAATACGACTCACTATAGGGGACCGGACTCGGGAATGTTTTAGAGCTAGAAATAGC
	lncRNA: TS16-gRNA2	TAATACGACTCACTATAGGATTACTGGCTCTCTCATGTTTTAGAGCTAGAAATAGC
lncRNA: TS17	lncRNA: TS17-gRNA1	TAATACGACTCACTATAGGAAAGCCTTAACCATCGCAGTTTTAGAGCTAGAAATAGC
	lncRNA: TS17-gRNA2	TAATACGACTCACTATAGGATAACTCTCGAGTGAAACGTTTTAGAGCTAGAAATAGC
lncRNA: TS18	lncRNA: TS18-gRNA1	TAATACGACTCACTATAGGGAAAATGGTCTTAGCCATTGTTTTAGAGCTAGAAATAGC
	lncRNA: TS18-gRNA2	TAATACGACTCACTATAGGACACCTGGCCTGGGGCATGTTTTAGAGCTAGAAATAGC
lncRNA: TS19	lncRNA: TS19-gRNA1	TAATACGACTCACTATAGGACGAAGCCCATGAGGATGTTTTAGAGCTAGAAATAGC
	lncRNA: TS19-gRNA2	TAATACGACTCACTATAGGAAAAGCAAGCCACAAGTTTTAGAGCTAGAAATAGC
lncRNA: TS20	lncRNA: TS20-gRNA1	TAATACGACTCACTATAGGAAAGCGGTATCTTTGTGCGTTTTAGAGCTAGAAATAGC
	lncRNA: TS20-gRNA2	TAATACGACTCACTATAGGGATTCCGCGCTGGATTAGTTTTAGAGCTAGAAATAGC
lncRNA: TS21	lncRNA: TS21-gRNA1	TAATACGACTCACTATAGGATTTGAAAACGAGAAGCAGTTTTAGAGCTAGAAATAGC
	lncRNA: TS21-gRNA2	TAATACGACTCACTATAGGGCTTAAGGTGAACTGACAGTTTTAGAGCTAGAAATAGC
lncRNA: TS22	lncRNA: TS22-gRNA1	TAATACGACTCACTATAGGGCAGCAGTAAGTGTATAAGTTTTAGAGCTAGAAATAGC
	lncRNA: TS22-gRNA2	TAATACGACTCACTATAGGAACATGGACGATTTGAAAAGTTTTAGAGCTAGAAATAGC
lncRNA: TS23	lncRNA: TS23-gRNA1	TAATACGACTCACTATAGGACGCTTCGGGAGTACAGGTTTTAGAGCTAGAAATAGC
	lncRNA: TS23-gRNA2	TAATACGACTCACTATAGGAGAACGCCCTCTCGCAGCGTTTTAGAGCTAGAAATAGC
lncRNA: TS24	lncRNA: TS24-gRNA1	TAATACGACTCACTATAGGAAGAGGTGGGCGGGATGTGTTTTAGAGCTAGAAATAGC
	lncRNA: TS24-gRNA2	TAATACGACTCACTATAGGGAAGGTGTGCTCCTTTGGTTTTAGAGCTAGAAATAGC
lncRNA: TS25	lncRNA: TS25-gRNA1	TAATACGACTCACTATAGGGATTGCTGTTGCGGGTGCCTTTTTAGAGCTAGAAATAGC
	lncRNA: TS25-gRNA2	TAATACGACTCACTATAGGAGCAATCTCCATAAATCTGTTTTAGAGCTAGAAATAGC
lncRNA: TS26	lncRNA: TS26-gRNA1	TAATACGACTCACTATAGGAAAATGGAATGGCACACGTTTTAGAGCTAGAAATAGC
	lncRNA: TS26-gRNA2	TAATACGACTCACTATAGGAGCGAGAGGAAAAGGAAAGTTTTAGAGCTAGAAATAGC
lncRNA: TS27	lncRNA: TS27-gRNA1	TAATACGACTCACTATAGGGCATCCGGGTGTAACGTTTTAGAGCTAGAAATAGC
	lncRNA: TS27-gRNA2	TAATACGACTCACTATAGGGCCTTGATGATGACAACAGTTTTAGAGCTAGAAATAGC

CR45302	CR45302-gRNA1	TAATACGACTCACTATAGGATCAACTGCCGATTCTGAACGTTTTAGAGCTAGAAATAGC
	CR45302-gRNA2	TAATACGACTCACTATAGGGATTTTAAAGTTATTACACGTTTTAGAGCTAGAAATAGC
CR45727	CR45727-gRNA1	TAATACGACTCACTATAGGACACTCATCGGAGCTCTCAGTTTTAGAGCTAGAAATAGC
	CR45727-gRNA2	TAATACGACTCACTATAGGGACACTGGTACACGTGGAGTTTTAGAGCTAGAAATAGC
CR44949	CR44949-gRNA1	TAATACGACTCACTATAGGGCGAGCACACAAGGCCAAAGTTTTAGAGCTAGAAATAGC
	CR44949-gRNA2	TAATACGACTCACTATAGGAAAGGCAACTGGTCAAGAGGTTTTAGAGCTAGAAATAGC
CR44776	CR44776-gRNA1	TAATACGACTCACTATAGGGCAGGAGTCCCTATCCTCGTTTTAGAGCTAGAAATAGC
	CR44776-gRNA2	TAATACGACTCACTATAGGGCATTGGCTGCCGGGTGTTTTAGAGCTAGAAATAGC
CR44967	CR44967-gRNA1	TAATACGACTCACTATAGGGCGGCACTGGGCCATCTGTTTTAGAGCTAGAAATAGC
	CR44967-gRNA2	TAATACGACTCACTATAGGTGCACCCGAGCCAAATGTTTTAGAGCTAGAAATAGC
CR45557	CR45557-gRNA1	TAATACGACTCACTATAGGGAAGCAGATGTTGACAAGTTTTAGAGCTAGAAATAGC
	CR45557-gRNA2	TAATACGACTCACTATAGGGAAGGAAGTAGGGGCAGTTTTAGAGCTAGAAATAGC
CR45242	CR45242-gRNA1	TAATACGACTCACTATAGGTCGCGTAAAGTCTCCAGTTTTAGAGCTAGAAATAGC
	CR45242-gRNA2	TAATACGACTCACTATAGGCATCCGAGTTGGGCGGTGTTTTAGAGCTAGAAATAGC
	CR44874-gRNA1	TAATACGACTCACTATAGGTGGACAACGTTTGCACCGTTTTAGAGCTAGAAATAGC
CR44874	CR44874-gRNA2	TAATACGACTCACTATAGGAAATGATGTGATGCTCTGTTTTAGAGCTAGAAATAGC
	CR44874-gRNA3	TAATACGACTCACTATAGGATAGCAGTATCGAAACCGTTTTAGAGCTAGAAATAGC
CR45418	CR45418-gRNA1	TAATACGACTCACTATAGGAAAGGAAAGTCCCCGAGTTTTAGAGCTAGAAATAGC
	CR45418-gRNA2	TAATACGACTCACTATAGGAGGCCAGTTCGGGCTTGTGTTTTAGAGCTAGAAATAGC
CR44278	CR44278-gRNA1	TAATACGACTCACTATAGGTGGTATGGTATCCAGCTGTTTTAGAGCTAGAAATAGC
	CR44278-gRNA2	TAATACGACTCACTATAGGACGAGCGAGTGGTGTGGTAGTTTTAGAGCTAGAAATAGC
CR45670	CR45670-gRNA1	TAATACGACTCACTATAGGGGCAACTCTCACGCAAGTTTTAGAGCTAGAAATAGC
	CR45670-gRNA2	TAATACGACTCACTATAGGTCGCGCCATCAATCAAGTTTTAGAGCTAGAAATAGC
	CR45054-gRNA1	TAATACGACTCACTATAGGTGGAGAGTGGAGCAAGAGCGTTTTAGAGCTAGAAATAGC
CR45054	CR45054-gRNA2	TAATACGACTCACTATAGGGGCAGTGTGGGCGAGTTTTAGAGCTAGAAATAGC
	CR45054-gRNA3	TAATACGACTCACTATAGGTGGGGCGTGGCAAGAGTTTTAGAGCTAGAAATAGC
	CR45054-gRNA4	TAATACGACTCACTATAGGTGAAGCTAAAGCGAATTGTTTTAGAGCTAGAAATAGC
CR44455/CR44456	CR44455/6-gRNA1	TAATACGACTCACTATAGGTTTCTTTAGTAGTATCCAGTTTTAGAGCTAGAAATAGC
	CR44455/6-gRNA2	TAATACGACTCACTATAGGAGTGCCTCTCCTCGCAAGTTTTAGAGCTAGAAATAGC
	CR44943-gRNA1	TAATACGACTCACTATAGGATGCAATACCTACTTATTGGTTTTAGAGCTAGAAATAGC
CR44943	CR44943-gRNA2	TAATACGACTCACTATAGGAAGGGGACACGAAGTCCGAGTTTTAGAGCTAGAAATAGC
	CR44943-gRNA3	TAATACGACTCACTATAGGACGAAGTTTGGCCGACTAAGTTTTAGAGCTAGAAATAGC
	CR44401-gRNA1	TAATACGACTCACTATAGGAGAACTACATTCCGATCGTTTTAGAGCTAGAAATAGC
CR44401	CR44401-gRNA2	TAATACGACTCACTATAGGACTGCTCCGTACTACGCGTTTTAGAGCTAGAAATAGC
	CR44401-gRNA3	TAATACGACTCACTATAGGAAGGAAAGGGTCGACCAGTTTTAGAGCTAGAAATAGC
	CR45283-gRNA1	TAATACGACTCACTATAGGACGCTACCACAACCGATGTTTTAGAGCTAGAAATAGC
CR45283	CR45283-gRNA2	TAATACGACTCACTATAGGTAGATCCGTGCTATTTTGTGTTTTAGAGCTAGAAATAGC
	CR45283-gRNA3	TAATACGACTCACTATAGGATGGCTTTGGGACGGCAGGTTTTAGAGCTAGAAATAGC
CR43356	CR43356-gRNA1	TAATACGACTCACTATAGGACCAGCCGACTCCTCCAAGTTTTAGAGCTAGAAATAGC
	CR43356-gRNA2	TAATACGACTCACTATAGGATTAGAATGCAGCTTATTTAGTTTTAGAGCTAGAAATAGC
CR44805	CR44805-gRNA1	TAATACGACTCACTATAGGTGCACGGTGGTCAAAAAGTTTTAGAGCTAGAAATAGC
	CR44805-gRNA2	TAATACGACTCACTATAGGTTTGAGGGACTCAACACAGTTTTAGAGCTAGAAATAGC
CR45630	CR45630-gRNA1	TAATACGACTCACTATAGGTGCTGCTGGTGGTGGGTTTTAGAGCTAGAAATAGC
	CR45630-gRNA2	TAATACGACTCACTATAGGAATGCATCCTATATGCAGTTTTAGAGCTAGAAATAGC
	CR43764-gRNA1	TAATACGACTCACTATAGGAAGCAATCGTCCCACAGCCGTTTTAGAGCTAGAAATAGC
CR43764	CR43764-gRNA2	TAATACGACTCACTATAGGAACGAGATTTATGTTAGTAGTTTTAGAGCTAGAAATAGC
	CR43764-gRNA3	TAATACGACTCACTATAGGAATGGTCACGTGATACGTCGTTTTAGAGCTAGAAATAGC
CR43701	CR43701-gRNA1	TAATACGACTCACTATAGGAAGTATCTCTCTGGGCCCGTTTTAGAGCTAGAAATAGC
	CR43701-gRNA2	TAATACGACTCACTATAGGCGGTTCCAGTGCCCGCGTTTTAGAGCTAGAAATAGC

