**DNA sequences for LightR and LightR constructs**

*LightR (linker-VVD-linker-VVD-linker)*

5’ - ggaccaggtGGCAGCGGAGGT CATACCtTgTAtGCGCCGGGGGGTTATGACATCATGGGTTACCTCATACAGATCATGAAtaGGCCGAACCCACAAGTGGA

GCTcGGACCCGTCGAtACCTCCTGCGCtCTCATtCTGTGTGACCTTAAGCAGAAGGAtACCCCTaTcGTGTACGCCTCCG

AgGCATTtCTGTACATGACaGGGTACTCGAACGCCGAAGTGCTGGGACGGAACTGCCGCTTCCTGCAAagCCCGGATGGA

ATGGTGAAGCCTAAGTCAACCCGCAAATACGTGGACTCCAACACTATCAACACCATGCGCAAGGCCATTGACCGCAATGC

TGAGGTGCAAGTGGAAGTGGTGAACTTCAAGAAGAAtGGACAGCGCTTCGTCAACTTCCTGACTATGATcCCCGTGCGcG

ACGAgACCGGCGAATACCGGTACAGCATGGGGTTTCAGTGtGAGACaGAG

GGCGGCTCCGGAGGCAGCGGCGGTTCTGGAGGTTCCGGTGGCGGCTCCGGAGGTAGCGGAGGGTCT

CACACTCTTTACGCCCCTGGAGGATACGACATTATGGGATATTTGATTCAGATTATGAACCGCCCAAACCCTCAGGTCGA

ACTGGGGCCTGTGGACACGTCATGTGCCCTGATCCTGTGCGATCTGAAGCAAAAGGACACTCCGATTGTCTACGCCTCGG

AAGCCTTCTTGTATATGACCGGATACAGCAATGCAGAGGTGCTCGGTAGGAACTGCAGATTCCTGCAGTCCCCCGACGGG

ATGGTGAAACCAAAGTCGACTCGCAAATATGTGGACTCGAACACGATCAAtACaATgCGGAAGGCCATCGACCGGAACGC

CGAGGTCCAGGTGGAGGTGGTCAACTTTAAGAAGAACGGCCAGCGGTTCGTGAACTTTCTcACCATgATTCCGGTCCGGG

ATGAAACCGGAGAGTACAGATACTCCATGGGATTCCAGTGCGAAACCGAA

GGGTCCGGAggtcccgga – 3’

*FastLightR (linker-VVD (I85V)-linker-VVD (I85V)-linker)*

5’ - ggaccaggtGGCAGCGGAGGT CATACCtTgTAtGCGCCGGGGGGTTATGACATCATGGGTTACCTCATACAGATCATGAAtaGGCCGAACCCACAAGTGGA

GCTcGGACCCGTCGAtACCTCCTGCGCtCTCATtCTGTGTGACCTTAAGCAGAAGGAtACCCCTGTGGTGTACGCCTCCG

AgGCATTtCTGTACATGACaGGGTACTCGAACGCCGAAGTGCTGGGACGGAACTGCCGCTTCCTGCAAagCCCGGATGGA

ATGGTGAAGCCTAAGTCAACCCGCAAATACGTGGACTCCAACACTATCAACACCATGCGCAAGGCCATTGACCGCAATGC

TGAGGTGCAAGTGGAAGTGGTGAACTTCAAGAAGAAtGGACAGCGCTTCGTCAACTTCCTGACTATGATcCCCGTGCGcG

ACGAgACCGGCGAATACCGGTACAGCATGGGGTTTCAGTGtGAGACaGAG

GGCGGCTCCGGAGGCAGCGGCGGTTCTGGAGGTTCCGGTGGCGGCTCCGGAGGTAGCGGAGGGTCT

CACACTCTTTACGCCCCTGGAGGATACGACATTATGGGATATTTGATTCAGATTATGAACCGCCCAAACCCTCAGGTCGA

ACTGGGGCCTGTGGACACGTCATGTGCCCTGATCCTGTGCGATCTGAAGCAAAAGGACACTCCGGTGGTCTACGCCTCGG

AAGCCTTCTTGTATATGACCGGATACAGCAATGCAGAGGTGCTCGGTAGGAACTGCAGATTCCTGCAGTCCCCCGACGGG

ATGGTGAAACCAAAGTCGACTCGCAAATATGTGGACTCGAACACGATCAAtACaATgCGGAAGGCCATCGACCGGAACGC

CGAGGTCCAGGTGGAGGTGGTCAACTTTAAGAAGAACGGCCAGCGGTTCGTGAACTTTCTcACCATgATTCCGGTCCGGG

ATGAAACCGGAGAGTACAGATACTCCATGGGATTCCAGTGCGAAACCGAA

GGGTCCGGAggtcccgga – 3’

