

## SUPPLEMENTAL INFORMATION

### Primer Sequences

M13 Reverse Primer: CAGGAAACAGCTATGAC

M13 Forward Primer: TGTAAAACGACGGCCAGT

pControl Primer: CACCGACATGTGGAGTGAAG

### Plasmid Sequences

#### pControl (5357 bp)

ACCAC TTTGTACAAGAAAGCTGGGTCA TTTAACTTTAAGAAGGAGATATATACCATGGTCCGTCCTGTAGAAAACCCACCC  
GTGAAATCAAAAACTCGACGGCCTGTGGGCATT CAGTCTGGATCGCGAAAACTGTGGAATTGATCAGCGTTGGTGGGAA  
AGCGCGTTACAAGAAAGCCGGGCAATTGCTGTGCCAGGCAGTTTTAAACGATCAGTTCGCCGATGCAGATATTCGTAATTA  
TGCGGGCAACGCTGGTATCAGCGCGAAGTCTTTATACCGAAAGGTTGGGCAGGCCAGCGTATCGTGCTGCGTTTTCGATG  
CGGTCACTCATTACGGCAAAGTGTGGGTCAATAATCAGGAAGTGATGGAGCATCAGGGCGGTATACGCCATTTGAAGCC  
GATGTCAGCGCGTATGTTATTGCCGGGAAAAGTGTACGTATCACCGTTTGTGTGAACAACGAACTGAACTGGCAGACTAT  
CCCGCCGGGAATGGTGATTACCGACGAAAAACGGCAAAGAAAAAGCAGTCTTACTTCCATGATTTCTTAACTATGCCGGAAT  
CCATCGCAGCGTAATGCTCTACACCACGCCGAACACCTGGGTGGACGATATCACCGTGGTGACGCATGTCGCGCAAGACT  
GTAACCACGCGTCTGTTGACTGGCAGGTGGTGGCCAATGGTGATGTCAGCGTTGAACTGCGTGATGCGGATCAACAGGTG  
GTTGCAACTGGACAAGGCACTAGCGGGACTTTGCAAGTGGTGAATCCGCACCTCTGGCAACCGGGTGAAGGTTATCTCTA  
TGAAGTGTGCGTCACAGCCAAAAGCCAGACAGAGTGTGATATCTACCCGCTTCGCGTCGGCATCCGGTCAGTGGCAGTGA  
AGGGCGAACAGTTCCTGATTAACCACAAACCGTTCTACTTTACTGGCTTTGGTTCGTCATGAAGATGCGGACTTACGTGGCA  
AAGGATTCGATAACGTGCTGATGGTGCACGACCACGCATTAATGGACTGGATTGGGGCCAACTCCTACCGTACCTCGCAT  
TACCCTTACGCTGAAGAGATGCTCGACTGGGCAGATGAACATGGCATCGTGGTGATTGATGAAACTGCTGCTGTCGGCTT  
TAACCTCTCTTAGGCATTGGTTTCGAAGCGGGCAACAAGCCGAAAAGAACTGTACAGCGAAGAGGCAGTCAACGGGGAAA  
CTCAGCAAGCGCACTTACAGGCGATTAAGAGCTGATAGCGCGTGACAAAAACCACCCAAGCGTGGTGATGTGGAGTATT  
GCCAACGAACCGGATACCCGTCGCCAAGGTGCACGGGAATATTTCCGCGCCACTGGCGGAAGCAACGCGTAAACTCGACCC  
GACGCGTCCGATCACCTGCGTCAATGTAATGTTCTGCGACGCTCACACCGATAACCATCAGCGATCTCTTTGATGTGCTGTG  
CCTGAACCGTTATTACGGATGGTATGTCCAAAGCGGCGATTTGGAAACGGCAGAGAAGGTAAGTACTGGAAAAAGAACTTCTGG  
CCTGGCAGGAGAACTGCATCAGCCGATTATCATCACCGAATACGGCGTGGATACGTTAGCCGGGCTGCACTCAATGTAC  
ACCGATGTGGAGTGAAGAGTATCAGTGTGCATGGCTGGATATGTATCACCGCGTCTTTGATCGCGTCAGCGCCGTCGT  
CGGTGAACAGGTATGGAATTTCCGGGATTTGCGCACTCGCAAGGCATATTGCGCGTTGGCGGTAACAAGAAAGGGATCT  
TCACTCGCGACCGCAAAACCGAAGTCGGCGGCTTTTCTGCTGCAAAAACGCTGGACTGGCATGAACTTCGGTGA AAAACCG  
CAGCAGGGAGGCAAAACAATAATCCTGCTTTTTTGTACAAACTTGTTGATCTAGAGGGCCCGCGGTTTCGAAGGTAAGCCTA  
TCCCTAACCCCTCTCCTCGGTCTCGATTCTACGCGTACCGGTATCATCATTATAAAACAGGCGTTTAAGGGACCAATAAC  
TGCCTTAAAAAAATTACGCCCCGCCCTGCCACTCATCGCAGTACTGTTGTAATTCATTAAGCATTCTGCCGACATGGAAGC  
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AGAAACTGCCGGAATCGTCTGGTATTCACTCCAGAGCGATGAAAACGTTTCAGTTTGCTCATGAAAAACGGTGAACA

<sup>1</sup> Authors contributed equally.

AGGGTGAACACTATCCCATATCACCAGCTCACCGTCTTTCATTGCCATACGGAACTCCGGATGAGCATTTCATCAGGCGGG  
CAAGAATGTGAATAAAGGCCGGATAAAACTTGTGCTTATTTTTCTTTACGGTCTTTAAAAAGGCCGTAATATCCAGCTGAA  
CGGTCTGGTTATAGGTACATTGAGCAACTGACTGAAATGCCCTCAAAAATGTTCTTTACGATGCCATTGGGATATATCAACGG  
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CTTCCCGGTATCAACAGGGACACCAGGATTTATTTATCTGCGAAGTGATCTTCCGTACAGGTATTTATTTCGGCGCAAAG  
TGCGTCCGGTGATGCTGCCAACTTACTGATTTAGTGTATGATGGTGTTTTTGAGGTGCTCCAGTGGCTTCTGTTTCTATCA  
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GCCATTCGATGGTGTCCGGATCTCGACGCTCTCCCTTATGCGACTCCTGCATTAGATATCCCACTGCTTACTGGCTTAT  
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## pLR-GFP (4886 bp)

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**pLPLσ (5134 bp)**

CCACTTTGTACAAGAAAGCTGGGTGCAATTCGCCCTTTACCGCACAGATGCGTAAGGAGAAAATACCGCATCAGGCGCCA  
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GGATCTCGACGCTCCTCTTATGCGACTCCTGCATTAGATATCCCACTGCTTACTGGCTTATCGAAATTAATACGACTC  
ACTATAGGGAGACCAAGCTGGCTAGTTAAGCTATCAA

**Supplementary figure 1-** Plasmid sequences of pControl, pLR-GFP and pLPL $\sigma$