CR44371	CR44371-gRNA1	TAATACGACTCACTATAGGAAGTGGAGCAGAGCAATGGGTTTTAGAGCTAGAAATAGC
	CR44371-gRNA2	TAATACGACTCACTATAGGAGACTTTTAGTGGCAACTC GTTTTAGAGCTAGAAATAGC
CR42657	CR42657-gRNA1	TAATACGACTCACTATAGGGAGTCAAAGTAGAAATGAGTTTTAGAGCTAGAAATAGC
	CR42657-gRNA2	TAATACGACTCACTATAGGAGCAGCGCAGGATCTAAGTTTTAGAGCTAGAAATAGC
	CR42657-gRNA3	TAATACGACTCACTATAGGAGTAGAGGATCCTTTTCGTGTTTTAGAGCTAGAAATAGC
CR45187	CR45187-gRNA1	TAATACGACTCACTATAGGGTGTGGTAAAAAGTTTCTGTTTTAGAGCTAGAAATAGC
	CR45187-gRNA2	TAATACGACTCACTATAGGATAAACTATAATTAACACGTTTTAGAGCTAGAAATAGC
CR43859	CR43859-gRNA1	TAATACGACTCACTATAGGTAAGTGCAGCGTCAGCAAGTTTTAGAGCTAGAAATAGC
	CR43859-gRNA2	TAATACGACTCACTATAGGTCCTAATTGAAGCGAGGGTTTTAGAGCTAGAAATAGC
	CR43492-gRNA1	TAATACGACTCACTATAGGATGATGGCTGCACCCGGTGTGTTTTAGAGCTAGAAATAGC
CR43492	CR43492-gRNA2	TAATACGACTCACTATAGGATGTGCTTATGATGTGCTGTTTTAGAGCTAGAAATAGC
	CR43492-gRNA3	TAATACGACTCACTATAGGAGTGGAGTGGAGTGGTGTGTTTTAGAGCTAGAAATAGC
	CR45722/3/43839-gRNA1	TAATACGACTCACTATAGGGCAGACACGAGCAAAGTCCGTTTTAGAGCTAGAAATAGC
CR45722/CR45723/CR43839	CR45722/3/43839-gRNA2	TAATACGACTCACTATAGGATTGGGATTGCGGCAGTTTTAGAGCTAGAAATAGC
	CR45722/3/43839-gRNA3	TAATACGACTCACTATAGGAGTCGGACTCGGAATCCTTGTGTTTTAGAGCTAGAAATAGC
	CR45722/3/43839-gRNA4	TAATACGACTCACTATAGGAAACTTGGAGCATTGGAGTTTTAGAGCTAGAAATAGC
CR45608	CR45608-gRNA1	TAATACGACTCACTATAGGGCCGAAACGGACAGCGGAGTTTTAGAGCTAGAAATAGC
	CR45608-gRNA2	TAATACGACTCACTATAGGACCCACAACCCACAGAGAGTTTTAGAGCTAGAAATAGC
	CR45608-gRNA3	TAATACGACTCACTATAGGATTTCTATCTGGTACCTTTGTTTTAGAGCTAGAAATAGC
CR45174	CR45174-gRNA1	TAATACGACTCACTATAGGAGGAGTCAGCCGTTTGGTGTGTTTTAGAGCTAGAAATAGC
	CR45174-gRNA2	TAATACGACTCACTATAGGATCGAGCCGTGCGCAAAAGTTTTAGAGCTAGAAATAGC
CR44585	CR44585-gRNA1	TAATACGACTCACTATAGGGTGAATTGTTGCTCGTCGTTTTAGAGCTAGAAATAGC
	CR44585-gRNA2	TAATACGACTCACTATAGGGTGAATTGTTGCTCGTCGTTTTAGAGCTAGAAATAGC
CR45542	CR45542-gRNA1	TAATACGACTCACTATAGAAGTGCCCGCCTTTTGTGTGTTTTAGAGCTAGAAATAGC
	CR45542-gRNA2	TAATACGACTCACTATAGGGCAGCGATTGGTGGCGTTTTAGAGCTAGAAATAGC
CR17567	CR17567-gRNA1	TAATACGACTCACTATAGGGTATCTACGAGTGTTCGTTTTAGAGCTAGAAATAGC
	CR17567-gRNA2	TAATACGACTCACTATAGGATGTACAACTGCTGCGTTTTAGAGCTAGAAATAGC
CR32661	CR32661-gRNA1	TAATACGACTCACTATAGGGTGAAGTTGAAAGTTTCGGCGTTTTAGAGCTAGAAATAGC
	CR32661-gRNA2	TAATACGACTCACTATAGGAGCTAGCACCTGTATCACGTTTTAGAGCTAGAAATAGC
CR9284	CR9284-gRNA1	TAATACGACTCACTATAGGGTAGGGTATCCAAGGTAGTTTTAGAGCTAGAAATAGC
	CR9284-gRNA2	TAATACGACTCACTATAGGGTAGGGTATCCAAGGTAGTTTTAGAGCTAGAAATAGC
CR42858	CR42858-gRNA1	TAATACGACTCACTATAGGAACCAATGACGAGAGGCCGTTTTAGAGCTAGAAATAGC
	CR42858-gRNA2	TAATACGACTCACTATAGGGTACGCGTTTGTCTCAACGTTTTAGAGCTAGAAATAGC
CR43823	CR43823-gRNA1	TAATACGACTCACTATAGGATAGCGAGGGAGCCGCGTTTTAGAGCTAGAAATAGC
	CR43823-gRNA2	TAATACGACTCACTATAGGAACTTGGCAGCTGCTCCTGTTTTAGAGCTAGAAATAGC
CR43484	CR43484-gRNA1	TAATACGACTCACTATAGGGCAGAACTTTGGGTGAGTTTTAGAGCTAGAAATAGC
	CR43484-gRNA2	TAATACGACTCACTATAGGATCTTGCATCTTGGATCGTTTTAGAGCTAGAAATAGC
CR43862	CR43862-gRNA1	TAATACGACTCACTATAGGGCCGCAAGTGTGATATGGTTTTAGAGCTAGAAATAGC
	CR43862-gRNA2	TAATACGACTCACTATAGGGTGGTCTTCCGTCGGCACGTTTTAGAGCTAGAAATAGC
CR43608	CR43608-gRNA1	TAATACGACTCACTATAGGAACAGAGTGCCAGAGTGAGTTTTAGAGCTAGAAATAGC
	CR43608-gRNA2	TAATACGACTCACTATAGGGAAAGCCGGGAAATGCGGTTTTAGAGCTAGAAATAGC
CR43852	CR43852-gRNA1	TAATACGACTCACTATAGGGCTGTTTCAGGTGCCACAGTTTTAGAGCTAGAAATAGC
	CR43852-gRNA2	TAATACGACTCACTATAGGGTGCAGTGCACCTCCTGTTTTAGAGCTAGAAATAGC
CR43718	CR43718-gRNA1	TAATACGACTCACTATAGGATATGGAGGAGTCCCCGGTTTTAGAGCTAGAAATAGC
	CR43718-gRNA2	TAATACGACTCACTATAGGATAGCACGGACGTGGCCATGTTTTAGAGCTAGAAATAGC
CR43282	CR43282-gRNA1	TAATACGACTCACTATAGGAACGATTTATACAATGAGAGTTTTAGAGCTAGAAATAGC
	CR43282-gRNA2	TAATACGACTCACTATAGGAGGGATACAATGAGTCAGAGTTTTAGAGCTAGAAATAGC
CR42859	CR42859-gRNA1	TAATACGACTCACTATAGGAATACAATCTTTTTGAAGTTTTAGAGCTAGAAATAGC
	CR42859-gRNA2	TAATACGACTCACTATAGGGTGGAGTGGTTGGGAAATCGTTTTAGAGCTAGAAATAGC
CR43416	CR43416-gRNA1	TAATACGACTCACTATAGGAAGCGAAGCAGGAGACAGCGTTTTAGAGCTAGAAATAGC
	CR43416-gRNA2	TAATACGACTCACTATAGGAAAATTCGCAAGAGCAGTGTGTTTTAGAGCTAGAAATAGC