*LightR-Src-mCherry-myc*

5’-

atgggcagcaacaagagcaagcccaaggacgccagccagcggcgccgcagcctggagccctcggaaaacgtgcacggggc

agggggcgccttcccggcctcacagacaccgagcaagcccgcctccgccgacggccaccgcgggcccagcgccgccttcg

tgccgcccgcggccgagcccaagctcttcggaggcttcaactcctcggacaccgtcacctccccgcagagggcggggcct

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gagcggctgctgctcaacgccgagaacccgagagggaccttcctcgtgagggagagtgagaccacaaaaggtgcctactg

cctctctgtatccgacttcgacaatgccaagggcctaaatgtgaaacactacaagatccgcaagctggacagcggcggtt

tctacatcacctcccgcacccagttcaacagcctgcagcagctcgtggcttactactccaaacatgctgatggcctgtgt

caccgcctcactaccgtatgtcccacatccaagcctcagacccagggattggccaaggatgcgtgggagatcccccggga

gtccctgcggctggaggtcaagctgggccagggttgcttcggagaggtgtggatggggacctggaac

ggaccaggtGGCAGCGGAGGTCATACCtTgTAtGCGCCGGGGGGTTATGACATCATGGGTTACCTCATACAGATCATGAA

taGGCCGAACCCACAAGTGGAGCTcGGACCCGTCGAtACCTCCTGCGCtCTCATtCTGTGTGACCTTAAGCAGAAGGAtA

CCCCTaTcGTGTACGCCTCCGAgGCATTtCTGTACATGACaGGGTACTCGAACGCCGAAGTGCTGGGACGGAACTGCCGC

TTCCTGCAAagCCCGGATGGAATGGTGAAGCCTAAGTCAACCCGCAAATACGTGGACTCCAACACTATCAACACCATGCG

CAAGGCCATTGACCGCAATGCTGAGGTGCAAGTGGAAGTGGTGAACTTCAAGAAGAAtGGACAGCGCTTCGTCAACTTCC

TGACTATGATcCCCGTGCGcGACGAgACCGGCGAATACCGGTACAGCATGGGGTTTCAGTGtGAGACaGAGGGCGGCTCC

GGAGGCAGCGGCGGTTCTGGAGGTTCCGGTGGCGGCTCCGGAGGTAGCGGAGGGTCTCACACTCTTTACGCCCCTGGAGG

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GTGCCCTGATCCTGTGCGATCTGAAGCAAAAGGACACTCCGATTGTCTACGCCTCGGAAGCCTTCTTGTATATGACCGGA

TACAGCAATGCAGAGGTGCTCGGTAGGAACTGCAGATTCCTGCAGTCCCCCGACGGGATGGTGAAACCAAAGTCGACTCG

CAAATATGTGGACTCGAACACGATCAAtACaATgCGGAAGGCCATCGACCGGAACGCCGAGGTCCAGGTGGAGGTGGTCA

ACTTTAAGAAGAACGGCCAGCGGTTCGTGAACTTTCTcACCATgATTCCGGTCCGGGATGAAACCGGAGAGTACAGATAC

TCCATGGGATTCCAGTGCGAAACCGAAGGGTCCGGAggtcccgga

accacgagggttgccatcaaaactctgaagccaggcaccatgtccccagaggccttcctgcaggaggcccaagtcatgaa

gaaactgaggcacgagaaactggtgcagctgtatgctgtggtgtcggaagaacccatttacattgtgacagagtacatga

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ccatcgtggaacagtacgaacgcgccgagggccgccactccaccggcggcatggacgagctgtacaagtccggaagcggg

gagcagaagctgatctccgaggaggacctg - 3’

*LightR-bRaf-Venus*

5’- atggcggcgctgagcggtggcggtggtggcggcgcggagccgggccaggctctgttcaacggggacatggagcccgaggc

cggcgccggcgccggcgccgcggcctcttcggctgcggaccctgccattccggaggaggtgtggaatatcaaacaaatga

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ggaccaggtggcagcggaggtcatacctTgTAtGCGCCGGGGGGTTATGACATCATGGGTTACCTCATACAGATCATGAA