CR43631/CR43632/CR43633/CR43634/CR43847	CR43631/2/3/4/CR43847-gRNA1 CR43631/2/3/4/CR43847-gRNA2	TAATACGACTCACTATAGGGGAAAAGAAATGAGGAAGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGGGTGTTTTGTGAAAACCTCTGTTTTAGAGCTAGAAATAGC
CR42645	CR42645-gRNA1 CR42645-gRNA2	TAATACGACTCACTATAGGAAAACATCTTTCTGAAAGGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGACTCGGATTCCTTTTCTCGTTTTAGAGCTAGAAATAGC
CR43705/CR43706	CR43705/6-gRNA1 CR43705/6-gRNA2	TAATACGACTCACTATAGGAGAATGAAAAACTGCCGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGTGTAAGACGATCCTTAGTGTTTTAGAGCTAGAAATAGC
CR43848	CR43848-gRNA1 CR43848-gRNA2	TAATACGACTCACTATAGGAACGGACATAGGAACGGATGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGGAGGTAGGTAGGTAGAGGCGTTTTAGAGCTAGAAATAGC
CR43835	CR43835-gRNA1 CR43835-gRNA2	TAATACGACTCACTATAGGGGGCCACATCAAAATTCAGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGAAGGCGCAAATTGCCCTGTTTTAGAGCTAGAAATAGC
CR43304	CR43304-gRNA1 CR43304-gRNA2	TAATACGACTCACTATAGGTGAGGAAAAGCTAAGAAAAGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGGGACACCACGCGGAACACAGTTTTAGAGCTAGAAATAGC
CR43802	CR43802-gRNA1 CR43802-gRNA2	TAATACGACTCACTATAGGTGTTGTTGAATTTCCGATGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGACAACGGGCAGGACACCGAGTTTTAGAGCTAGAAATAGC
CR43414	CR43414-gRNA1 CR43414-gRNA2	TAATACGACTCACTATAGGGAAATCGTCATGTGCCCGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGAATGGGGATCGGGATCAGTTTTAGAGCTAGAAATAGC
CR43306	CR43306-gRNA1 CR43306-gRNA2 CR43306-gRNA3	TAATACGACTCACTATAGGTGCGAATCGGAATTCACGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGAAAGGGTGTGGTGTGGAGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGACTGCGAACCCCTCCTCGTTTTAGAGCTAGAAATAGC
CR43807	CR43807-gRNA1 CR43807-gRNA2	TAATACGACTCACTATAGGCTGCGAAGTGGGTGGTGGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGGAAGCACGAGAGGCGGTGTTTTAGAGCTAGAAATAGC
CR43655	CR43655-gRNA1 CR43655-gRNA2 CR43753-gRNA1	TAATACGACTCACTATAGGCTGGTGAGGATTCGGTAGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGATGCGGTGACTTCTGTGGAGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGAAAATATGAGCCGAGAGTTTTAGAGCTAGAAATAGC
CR43753	CR43753-gRNA2 CR43753-gRNA3 CR43753-gRNA4	TAATACGACTCACTATAGGGGAAAATAGTGAAAAGCGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGAAAGTGCACCTTTTGTGGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGATGAGTTATGATCCGAAGTTTTAGAGCTAGAAATAGC
CR43434	CR43434-gRNA1 CR43434-gRNA2	TAATACGACTCACTATAGGGCAACAAGGCAACTAGGGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGAATAAAGGCACGAAAAGTTTTAGAGCTAGAAATAGC
CR43486/CR43487	CR43486/7-gRNA1 CR43486/7-gRNA2	TAATACGACTCACTATAGGAGATGAGCTGCAGGGAATGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGTCTAATTGGAAGTGACAAAAGTTTTAGAGCTAGAAATAGC
CR43622	CR43622-gRNA1 CR43622-gRNA2	TAATACGACTCACTATAGGAGTTACTGGAGACCCAGCGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGAGGGCCACATTCATTTGCAGTTTTAGAGCTAGAAATAGC
CR43625	CR43625-gRNA1 CR43625-gRNA2 CR43627-gRNA1	TAATACGACTCACTATAGGAGCGCATGGGCCACTACGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGGATTTGGCATGCGGAGTGGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGATAACGAGTGCACAGTGGTTTTAGAGCTAGAAATAGC
CR43627	CR43627-gRNA2 CR43627-gRNA3 CR43627-gRNA4	TAATACGACTCACTATAGGAGATTTCGATGGGTGGCGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGATAGGATGTGCATTATGCGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGTGCGTTCTGCATTTGGCGTTTTAGAGCTAGAAATAGC
CR43682	CR43682-gRNA1 CR43682-gRNA2	TAATACGACTCACTATAGGTGGACCGAATCGAAAACCTAGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGGAGGAAGGCGGTGCTGGGTTTTAGAGCTAGAAATAGC
CR45006	CR45006-gRNA1 CR45006-gRNA2 CR44852-gRNA1	TAATACGACTCACTATAGGTTTCGGAACCCGAGAACACGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAAGGATGTAGGAGCCCAAAGGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGAGCCTTATCCGATTTCTGTTTTAGAGCTAGAAATAGC
CR44852	CR44852-gRNA2 CR44852-gRNA3	TAATACGACTCACTATAGGATTTGAAAATGATTAGTCGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGAGTGTGCGACGCCTTTGAGTTTTAGAGCTAGAAATAGC
CR44670/CR44671	CR44670/1-gRNA1 CR44670/1-gRNA2 CR44670/1-gRNA3	TAATACGACTCACTATAGGGCAAATGAATTCAGCTTGTTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGAAATGTGGTAAGTGTGTGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGGTTGCCGGAATGGGAAGTTTTAGAGCTAGAAATAGC
CR44420	CR44420-gRNA1 CR44420-gRNA2	TAATACGACTCACTATAGGGAGACAAGCGGAGAACCCTTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGATGTGGATTTGGACTGTGCCGTTTTAGAGCTAGAAATAGC
CR44413	CR44413-gRNA1 CR44413-gRNA2	TAATACGACTCACTATAGGAAATGTGCAAAGGGGTGTTTTAGAGCTAGAAATAGC TAATACGACTCACTATAGGATAATGAAGCCTGACCTTTGTTTTAGAGCTAGAAATAGC

	CR44412-gRNA1	TAATACGACTCACTATAGGAATTCCTTTTTGTTTTCGTTTTAGAGCTAGAAATAGC
CR44412	CR44412-gRNA2	TAATACGACTCACTATAGGGTGGGCATTGGGTGGCTGTTTTAGAGCTAGAAATAGC
	CR44412-gRNA3	TAATACGACTCACTATAGGAAATCTGCCAGGGGGCGGTTTTAGAGCTAGAAATAGC
	CR44344-gRNA1	TAATACGACTCACTATAGGTTTCTTAGAGTACCTTTGTTTTAGAGCTAGAAATAGC
CR44344	CR44344-gRNA2	TAATACGACTCACTATAGGTAACAAAAAGTCGGACTGTTTTAGAGCTAGAAATAGC
	CR44344-gRNA3	TAATACGACTCACTATAGAACCCGGATGAGCGGACGGTTTTAGAGCTAGAAATAGC
	CR44344-gRNA4	TAATACGACTCACTATAGGATGGTGTTCATATGCCATGTTTTAGAGCTAGAAATAGC
CR44337	CR44337-gRNA1	TAATACGACTCACTATAGGTCCAATTAGGGCCAAATAGTTTTAGAGCTAGAAATAGC
	CR44337-gRNA2	TAATACGACTCACTATAGGTCGTGTTGATGTTTTATGTTTTAGAGCTAGAAATAGC
	CR44324-gRNA1	TAATACGACTCACTATAGGTCCTGGAGTGCCGATTGTTTTAGAGCTAGAAATAGC
CR44324	CR44324-gRNA2	TAATACGACTCACTATAGGATCTGCTGCGGTTGTCTGAGTTTTAGAGCTAGAAATAGC
	CR44279-gRNA1	TAATACGACTCACTATAGGGAAGGAGCGGAAAAAATGTTTTAGAGCTAGAAATAGC
CR44279	CR44279-gRNA2	TAATACGACTCACTATAGGGGCATACTCGCCTGGATAGTTTTAGAGCTAGAAATAGC
	CR44256-gRNA1	TAATACGACTCACTATAGGGTTGGTGGGCCTTTTGCGTTTTAGAGCTAGAAATAGC
CR44256	CR44256-gRNA2	TAATACGACTCACTATAGGTTGTTTGCCGCGAAATGTTTTAGAGCTAGAAATAGC
	CR44131-gRNA1	TAATACGACTCACTATAGGTCACAGGCCACAGCCGCGTTTTAGAGCTAGAAATAGC
CR44131	CR44131-gRNA2	TAATACGACTCACTATAGGGTTGATCAGGATGCCAAGTTTTAGAGCTAGAAATAGC
	CR44081-gRNA1	TAATACGACTCACTATAGGACAGCAGAGTGAAGAGTGTTTTTAGAGCTAGAAATAGC
CR44081	CR44081-gRNA2	TAATACGACTCACTATAGTGGTGTCTGCCCATCTGCGTTTTAGAGCTAGAAATAGC
	CR43939-gRNA1	TAATACGACTCACTATAAGGATTGACCTGATTTTGTGTTTTAGAGCTAGAAATAGC
CR43939	CR43939-gRNA2	TAATACGACTCACTATAGGGATCCTGGTCCAGATTAGTTTTAGAGCTAGAAATAGC
	CR43819-gRNA1	TAATACGACTCACTATAGGATCCTGGAAGCCTTGTAACGTTTTAGAGCTAGAAATAGC
CR43819	CR43819-gRNA2	TAATACGACTCACTATAGGGATTTGTAAATGCGGAAAGTTTTAGAGCTAGAAATAGC
	CR43721-gRNA1	TAATACGACTCACTATAGGAGATTGGGATGGAGACGGTTTTAGAGCTAGAAATAGC
CR43721	CR43721-gRNA2	TAATACGACTCACTATAGGGAGACTTATGCCCTTTTAGTTTTAGAGCTAGAAATAGC

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**Supplemental Table S3. Primer sequences for gRNA synthesis and homologous recombination arm construction of the 105 targeted lncRNAs.**

lncRNA name	Primer name	Primer sequence (5' -3' )
lncRNA:TS1	lncRNA:TS1-left HR arm-F	CTACAAGGTACCTTTCCCCATCATACACATCCAG
	lncRNA:TS1-left HR arm-R	ATGAAGGCGGCCGCTGAGCTCTGAGCCGCAACG
	lncRNA:TS1-right HR arm-F	CACATGGCGCGCCAAACAGTGCTTGTACCCTCATCAC
	lncRNA:TS1-right HR arm-R	AAGATGCTCGAGGGTGCCTCATTCCGACGATT
lncRNA:TS2	lncRNA:TS2-left HR arm-F	CATCTTGGTACCGAACATATGAGTGACTGAATGAATGGCTTGA
	lncRNA:TS2-left HR arm-R	ATGATGACCGGTATGGCGGCCGAACCCCTTTCTCCTCCAGCTA
	lncRNA:TS2-right HR arm-F	CACATGGCGCGCCCTTTGTTCGCTGCTCTATAAAT
	lncRNA:TS2-right HR arm-R	ATGATGACTAGTGAAGAACCAGAACTGAGCTGAAC
lncRNA:TS3	lncRNA:TS3-left HR arm-F	CATCATGGTACCTTCCACTTTGTCTGGGCGTCTC
	lncRNA:TS3-left HR arm-R	ATGATGACCGGTTTGTGGGGCCAGCTGTGCGTGG
	lncRNA:TS3-right HR arm-F	ATCTAGGCGCGCCCACTACTGTAGCGTCCATGTGG
	lncRNA:TS3-right HR arm-R	ATGATGCTCGAGATGACTAGTTAACATAGGTTGACCCCTTTCC
lncRNA:TS4	lncRNA:TS4-left HR arm-F	CATCATGGTACCTACTCGACTGTCTGTCTCGTC
	lncRNA:TS4-left HR arm-R	ATTAGGCGGCCGAGCAGGTGAGTGGCTTGTGTG
	lncRNA:TS4-right HR arm-F	CTCATAGGCGCGCCAGCTCCTGTTTCTGTCTCGTTC
	lncRNA:TS4-right HR arm-R	ATGATGACTAGTAGCCCTTGAATCTCCTTCTAATAA
lncRNA:TS5	lncRNA:TS5-left HR arm-F	CATCATCATATGTAAGGTAGGTCGCCGAGTCAT
	lncRNA:TS5-left HR arm-R	CTTCTGGTGGCGCCGAGATGATTGGGGGATAACA
	lncRNA:TS5-right HR arm-F	CATCTAGGCGCGCCATCGTTGTCATCAGGTTGC
	lncRNA:TS5-right HR arm-R	ATGATGCTCGAGATTGTTTGGGATAAGGGTT
lncRNA:TS6	lncRNA:TS6-left HR arm-F	CATCATGGTACCCTACATATGTCGCTTAAATGGTACATGGTGC
	lncRNA:TS6-left HR arm-R	ATGATGACCGGTCATTTTATATATCCACAACCTTTT
	lncRNA:TS6-right HR arm-F	CACATGGCGCGCCCTAGTCGACTGGAGCCGCTGGGCTCCGGTTT
	lncRNA:TS6-right HR arm-R	ATGATGCTCGAGATGACTAGTAGCTGAGTAAAGCGGCACAAAT
lncRNA:TS7	lncRNA:TS7-left HR arm-F	CATCTAGGTACCTCCCATTTCCTCGGCAGTC
	lncRNA:TS7-left HR arm-R	ATTCCGATGCGCCGCCATAAAAGCAAATGCGTAAA
	lncRNA:TS7-right HR arm-F	CTACTAGGCGCGCCCGAACGATTGGAGATGACT
	lncRNA:TS7-right HR arm-R	ATGAGTCTCGAGCCCAGAAACCCAGCAGACA
lncRNA:TS8	lncRNA:TS8-left HR arm-F	CATCTAGGTACCGTACATATGACTGGCGTGGGATTATGTTGGA
	lncRNA:TS8-left HR arm-R	ATGATGGCGCGCCCGCTCCCATTTTCCCGGT
	lncRNA:TS8-right HR arm-F	CACATGGCGCGCCTATAGGAGTGATATTGAACAACCTT
	lncRNA:TS8-right HR arm-R	ATGTAGCTCGAGATGACTAGTGGCAAATCCAATAGCATAAC
lncRNA:TS9	lncRNA:TS9-left HR arm-F	CATCAAGGTACCCTACATATGGGTCGGAAAGATGAAGCACTCA
	lncRNA:TS9-left HR arm-R	AACATGGCGCGCCGACCGCTGGCAAACCAATAGAA
	lncRNA:TS9-right HR arm-F	CACATGGCGCGCCTTGCAATTTCCAGCAAGCTTTT
	lncRNA:TS9-right HR arm-R	ATGATCACTAGTACCCAAACCAGAAAGAATGTCCG
lncRNA:TS10	lncRNA:TS10-left HR arm-F	TGACAAGGTACCGATCATATGTAGCCAACTGAAAGCGACTCCC
	lncRNA:TS10-left HR arm-R	TAGTAGGCGGCCGCAAGCTTTGCTCCTCGAAAAGAAAT
	lncRNA:TS10-right HR arm-F	CACATGGCGCGCCAGCAGGGGCAAAAATTGAAACA
	lncRNA:TS10-right HR arm-R	ATGATCCTCGAGGCTATTCCTTCTCCGTTTGCTC
lncRNA:TS11	lncRNA:TS11-left HR arm-F	CATCTAGGTACCATTGCCATTCGCTTTGCGTTAC
	lncRNA:TS11-left HR arm-R	ATGAATGCGCGCCGCGCCAGGGATTACCCCGCCA
	lncRNA:TS11-right HR arm-F	CTCATAGGCGCGCCCGGAATGCCACATCCTTT
	lncRNA:TS11-right HR arm-R	AACATGCTCGAGTAGACTAGTTTTGAAAACGAGAAGCAGAGGGT

	lncRNA:TS12-left HR arm-F	ACTCATGGTACCCTACATATGGGCAACAGAAATAGATGGCAAAG
lncRNA:TS12	lncRNA:TS12-left HR arm-R	ATGATGACCGGTACGACACCTTCTAAACTCGGCC
	lncRNA:TS12-right HR arm-F	CACATGGCGCGCCGTACAGATAAAGTTGAACTGGA
	lncRNA:TS12-right HR arm-R	ATGATGCTCGAGATGACTAGTCAGCCAAGCCGATTCTTATGC
	lncRNA:TS13-left HR arm-F	CATCATGGTACCCTACATATGATTGAGTGGCTTCATTTGTCCG
lncRNA:TS13	lncRNA:TS13-left HR arm-R	TAGATGGCGGCCGATAATCTCATCATTTGATGTTGCAG
	lncRNA:TS13-right HR arm-F	GTCATGGCGCGCTCCGTGGCATTCTCCAGC
	lncRNA:TS13-right HR arm-R	TACATCCTCGAGTAGACTAGTGCCTTTTCCGCTTGTTCATC
	lncRNA:TS14-left HR arm-F	AGCGTGGGTCTCGGGCTAAATCCGTCAAACCAGGAAAGC
lncRNA:TS14	lncRNA:TS14-left HR arm-R	GTGCTGGGTCTCACATCAAGAAGTGCCGACCGCTGGAG
	lncRNA:TS14-right HR arm-F	AGCGTGGGTCTCTTAGCTGAAGGATTGGCGTTGTCATGTC
	lncRNA:TS14-right HR arm-R	GTGCTGGGTCTCGGAGGTGACCTTGGTGGGGCTAATGATG
	lncRNA:TS15-left HR arm-F	CTTCTAGGTACCTGACTTGCTGCGGTCTATCTGC
lncRNA:TS15	lncRNA:TS15-left HR arm-R	ATGATGGCGCGCCGATGTTGCTGGAATTACTIONCAACACC
	lncRNA:TS15-right HR arm-F	GTCATAGGCGCGCCGGTGTGCCAAGAAGGAGA
	lncRNA:TS15-right HR arm-R	ATGATGACTAGTTAGCCAGTCTCAAACGATG
	lncRNA:TS16-left HR arm-F	CATCATGGTACCTCATCTGGAAGTGGTCTATCG
lncRNA:TS16	lncRNA:TS16-left HR arm-R	ATGATGGCGCGCCCGAGTCCCGTCCCATCCGT
	lncRNA:TS16-right HR arm-F	CACATGGCGCGCCCTAGTCGACGCATATGCATACCTCTGATATCG
	lncRNA:TS16-right HR arm-R	ATGATGCTCGAGTTCTGACTTTCACCAATACAA
	lncRNA:TS17-left HR arm-F	CATCATGGTACCGTGAGCGAGTGTCTTGGGAATC
lncRNA:TS17	lncRNA:TS17-left HR arm-R	ATGATGACCGGTATGGCGCGCGATGGTTAAGGCTTTCCACCTG
	lncRNA:TS17-right HR arm-F	CACATGGCGCGCCCTAGTCGACAAGTGGTAAACAATACTCCGCT
	lncRNA:TS17-right HR arm-R	ATGATGACTAGTGAGATTTAGGGAGACAAGGAGC
	lncRNA:TS18-left HR arm-F	CATCATGGTACCAGAAATGGAAGCAAAATGGAACG
lncRNA:TS18	lncRNA:TS18-left HR arm-R	ATGATGACCGGTATGGCGCGCGCAGGACGAGAAGTATTACGC
	lncRNA:TS18-right HR arm-F	CACATGGCGCGCCCTAGTCGACAAGTGAACAAGCCTGGAGAT
	lncRNA:TS18-right HR arm-R	ATGATGCTCGAGGAGGTGTATGGATTTCAGTAAG
	lncRNA:TS19-left HR arm-F	CATCATGGTACCTCCTGGTCTATTATCCTTT
lncRNA:TS19	lncRNA:TS19-left HR arm-R	CTTCTAATGCGGCCGCTCAGTGACCTGCAAGACATAAAA
	lncRNA:TS19-right HR arm-F	CATCTAGGCGCGCCATTTGATTTGCCAGTCTCC
	lncRNA:TS19-right HR arm-R	ATTGAACTAGTCGGTTACTGCGTCATCATCTC
	lncRNA:TS20-left HR arm-F	CATCATGGTACCCAGCGCGTGGTGACAGAAATT
lncRNA:TS20	lncRNA:TS20-left HR arm-R	ATGATGGCGGCCGCTGCCGCCAGCTCATTATTGTCA
	lncRNA:TS20-right HR arm-F	CAGGAGCGCGCCCTAGTCGACGAATTAATGGCCATGAAATGTA
	lncRNA:TS20-right HR arm-R	ATGATGCTCGAGATGACTAGTTCGGAGGGCGATACGCTGTGC
	lncRNA:TS21-left HR arm-F	CTACATGGTACCCGGTACTTGGGCTCTTCTGA
lncRNA:TS21	lncRNA:TS21-left HR arm-R	ATGATGGCGGCCGCAAAAGACGACAGTTGGCCAAA
	lncRNA:TS21-right HR arm-F	CACATGGCGCGCCGAACCAGACCTTTCTGTGAATTCTT
	lncRNA:TS21-right HR arm-R	ATCATCCTCGAGTAGACTAGTGAAACATTCGGTCTCGGGG
	lncRNA:TS22-left HR arm-F	CATCATGGTACCCCTTCGCTTCAGTTTCAGTCA
lncRNA:TS22	lncRNA:TS22-left HR arm-R	ATGATGACCGGTATGGCGGCCGCAAAACGAAACTAAGTTGACT
	lncRNA:TS22-right HR arm-F	ATGATGGCGGCCAAAATGGCGGTGCCATGAAAGT
	lncRNA:TS22-right HR arm-R	ATGATGGTTCGACACACGAGTAAACGAGGGATAG
	lncRNA:TS23-left HR arm-F	CATCATGGTACCCTACATATGTGGAGAAAATAGCAATAACAAAGG
lncRNA:TS23	lncRNA:TS23-left HR arm-R	ATGATGACCGGTATGGCGGCCCTACTCCCGAAGCGTCTTCTT
	lncRNA:TS23-right HR arm-F	CACATGGCGCGCCCTAGTCGACAGAGGGCTTCTCCGCTTTTGG
	lncRNA:TS23-right HR arm-R	ATGATGCTCGAGATGACTAGTCGGCGTAAACAATAACAAGAATCG