taGGCCGAACCCACAAGTGGAGCTcGGACCCGTCGAtACCTCCTGCGCtCTCATtCTGTGTGACCTTAAGCAGAAGGAtA

CCCCTaTcGTGTACGCCTCCGAgGCATTtCTGTACATGACaGGGTACTCGAACGCCGAAGTGCTGGGACGGAACTGCCGC

TTCCTGCAAagCCCGGATGGAATGGTGAAGCCTAAGTCAACCCGCAAATACGTGGACTCCAACACTATCAACACCATGCG

CAAGGCCATTGACCGCAATGCTGAGGTGCAAGTGGAAGTGGTGAACTTCAAGAAGAAtGGACAGCGCTTCGTCAACTTCC

TGACTATGATcCCCGTGCGcGACGAgACCGGCGAATACCGGTACAGCATGGGGTTTCAGTGtGAGACaGAGGGCGGCTCC

GGAGGCAGCGGCGGTTCTGGAGGTTCCGGTGGCGGCTCCGGAGGTAGCGGAGGGTCTCACACTCTTTACGCCCCTGGAGG

ATACGACATTATGGGATATTTGATTCAGATTATGAACCGCCCAAACCCTCAGGTCGAACTGGGGCCTGTGGACACGTCAT

GTGCCCTGATCCTGTGCGATCTGAAGCAAAAGGACACTCCGATTGTCTACGCCTCGGAAGCCTTCTTGTATATGACCGGA

TACAGCAATGCAGAGGTGCTCGGTAGGAACTGCAGATTCCTGCAGTCCCCCGACGGGATGGTGAAACCAAAGTCGACTCG

CAAATATGTGGACTCGAACACGATCAAtACaATgCGGAAGGCCATCGACCGGAACGCCGAGGTCCAGGTGGAGGTGGTCA

ACTTTAAGAAGAACGGCCAGCGGTTCGTGAACTTTCTcACCATgATTCCGGTCCGGGATGAAACCGGAGAGTACAGATAC

TCCATGGGATTCCAGtgcgaaaccgaagggtccggaggtcccgga

GGTGATGTGGCAGTGAAAATGTTGAATGTGacagcacctacacctcagcagttacaagccttcaaaaatgaagtaggagt

actcaggaaaacacgacatgtgaatatcctactcttcatgggctattccacaaagccacaactggctattgttacccagt

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gatgtatatgcatttggaattgttctgtatgaattgatgactggacagttaccttattcaaacatcaacaacagggacca

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tgctgcccgacaaccactacctgagcacccagtccgccctgagcaaagaccccaacgagaagcgcgatcacatggtcctg

ctggagttcgtgaccgccgccgggatcactctcggcatggacgagctgtacaagtaa – 3’

*LightR-Cre-miRFP*

5’-

atggtgcccaagaagaagaggaaagtctccaacctgctgactgtgcaccaaaacctgcctgccctccctgtggatgccac

ctctgatgaagtcaggaagaacctgatggacatgttcagggacaggcaggccttctctgaacacacctggaagatgctcc

tgtctgtgtgcagatcctgggctgcctggtgcaagctgaacaacaggaaatggttccctgctgaacctgaggatgtgagg

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CCCCTaTcGTGTACGCCTCCGAgGCATTtCTGTACATGACaGGGTACTCGAACGCCGAAGTGCTGGGACGGAACTGCCGC

TTCCTGCAAagCCCGGATGGAATGGTGAAGCCTAAGTCAACCCGCAAATACGTGGACTCCAACACTATCAACACCATGCG

CAAGGCCATTGACCGCAATGCTGAGGTGCAAGTGGAAGTGGTGAACTTCAAGAAGAAtGGACAGCGCTTCGTCAACTTCC

TGACTATGATcCCCGTGCGcGACGAgACCGGCGAATACCGGTACAGCATGGGGTTTCAGTGtGAGACaGAGGGCGGCTCC

GGAGGCAGCGGCGGTTCTGGAGGTTCCGGTGGCGGCTCCGGAGGTAGCGGAGGGTCTCACACTCTTTACGCCCCTGGAGG

ATACGACATTATGGGATATTTGATTCAGATTATGAACCGCCCAAACCCTCAGGTCGAACTGGGGCCTGTGGACACGTCAT

GTGCCCTGATCCTGTGCGATCTGAAGCAAAAGGACACTCCGATTGTCTACGCCTCGGAAGCCTTCTTGTATATGACCGGA

TACAGCAATGCAGAGGTGCTCGGTAGGAACTGCAGATTCCTGCAGTCCCCCGACGGGATGGTGAAACCAAAGTCGACTCG

CAAATATGTGGACTCGAACACGATCAAtACaATgCGGAAGGCCATCGACCGGAACGCCGAGGTCCAGGTGGAGGTGGTCA

ACTTTAAGAAGAACGGCCAGCGGTTCGTGAACTTTCTcACCATgATTCCGGTCCGGGATGAAACCGGAGAGTACAGATAC

TCCATGGGATTCCAGTGCGAAACCGAAGGGTCCGGAggtcccgga

agatgccaggacatcaggaacctggccttcctgggcattgcctacaacaccctgctgcgcattgccgaaattgccagaat

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agctgcgggcgatctgcaaacggctcgccgaaaggatcgcgacgcggatcaccgcgcttgagagc – 3’