	lncRNA:TS24-left HR arm-F	CATCATGGTACCCTACATATGAGTTCGCTTTGACATCCGCCAC
lncRNA:TS24	lncRNA:TS24-left HR arm-R	ATGATGACCGGTATGGCGGCCGTGTGGGGTCACAACCGGAATA
	lncRNA:TS24-right HR arm-F	CACATGGCGGCCCTAGTCGACTTGAGGCGCCCCCTTCGAGT
	lncRNA:TS24-right HR arm-R	ATGATGCTCGAGATGACTAGTAACCCAGTTATGTCATCTCCC
	lncRNA:TS25-left HR arm-F	CATCATGGTACCCTACATATGTATATTTCGTGAACGGGACACCAG
lncRNA:TS25	lncRNA:TS25-left HR arm-R	ATGATGACCGGTATGGCGGCCGTGCGGGTACTTTTGAAAAGGA
	lncRNA:TS25-right HR arm-F	CACATGGCGGCCCTAGTCGACGGTCCAGTGGATGATACAAATCTTTA
	lncRNA:TS25-right HR arm-R	ATGATGCTCGAGATGACTAGTTTTCGGGGCATCTTCTACTGACT
	lncRNA:TS26-left HR arm-F	CATCATGGTACCCTACATATGCTGTTTATCACCATCAGAGGGC
lncRNA:TS26	lncRNA:TS26-left HR arm-R	ATGATGACCGGTATGGCGGCCGTGCCATTCCATTTCCACAAC
	lncRNA:TS26-right HR arm-F	CACATGGCGGCCCTAGTCGACCTTTTCTCTCGCTCTCTGG
	lncRNA:TS26-right HR arm-R	ATGATGCTCGAGATGACTAGTGAGCAGTTCATTTCGCTGTATT
	lncRNA:TS27-left HR arm-F	CATCATGGTACCAACCGCCGAAAGTTAGTGC
lncRNA:TS27	lncRNA:TS27-left HR arm-R	ATTTCGGATGCGGCCGCTTGCCAGATTGATGAACATACCC
	lncRNA:TS27-right HR arm-F	CATCATGGCGCCCTTGCTTGGTAGTGCTCGAA
	lncRNA:TS27-right HR arm-R	ATGAGTCTCGAGTACCGCTTCTGGTTTAGTTG
	CR45302-left HR arm-F	ACTACTGTGGTACCTTTGCTTGTGAACGTGTTGTGTACC3
CR45302	CR45302-left HR arm-R	CAATTCAAGCGGCCGCACTTTTGGCCACGCCCACTCTA
	CR45302-right HR arm-F	CTTCTTCTGGCGCCCTTTTCTTTGGATTGGCTGGC
	CR45302-right HR arm-R	CAACTACAAGTAGTATACCAACTGCTTGTGGGCGTT
	CR45727-left HR arm-F	CACATCAAGGTACCGCGAAACAGACGAACAGCACAA
CR45727	CR45727-left HR arm-R	CAATTCAAGCGGCCGACAGTCAATTTGCAGCAGCACT
	CR45727-right HR arm-F	CATGTACTGGCGCCCTCATGGAATTCACTTATTAACGCTTA
	CR45727-right HR arm-R	CAAGACAACTAGTAAGTGAACCCGAAACAGTGACG
	CR44949-left HR arm-F	CACAACAGGTACCAACGCTTGACACAGTTCACGATA
CR44949	CR44949-left HR arm-R	CATTTGAAGCGGCCGACGTGACCAGTGTCCCATCTGA
	CR44949-right HR arm-F	CTAGTACTGGCGCCGACGGATTTGTCCCTTTTGATA
	CR44949-right HR arm-R	CAAGACAAGTCGACAGTGAGGGGAGCCATAAAGTGAA
	CR44776-left HR arm-F	CACATGACGGTACCAGATGAAGCGATAATGCCAGGTG
CR44776	CR44776-left HR arm-R	CAATTCAAGCGGCCGCAATGTCGTCGCCGCTGAAGCTAT
	CR44776-right HR arm-F	CATCTTCAGGCGCCATTGTTATTATGCGTCAGGCAGTTC
	CR44776-right HR arm-R	CAATCAGTACTAGTGACAAGGGGAATGTAACAATCAA
	CR44967-left HR arm-F	TTCTTCACGGTACCACCACTTGTCCATTGGGTCATAA
CR44967	CR44967-left HR arm-R	TCTTTCTTGGCGCCGCTTTTGTGTGCTTCCAGTCTTTG
	CR44967-right HR arm-F	ACACTACTGGCGCCGAATCAAGGCTTTTTCTCGCAA
	CR44967-right HR arm-R	CTTTCTACGTCGACCAGGATTTTCTTTGGGGTCGTC
	CR45557-left HR arm-F	ACTACACTGGTACCGTATTTTGGGTCCACCTTCACTG
CR45557	CR45557-left HR arm-R	CTTTTACAGCGCCGCATGTTTTACACTTGGGTCATTTACT
	CR45557-right HR arm-F	GTATCTATGGCGCCGACAAGTGACAGCCGTATCGCAGCA
	CR45557-right HR arm-R	CTCAATCGACTAGTAACATCTACGGGGACTCAAAGGC
	CR45242-left HR arm-F	CACTTGAAGGTACCCAGTTAGAGGGGAACACAATGGC
CR45242	CR45242-left HR arm-R	CTATACTAGCGCCGACGACTTTACGCGACCATGTCTG
	CR45242-right HR arm-F	CATCTATCGGCGCCCTGGCAGCATATTTACACTCAA
	CR45242-right HR arm-R	GAACACAACTAGTAATGCCAGTGATTGACCATATTCAT
	CR44874-left HR arm-F	CACATTTCCGGTACCATCCAACCTGCTAACCAAGT
CR44874	CR44874-left HR arm-R	GTTACACAGCGCCGCAAACGTTGTCCACCCGTA
	CR44874-right HR arm-F	CATCAACTGGCGCCCTCAACCAAGATGCCGAGACACTT
	CR44874-right HR arm-R	GAAACAACACTAGTCGGCGAAGATTCCAACCTACCT



	CR45418-left HR arm-F	CACATCAAGGTACCGAAGGAAAAACCCTACGCAACAT
CR45418	CR45418-left HR arm-R	AGTACTATGCGGCCGCGGTCTGTGCTCAAAGTTTCTATGC
	CR45418-right HR arm-F	CACACATTGGCGCGCCTGCGGACACGAACAGTTTTTAC
	CR45418-right HR arm-R	TGCTTTAGACTAGTAAGTGACCAAGAGGCTGGATGTT
	CR44278-left HR arm-F	CACATCATGGTACCTCTTTTCGCCACATCCACTTAT
CR44278	CR44278-left HR arm-R	ACTCAATTGCGGCCGCTGGGATACCATACCACCTAGTGAC
	CR44278-right HR arm-F	ACTAACTTGGCGGCCGCTGGGGAATTGAATTTACTGAA
	CR44278-right HR arm-R	TGCTTTAGACTAGTAGGTATTTTTGAGGGCTTTTTCG
	CR45670-left HR arm-F	CTTCTCAAGGTACCGCTGCTTTGTTTACACTCGCCA
CR45670	CR45670-left HR arm-R	ACTCACAAGCGGCCGAATGGCTGGCGAAATCTTCAA
	CR45670-right HR arm-F	ACATTCAAGGCGCGCCAGCCACCATTTACGGTCATTA
	CR45670-right HR arm-R	CTTTCAACGTGCAAACTATCCAGCAAGGCGGTG
	CR45054-left HR arm-F	CTCAATTGGGTACCATGCGACCGTTACAAAGTGCCTA
CR45054	CR45054-left HR arm-R	TCTCTCTTGCGGCCGCTTATTGCTTCCAGGACTTCTTCTA
	CR45054-right HR arm-F	TCATTCTAGGCGGCCATTTGGCTTCTGCACAAGATATTC
	CR45054-right HR arm-R	TCTGACAAACTAGTAAAACTGACGAAATGGGCG
	CR44455/6-left HR arm-F	AGCGTGGGTCTCGGGCTTGTGTATTCTATTTGCCAAGCGG
CR44455/CR444 56	CR44455/6-left HR arm-R	GTGCTGGGTCTCACATCAGTTTTCGGCTTTGCGATTTGTC
	CR44455/6-right HR arm-F	AGCGTGGGTCTTTAGCCAAAGGAGCACTTGAAGTGCAGC
	CR44455/6-left HR arm-F	GTGCTGGGTCTCGGAGGACGCTGCTCGGAAAAGTCAAG
	CR44943-left HR arm-F	GTTCATTCCGTACCATCACCTGGCATTGTTGAGTAA
CR44943	CR44943-left HR arm-R	TGTCTCAAGCGGCCGCAAAGTCGTTGTTGCCAACTAGCA
	CR44943-right HR arm-F	ACACTCATGGCGCGCCTTTGCCAAAGTTCAGTTGATTCT
	CR44943-right HR arm-R	TGCTTTCTACTAGTTTTGAGTGTCCAAGTGGGTGTT
	CR44401-left HR arm-F	ACTCTCTAGGTACCATCCCCTGACATCTGACGAAATA
CR44401	CR44401-left HR arm-R	TCACAAAAGCGGCCGCCAACCACTACTTATCCGAAAA
	CR44401-right HR arm-F	GTTCACATGGCGCGCCGAATGTAGTTCCTCCACTCG
	CR44401-right HR arm-R	ACTGACACACTAGTAAAGAAAAAGACCGATGGCACTG
	CR45283-left HR arm-F	ACTCTCTAGGTACCTTTGCTTCCATCTCCATCAG
CR45283	CR45283-left HR arm-R	GTACTTTAGCGGCCG ATTGTATGTTAGGCGGGTTGAAG
	CR45283-right HR arm-F	CTATCACAGGCGGCCCAACCATCTCTAATCACATC
	CR45283-right HR arm-R	GAACAAACTACTAGTCAGGCAGGTCAGATGGAGAATAC
	CR43356-left HR arm-F	ACTCTCAGGTACCAATTCACATTTACATCGTGAGGGA
CR43356	CR43356-left HR arm-R	GTACTACTGCGGCCCTATGCTTTCTATTGTGTTTCA
	CR43356-right HR arm-F	CTATACCAGGCGGCCATTGCCAACTTTTCCAAATAG
	CR43356-right HR arm-R	TGTTCTTTGGCGCGCCTGGTTTGTGTCTAGGATAATGC
	CR44805-left HR arm-F	ACTCTACTGGTACCTAATATCCCTGAAAACCGAATGC
CR44805	CR44805-left HR arm-R	GACACATAGCGGCCGCAAATGAAGTTTCTGTTTGTGGTGTG
	CR44805-right HR arm-F	CTATGTCTGGCGCGCGTTGAGTCCCTCAAACCAAATTGA
	CR44805-right HR arm-R	AGACATACTACTAGTTGGAGAAGGAGGCAAAGGAACAG
	CR45630-left HR arm-F	CATTGTCTGGTACCTGGGGTTCTTTGCTGACTGCT
CR45630	CR45630-left HR arm-R	TCAGTCAAGCGGCCGCACATAAAGGAGCCATTTTTG
	CR45630-right HR arm-F	GACTACATGGCGGCCGCAAGGAAGAAGAAAAGGATTTC
	CR45630-right HR arm-R	ACTGACACGTCGACTCCATCCACCCTCGTTACTTGTG
	CR43764-left HR arm-F	ACTCTCAAGGTACCACGTTACCCGAAAATTCACTGAT
CR43764	CR43764-left HR arm-R	CTACATTTGGCGGCCGTTTTACGAGCTCATTGGAAGTGC
	CR43764-right HR arm-F	CATCACAAGGCGGCCACCCACACAATGCGAGAAGTTA
	CR43764-right HR arm-R	ACTCATTCACTAGTTGGGCTCTGTAGGCTCATATTT

	CR43701-left HR arm-F	CATCTCTTGGTACCGTAACCCCTTTTATTCGCAGTG
CR43701	CR43701-left HR arm-R	CAACACAAGCGGCCGCAAACCTGAACTGCCTCCAAAAGAG
	CR43701-right HR arm-F	GCATAGATGGCGCGCCAGAGATACTCCGGATA
	CR43701-right HR arm-R	CTTTCATCGTCGACAGGGTCTTTGGTCTTACACTTCC
	CR44371-left HR arm-F	GAGTCACGGTACCCTCGCAGAGATTTGTCGGTGTG
CR44371	CR44371-left HR arm-R	CTCTTTCTGCGGCCGCTTCTGCTGGTGTCTGTGGGTGTA
	CR44371-right HR arm-F	CTACATTCGGCGCCCTTGCCACTAAAAGTCTCCGTTGG
	CR44371-right HR arm-R	TCTGTCATACTAGTGATTTGATTTGAGTGTCTCCGCA
	CR42657-left HR arm-F	CTCTTATGGTACCGATTCTCTCTCTTTTGCATT
CR42657	CR42657-left HR arm-R	CAATTCTTGGCGCCGCTGAGGGTTTTGCTTGTGGGTC
	CR42657-right HR arm-F	TTTCTACTGGCGCCCTCATTTCGACACCCCATTTATGC
	CR42657-right HR arm-R	ACTCACACTAGTAATCCGAAAGCGAGAATGTCAGA
	CR45187-left HR arm-F	CATCACTGGTACCCTAAGTCTTTCCAACGCCGTAACA
CR45187	CR45187-left HR arm-R	CACTTTCTGCGGCCGCTTGGCAAATCGATAGAAAATTTT
	CR45187-right HR arm-F	GAACACATGGCGCCGAAAAAAGATGATGGACTTGC
	CR45187-right HR arm-R	CTTTCACGTCGACGTTTTTGTAGGGGAGGTTGACTG
	CR43859-left HR arm-F	GATTCAAGGTACCGTCCGAGCAGGATATCTCCAAC
CR43859	CR43859-left HR arm-R	CTAGAACAGCGCCGCATGAGAACAATAACTTGGTGCC
	CR43859-right HR arm-F	GATCACATGGCGGCCCAACTCAATTTTCACTTCGCA3' ASCI
	CR43859-right HR arm-R	ACTGAGACACTAGTGCATTTGGTAAACCCCTGGA
	CR43492-left HR arm-F	CACTTATGGTACCTCTTCAGGAGAACGCCCGTAT
CR43492	CR43492-left HR arm-R	CTCTACTAGCGCCGCGCCACTCCTACGCCATTGA
	CR43492-right HR arm-F	CTTCACAAGGCGCGCCACCCTCCACTCCACTCCACTC
	CR43492-right HR arm-R	ACCAACACACTAGTGTCCATCGGAACTCCATCTC
	CR45722/3/CR43839-left HR arm-F	CTCTTCTGGTACCGTTCGTTTCTTTGGATGCTTGAT
CR45722/CR457	CR45722/3/CR43839-left HR arm-R	CTTCAATTGCGGCCGCTGAGCCAAAAGGTCTAAGTGTGC
23/CR43839	CR45722/3/CR43839-right HR arm-F	CTTCTCAAGGCGGCCAATGCTCCAAGTTCCCTGG
	CR45722/3/CR43839-right HR arm-R	ACTCACACTAGTAACACCCAAAACACGAAATCAGAA
	CR45608-left HR arm-F	GAAAACCAGGTACCCTGAAATGGGAAGTGGGCGAG
CR45608	CR45608-left HR arm-R	CTACAATTGCGGCCGCTGGGCATATTTGACATAGGGATG
	CR45608-right HR arm-F	GTTCTCTTGGCGCCCTTTTGGGATTTATTGAGTATTCAGC
	CR45608-right HR arm-R	GTTTCTCAGTCGACGTTTGGGGTATTGTGTTGCCTTC
	CR45174-left HR arm-F	GAGCATCAGGTACCGTGAAGTAGGTCGTTGCCACAGT
CR45174	CR45174-left HR arm-R	CTACAAGAGCGGCCGAAAATGGTGTCTACCCCTGAAC
	CR45174-right HR arm-F	CAGTACATGGCGGCCGAAAATGACAAAGCCTTAGTTGAC
	CR45174-right HR arm-R	TCTGTGTTACTAGTCGCTGTTACTGCTGAGTATTG
	CR44585-left HR arm-F	CATCATCATATGTCCCAGTCCCAGGTCCA
CR44585	CR44585-left HR arm-R	CTTCTTATGCGGCCGCGGCTCCTAACTGGATGGTGA
	CR44585-right HR arm-F	CACATGGCGCCGCTTTTGGTGGTGAACGATTTA
	CR44585-right HR arm-R	ATGATGCTCGAGAGTGCCGTGAATGAAGGGT
	CR45542-left HR arm-F	CATCATGGTACCAGACAGAAACAGAGGGATAGAA
CR45542	CR45542-left HR arm-R	ATGATGACCGGTATGGCGGCCGCTTTTGGTGGTCTCTGTTGTT
	CR45542-right HR arm-F	CACATGGCGGCCGCGATTTGACTCGTCGACCGCA
	CR45542-right HR arm-R	ATGATGCTCGAGATGACTAGTGGGAAAGAGCCAGCGATTGTTA
	CR17567-left HR arm-F	CATCATGGTACCATTGCCGTGGGCGTCGCTCTT
CR17567	CR17567-left HR arm-R	ATTCGGATGCGGCCGCAACCTGCTTGGTGGAGACA
	CR17567-right HR arm-F	CATCTAGGCGGCCCATTTCCGCTCAGTCTGTTAC
	CR17567-right HR arm-R	AGTAGTACTAGTACCGCACTGAACCGCATCGC

	CR32661-left HR arm-F	CATCATGGTACCTTGTCCACTTGACCGCACTG
CR32661	CR32661-left HR arm-R	ATTCGAATGCGGCCGCTTCATCTGGGAGGTTGTTA
	CR32661-right HR arm-F	CATCTAGGCGCGCCACATGGATTGACAGCTCCGTTTG
	CR32661-right HR arm-R	AGTATGCTCGAGAGACCTGGATGGTTGATTAA
	CR9284-left HR arm-F	CTAGTAGGTACCGCAACTTGTAGGGCTATGGAG
CR9284	CR9284-left HR arm-R	ATTCATTCGCGGCCGCTACTGGGATTCAAAAAAC
	CR9284-right HR arm-F	CATCTAGGCGCGCCACAATAGGCTGCTCAAACG
	CR9284-right HR arm-R	GATAGTCTCGAGGTTCCCATACCCATTCCAT
	CR42858-left HR arm-F	CATCATGGTACCTTACAAGGCATCCGATTCAA
CR42858	CR42858-left HR arm-R	GAATGAATGCGGCCGCCAGACACGAACGGGTATGAAAA
	CR42858-right HR arm-F	GTACTAGGCGCGCCCTGCGTTCTTGTAGCGATTTG
	CR42858-right HR arm-R	AGTATCCTCGAGAGACCTGTCTGGCATTTTG
	CR43823-left HR arm-F	CATCATGGTACCCTACATATGAATGAGATTTCTTTCGGGGAGC
CR43823	CR43823-left HR arm-R	ATGATGACCGGTATGGCGGCCGCGGGACCACGGACTTGTAGCACT
	CR43823-right HR arm-F	CACATGGCGCGCCCTAGTCGACCAAAAGGTCACAGTTACACGC
	CR43823-right HR arm-R	ATGATGCTCGAGATGACTAGTTCTCACAGGGTGAAGTGGGTA
	CR43484-left HR arm-F	CATCATGGTACCCTACATATGGGTGTTGTATGTGGCTGCTTGT
CR43484	CR43484-left HR arm-R	ATGATGACCGGTATGGCGGCCGCGGGCCTGCTACAACGACATT
	CR43484-right HR arm-F	CACATGGCGCGCCCTAGTCGACTGGCATCTTGGAGGTAAGTGGAA
	CR43484-right HR arm-R	ATGATGCTCGAGATGACTAGTGGCAGAGATTGTGGTAAGTATGG
	CR43862-left HR arm-F	CATCATGGTACCCTACATATGTCTTCGGCTCCCTCCAATCT
CR43862	CR43862-left HR arm-R	ATGATGACCGGTATGGCGGCCGCTCACACTTGGCGCCCTCTC
	CR43862-right HR arm-F	CACATGGCGCGCCCTAGTCGACGAACGGGGCAAGCAAAAAAA
	CR43862-right HR arm-R	ATGATGCTCGAGATGACTAGTTTGAATGGACTTTCTTTTGGGC
	CR43608-left HR arm-F	CATCATGGTACCCTACATATGTGGCTGACGACTCCACCTC
CR43608	CR43608-left HR arm-R	ATGATGACCGGTATGGCGGCCGCTCTGGCACTCTGGTTCCCC
	CR43608-right HR arm-F	CACATGGCGCGCCCTAGTCGACATTTCCCGGCTTCCCACTG
	CR43608-right HR arm-R	ATGATGCTCGAGATGACTAGTCAACACTTGACAGCCAAACGATA
	CR43852-left HR arm-F	CATGGTACCCCGAATGCCAAATGAAGATGC
CR43852	CR43852-left HR arm-R	GAATGCGGCCGCTTTTGATTGATTGAATCATAGT
	CR43852-right HR arm-F	ATGGCGCGCAAATCTGCTGGCCAGTAAAAG
	CR43852-right HR arm-R	ATGCTCGAGTTTCTCAAACAGGCGGCACG
	CR43718-left HR arm-F	CATCATGGTACCCCATCTATTCTTCTGGGATT
CR43718	CR43718-left HR arm-R	ATGATGACCGGTGGGTGGCGCAGTCTGAAC
	CR43718-right HR arm-F	CACATGGCGCGCCCAACGAAATCACAAATTTTTTTT
	CR43718-right HR arm-R	ATGATGCTCGAGTGAGATTAGTTGTGCCAGTTT
	CR43282-left HR arm-F	ATGATGACCGGTAAAATCGGAGCATCCAACG
CR43282	CR43282-left HR arm-R	ATGGCGGCCGCAAATAAATATTTAAAACAACCTCCT
	CR43282-right HR arm-F	CACATGGCGCGCCAGAATATTTTCAGCGCTTTTT
	CR43282-right HR arm-R	CTAGTCGACCCGCTGTCTGTGTGGC
	CR42859-left HR arm-F	CATCATGGTACCTCGTATGTGACTGGAGCAAG
CR42859	CR42859-left HR arm-R	ATGGCGGCCGCTCGTATCCGAATCATCAT
	CR42859-right HR arm-F	CACATGGCGGCCATCCGGCACTTCTGTGTGC
	CR42859-right HR arm-R	ATGATGCTCGAGAAGAGCGACTAAAGCCACA
	CR43416-left HR arm-F	CATGGTACCCTCCGACAGCTGGCACT
CR43416	CR43416-left HR arm-R	GAATGGCGGCCGCTCTCTGCTTCGTTCC
	CR43416-right HR arm-F	CACATGGCGCGCCGCTCTTTGCGAATTTTCTC
	CR43416-right HR arm-R	ATGATGCTCGAGATTCGCATCTTCAACG

	CR43631/2/3/4/CR43847-left HR arm-F	CATCATGGTACCAGCAGCCAGCAAGGACC
CR43631/CR43632/CR43633/CR43634/CR43847	CR43631/2/3/4/CR43847-left HR arm-R	ATGGCGGCCGCGAAAGTTGAACAATAAAATGG
	CR43631/2/3/4/CR43847-right HR arm-F	CACATGGCGCCTCTCGGGACTTGACAGCATC
	CR43631/2/3/4/CR43847-right HR arm-R	CTAGTCGACGCTCAAGACCCTTACCG
	CR42645-left HR arm-F	CATGGTACCTCCCAAATCCCAGCCTCC
CR42645	CR42645-left HR arm-R	CTAACCGGTTCCAGAAAGATGTTTTCCGAG
	CR42645-right HR arm-F	ATTGGCGCGCCGAAATTAAGTGTGAAAAGTG
	CR42645-right HR arm-R	GGACTAGTCCCAATGAATACATCCAGGACA
	CR43705/6-left HR arm-F	AGCGTGGGTCTCGGGCTCGACTGAGGCTGAGTTGGGAAA
CR43705/CR43706	CR43705/6-left HR arm-R	GTGCTGGGTCTCACATCACTGGCGAACAAGTAAATGTTATC
	CR43705/6-right HR arm-F	AGCGTGGGTCTCTTAGCAAAAAGACGGCTGTTTCTCACCA
	CR43705/6-right HR arm-R	GTGCTGGGTCTCGGAGCCGATTTGCTCTACTCCCTGG
	CR43848-left HR arm-F	AGCGTGGGTCTCGGGCTCTACACTGCCGACGATACGAAAA
CR43848	CR43848-left HR arm-R	GTGCTGGGTCTCACATCTTGGGTTGTTATTATCCTTGTGTGTTG
	CR43848-right HR arm-F	AGCGTGGGTCTCTTAGCAAAAATAGGGGACGAAAAAGCA
	CR43848-right HR arm-R	GTGCTGGGTCTCGGAGGCCGCATCTGTATTTGACTTTGG
	CR43835-left HR arm-F	AGCGTGGGTCTCGGGCTGAACAAAAACACCAGACAAGC
CR43835	CR43835-left HR arm-R	GTGCTGGGTCTCACATCGGATCTGGTTGTTCACTGAATTTTG
	CR43835-right HR arm-F	AGCGTGGGTCTCTTAGCTGCCGTGCATAATTTCTAATACCC
	CR43835-right HR arm-R	GTGCTGGGTCTCGGAGGTTTCAACTGGTTTCTGATTCGGA
	CR43304-left HR arm-F	AGCGTGGGTCTCGGGCTCTAAAAAATGTTGCCAGCCTTG
CR43304	CR43304-left HR arm-R	GTGCTGGGTCTCACATCGCGAAGCATAACGAGACTGTGAA
	CR43304-right HR arm-F	AGCGTGGGTCTCTTAGCGTTCGCCGTGGTGTCCCTT
	CR43304-right HR arm-R	GTGCTGGGTCTCGGAGCGAAAAATGGTGAACCGAAC
	CR43802-left HR arm-F	AGCGTGGGTCTCGGGCTAGGGGGAAAAATAAAGAAAAGGC
CR43802	CR43802-left HR arm-R	GTGCTGGGTCTCACATCGCGAAATTAACAACCACACCAT
	CR43802-right HR arm-F	AGCGTGGGTCTCTTAGCTTTTCCCGCTTCCACACTGA
	CR43802-right HR arm-R	GTGCTGGGTCTCGGAGGTTCCAGGCAGCGAGTTTTAGT
	CR43414-left HR arm-F	AGCGTGGGTCTCGGGCTGTAACCCCGAGAAATACGAAA
CR43414	CR43414-left HR arm-R	GTGCTGGGTCTCACATCGGCACATGACGATTTCCACG
	CR43414-right HR arm-F	AGCGTGGGTCTCTTAGCTCATTTGACACCAGCGCTTTG
	CR43414-right HR arm-R	GTGCTGGGTCTCGGAGGCAGTGGAGCAAAAACAAAAGCCTA
	CR43306-left HR arm-F	AGCGTGGGTCTCGGGCTCGTTGGGATTTGCGATTTTCATC
CR43306	CR43306-left HR arm-R	GTGCTGGGTCTCACATCGTGTGGGAATGCTGTTTGTATGC
	CR43306-right HR arm-F	AGCGTGGGTCTCTTAGCTTCTGGCTCCTTCTGGCTGCT
	CR43306-right HR arm-R	GTGCTGGGTCTCGGAGGTTCCAAGCTACATCTCAATCCG
	CR43807-left HR arm-F	AGCGTGGGTCTCGGGCTCAGAGACCTTCACTTGGTTCCGCT
CR43807	CR43807-left HR arm-R	GTGCTGGGTCTCACATCACTTGCCAGCCCATAGAATCAA
	CR43807-right HR arm-F	AGCGTGGGTCTCTTAGCGCCTCTCGTGCTTCCCGCTT
	CR43807-right HR arm-R	GTGCTGGGTCTCGGAGGAAAGCCTTCAAAGTGGCGATAC
	CR43655-left HR arm-F	AGCGTGGGTCTCGGGCTACTTTTACGACAGCCAGCCAGAG
CR43655	CR43655-left HR arm-R	GTGCTGGGTCTCACATCTTGTCTGCGAGCCTACTCCTA
	CR43655-right HR arm-F	AGCGTGGGTCTCTTAGCACAAAAACCAGAACCCGATGAG
	CR43655-right HR arm-R	GTGCTGGGTCTCGGAGGCTCTTGTCCAATCTTATCGCT
	CR43753-left HR arm-F	AGCGTGGGTCTCGGGCTCTGGAGCGAAGCCAAGTAATAA
CR43753	CR43753-left HR arm-R	GTGCTGGGTCTCACATCAGAGGGCAATGGCTGGCCGA
	CR43753-right HR arm-F	AGCGTGGGTCTCTTAGCGAAAGCCTTGCACTTGATAAGAA
	CR43753-right HR arm-R	GTGCTGGGTCTCGGAGGTTATGTTTGTGGAATGGCTGGAC

	CR43434-left HR arm-F	AGCGTGGGTCTCGGGCTCGTTACCCACCCACCGTATTCC
CR43434	CR43434-left HR arm-R	GTGCTGGGTCTCACATCAGTTGCCTTGTGCCCCAGTG
	CR43434-right HR arm-F	AGCGTGGGTCTCTTAGCAGACTTTGTGTCTTTGTCTAATGG
	CR43434-right HR arm-R	GTGCTGGGTCTCGGAGCGGCGTTGCGATTTATTGTGA
	CR43486/7-left HR arm-F	AGCGTGGGTCTCGGGCTAGTGACTGAAGACGGCAGAAGCA
CR43486/CR434	CR43486/7-left HR arm-R	GTGCTGGGTCTCACATCCCTGCAGCTCATCTCCGGAC
87	CR43486/7-right HR arm-F	AGCGTGGGTCTCTTAGCAGAGAAGTGGAAAAATCGGAGC
	CR43486/7-right HR arm-R	GTGCTGGGTCTCGGAGGAGAAGAGGTTGGAGAGTCGCTGG
	CR43622-left HR arm-F	AGCGTGGGTCTCGGGCTCAAAGGAAAACTGCCACAGGATG
CR43622	CR43622-left HR arm-R	GTGCTGGGTCTCACATCAGCGGGCGTGTGAGAAATGT
	CR43622-right HR arm-F	AGCGTGGGTCTCTTAGCATGGGCAACAGCCTGTTG
	CR43622-right HR arm-R	GTGCTGGGTCTCGGAGGTCGCTTGTCCGATAAACTTGAA
	CR43625-left HR arm-F	AGCGTGGGTCTCGGGCTAAAACCGAAACCGCTTCATCAG
CR43625	CR43625-left HR arm-R	GTGCTGGGTCTCACATCGAGTAGTTTCGGAAGCGTGTGAG
	CR43625-right HR arm-F	AGCGTGGGTCTCTTAGCAGTACAGAGTCATTGCTGGGGAA
	CR43625-right HR arm-R	GTGCTGGGTCTCGGAGGTTGGCTCACAAAACTTTACGA
	CR43627-left HR arm-F	AGCGTGGGTCTCGGGCTAAATGCGTAAAAATGTGCCAAAAG
CR43627	CR43627-left HR arm-R	GTGCTGGGTCTCACATCGCTGTATAAACAAGATACTGGC
	CR43627-right HR arm-F	AGCGTGGGTCTCTTAGCAAATGCGAAACCGACCACTGAAAG
	CR43627-right HR arm-R	GTGCTGGGTCTCGGAGGTTATGTCGTGGACTCTGGCACTG
	CR43682-left HR arm-F	AGCGTGGGTCTCGGGCTATGTTCCAAAATCGGGTAAAAG
CR43682	CR43682-left HR arm-R	GTGCTGGGTCTCACATCTGGATAAACTGCCTCCATTCCA
	CR43682-right HR arm-F	AGCGTGGGTCTCTTAGCTGGCGGTTTTGGCTACTTGG
	CR43682-right HR arm-R	GTGCTGGGTCTCGGAGGACCGTCTGAGTCTTACCCTTG
	CR45006-left HR arm-F	GTTCTAGGTACCTGAACTAAGCGAGCAGGTGAAAT
CR45006	CR45006-left HR arm-R	AGTATCGCGGCCGCTCGGCGGACAGCGACAATAT
	CR45006-right HR arm-F	CACATGGCGCCCTACGATTCCGGTTAGCAATAGTTA
	CR45006-right HR arm-R	ATGATGCTCGAGGAGTTGGTCAGCGGAGATAG
	CR44852-left HR arm-F	CTCAGC GGTACCAACATAAACGCCCTCCTTCCTC
CR44852	CR44852-left HR arm-R	AGTAAG GCGGCCGCTAACAGTGGCTGAAGCGGATAT
	CR44852-right HR arm-F	CTGTCGGCGCCCTGTTCTCCAATACCCTGCAC
	CR44852-right HR arm-R	TTGTTG GTCGACATTTCTGTTTCGCCTTCCTTT
	CR44670/1-left HR arm-F	AGCGTGGGTCTCGGGCTCTAGTCATCCGTTGGTCAGCATT
CR44670/CR446	CR44670/1-left HR arm-R	GTGCTGGGTCTCACATCCTGAATTCAAATTTGCCCGCTAA
71	CR44670/1-right HR arm-F	AGCGTGGGTCTCTTAGCTTTTTGAGTGTTTGCTTGTGCGCT
	CR44670/1-right HR arm-R	GTGCTGGGTCTCGGAGGTCGAGCAAAAGTTGTTGTGTAGGTG
	CR44420-left HR arm-F	AGCGTGGGTCTCGGGCTACTGCGACTGCCTTTTGTCTTG
CR44420	CR44420-left HR arm-R	GTGCTGGGTCTCACATCTCTCCGCTTGTCTCCGAAAT
	CR44420-right HR arm-F	AGCGTGGGTCTCTTAGCTTGACCACACTGACAGGTTAGCA
	CR44420-right HR arm-R	GTGCTGGGTCTCGGAGGATTTGTGCTCTACACCTCTGGA
	CR44413-left HR arm-F	AGCGTGGGTCTCGGGCTGCTCGCCTTCTCTCATTCTTTC
CR44413	CR44413-left HR arm-R	GTGCTGGGTCTCACATCGTTGCCAAAGTATTTGCGAGCCT
	CR44413-right HR arm-F	AGCGTGGGTCTCTTAGCTTTCCGGTGGTCTTTTGTCTTTTACA
	CR44413-right HR arm-R	GTGCTGGGTCTCGGAGGCGCAGGTCAAATGTGAGCAAAA
	CR44412-left HR arm-F	AGCGTGGGTCTCGGGCTGTTCAAACTTTTCCCACTTCCC
CR44412	CR44412-left HR arm-R	GTGCTGGGTCTCACATCAACAAAAAGAGAATTCCTGATCGAT
	CR44412-right HR arm-F	AGCGTGGGTCTCTTAGCAATGACTTTTGCAGCGAGCAGA
	CR44412-right HR arm-R	GTGCTGGGTCTCGGAGGCATAACAATGTCCGCGTCA

	CR44344-left HR arm-F	AGCGTGGGTCTCGGGCTATTGCCAGCCTATAAAGCTCCTAAT
CR44344	CR44344-left HR arm-R	GTGCTGGGTCTCACATCTTTTGGTTAACTCAATAACTCGGATAT
	CR44344-right HR arm-F	AGCGTGGGTCTCTTAGCCGCATATGCAACACCATCCACCA
	CR44344-right HR arm-R	GTGCTGGGTCTCGGAGGTTCTCGGTTACATCGGCAGTTTC
	CR44337-left HR arm-F	AGCGTGGGTCTCGGGCTAATCAATAAGCGAGCAAATGGC
CR44337	CR44337-left HR arm-R	GTGCTGGGTCTCACATCGCTAACTTTATGCCCTTCAAGC
	CR44337-right HR arm-F	AGCGTGGGTCTCTTAGCAAACATCAACACGACCAGAATGATA
	CR44337-right HR arm-R	GTGCTGGGTCTCGGAGGTTGACATGAGTCTGCCAGGGAGT
	CR44324-left HR arm-F	AGCGTGGGTCTCGGGCTACCTTAGACAGCGGAGGATACTCA
CR44324	CR44324-left HR arm-R	GTGCTGGGTCTCACATCGAACAATTAATAATCCAGCCAGTAG
	CR44324-right HR arm-F	AGCGTGGGTCTCTTAGCGACAACCCGAGCAGATCCACC
	CR44324-right HR arm-R	GTGCTGGGTCTCGGAGGCAAAAAGCCAGAGAGAAAATACGAC
	CR44279-left HR arm-F	AGCGTGGGTCTCGGGCTTGGAATGGCTATTGGTTCTGTGT
CR44279	CR44279-left HR arm-R	GTGCTGGGTCTCACATCTTTTTCCGCCTCCTTCCCTTTAT
	CR44279-right HR arm-F	AGCGTGGGTCTCTTAGCATCAAACATTTTTTTTTCTCGCCG
	CR44279-right HR arm-R	GTGCTGGGTCTCGGAGGTTTTGTTGATGGATTTTCGCCG
	CR44256-left HR arm-F	AGCGTGGGTCTCGGGCTTTTCTTTTCGTAAGCTGATTTAAGC
CR44256	CR44256-left HR arm-R	GTGCTGGGTCTCACATCGCTTGAATCTCCTTGATATTTGTT
	CR44256-right HR arm-F	AGCGTGGGTCTCTTAGCTGTGTATATCTGCTTTTTCCGTT
	CR44256-right HR arm-R	GTGCTGGGTCTCGGAGGCTCCTCTGCTACTTTTTGGTTTCC
	CR44131-left HR arm-F	AGCGTGGGTCTCGGGCTAGTAGGGTCAGGTCTGTGGGC
CR44131	CR44131-left HR arm-R	GTGCTGGGTCTCACATCATTGCGGTAGCATAACGATTTCA
	CR44131-right HR arm-F	AGCGTGGGTCTCTTAGCATAAACTGCGGACACGACATTC
	CR44131-right HR arm-R	GTGCTGGGTCTCGGAGGAGTGTAGACAGCCGAAAAAAGGG
	CR44081-left HR arm-F	AGCGTGGGTCTCGGGCTCCTTCATCGTCTCAACTCTTTC
CR44081	CR44081-left HR arm-R	GTGCTGGGTCTCACATCTTCACTCTGCTGTCCAGATATGGT
	CR44081-right HR arm-F	AGCGTGGGTCTCTTAGCTGCTGGCACCCCTCTTGTGT
	CR44081-right HR arm-R	GTGCTGGGTCTCGGAGGTCCATCAGTTGTGTGCTTCCG
	CR43939-left HR arm-F	AGCGTGGGTCTCGGGCTGAATGTGACGATTCCCAGTCTCA
CR43939	CR43939-left HR arm-R	GTGCTGGGTCTCACATCATCAGGTGCAAACTCTATTACAAATATT
	CR43939-right HR arm-F	AGCGTGGGTCTCTTAGCACATCTGCCTGCTTTGTTTTCT
	CR43939-right HR arm-R	GTGCTGGGTCTCGGAGGAAAGGGGTGACGGATTAAGATGCTT
	CR43819-left HR arm-F	CATCATGGTACCGGATAGGTTGGTCGCTTCA
CR43819	CR43819-left HR arm-R	ATGGCGGCCGCAAAATAAATTATCAAAGTGTCA
	CR43819-right HR arm-F	CACATGGCGCGCAATCCACTTATCTGCTTTCATACT
	CR43819-right HR arm-R	ATGACTAGTCGGGTACTCCCAGGTTCCAT
	CR43721-left HR arm-F	CATCATGGTACCGGCTTCCATTTCTCACACA
CR43721	CR43721-left HR arm-R	ATGGCGGCCGCTACTTACATCAGCACTTTG
	CR43721-right HR arm-F	CACATGGCGCGCCTTAGGGCATTTTTGATAGGTG
	CR43721-right HR arm-R	ATGACTAGTATCGTTCGTCATTGAGGGTA

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