*eGFP-LightR-Abl*

5’-ATGGTGAGCAAGGGCGAGGAGCTGTTCACCGGGGTGGTGCCCATCCTGGTCGAGCTGGACGGCGACGTAAACGGCCACAAGTTCAGCGTGTCCGGCGAGGGCGAGGGCGATGCCACCTACGGCAAGCTGACCCTGAAGTTCATCTGCACCACCGGCAAGCTGCCCGTGCCCTGGCCCACCCTCGTGACCACCCTGACCTACGGCGTGCAGTGCTTCAGCCGCTACCCCGACCACATGAAGCAGCACGACTTCTTCAAGTCCGCCATGCCCGAAGGCTACGTCCAGGAGCGCACCATCTTCTTCAAGGACGACGGCAACTACAAGACCCGCGCCGAGGTGAAGTTCGAGGGCGACACCCTGGTGAACCGCATCGAGCTGAAGGGCATCGACTTCAAGGAGGACGGCAACATCCTGGGGCACAAGCTGGAGTACAACTACAACAGCCACAACGTCTATATCATGGCCGACAAGCAGAAGAACGGCATCAAGGTGAACTTCAAGATCCGCCACAACATCGAGGACGGCAGCGTGCAGCTCGCCGACCACTACCAGCAGAACACCCCCATCGGCGACGGCCCCGTGCTGCTGCCCGACAACCACTACCTGAGCACCCAGTCCGCCCTGAGCAAAGACCCCAACGAGAAGCGCGATCACATGGTCCTGCTGGAGTTCGTGACCGCCGCCGGGATCACTCTCGGCATGGACGAGCTGTACAAGTCCGGACTCAGATCTTCCGGATCCACC

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GAAGAGGGACTCATCGAGGCATGGGGGCCCACACTGCAATGTCTTTGTGGAACACGAAGCCCTGCAGAGGCCAGTGGCAT

CTGACTTTGAGCCCCAGGGTCTCAGCGAAGCAGCTCGATGGAACTCCAAGGAAAACCTTCTTGCTGGGCCCAGTGAAAAT

GACCCCAACCTTTTTGTGGCACTCTATGATTTTGTGGCCAGTGGAGATAACACTCTCAGCATCACTAAAGGTGAAAAGCT

CCGGGTCTTGGGTTATAATCACAATGGGGAATGGTGTGAAGCCCAAACGAAAAATGGCCAAGGATGGGTCCCAAGCAACT

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AGCAGCGGGATCAATGGCAGCTTCTTGGTGCGTGAGAGTGAGAGCAGTCCTGGCCAGAGGTCCATCTCGCTGAGATACGA

AGGGAGGGTGTACCATTACAGGATCAACACTGCTTCTGATGGCAAGCTCTACGTCTCCTCCGAGAGCCGCTTCAACACCC

TGGCCGAGTTGGTTCATCATCATTCAACGGTGGCCGACGGGCTCATCACCACGCTCCATTATCCAGCCCCAAAGCGCAAC

AAGGAAACTGTCTATGGTGTGTCCGAGAACTACGACAAGTGGGAGATGGAACGCACGGACATCACCATGAAGCACAAGCT

GGGCGGGGGCCAGTACGGGGAGGTGTACGAGGGCGTGTGGAAG

GGACCAGGTGGCAGCGGAGGTCATACCTTGTATGCGCCGGGGGGTTATGACATCATGGGTTACCTCATACAGATCATGAA

TAGGCCGAACCCACAAGTGGAGCTCGGACCCGTCGATACCTCCTGCGCTCTCATTCTGTGTGACCTTAAGCAGAAGGATA

CCCCTGTGGTGTACGCCTCCGAGGCATTTCTGTACATGACAGGGTACTCGAACGCCGAAGTGCTGGGACGGAACTGCCGC

TTCCTGCAAAGCCCGGATGGAATGGTGAAGCCTAAGTCAACCCGCAAATACGTGGACTCCAACACTATCAACACCATGCG

CAAGGCCATTGACCGCAATGCTGAGGTGCAAGTGGAAGTGGTGAACTTCAAGAAGAATGGACAGCGCTTCGTCAACTTCC

TGACTATGATCCCCGTGCGCGACGAGACCGGCGAATACCGGTACAGCATGGGGTTTCAGTGTGAGACAGAGGGCGGCTCC

GGAGGCAGCGGCGGTTCTGGAGGTTCCGGTGGCGGCTCCGGAGGTAGCGGAGGGTCTCACACTCTTTACGCCCCTGGAGG

ATACGACATTATGGGATATTTGATTCAGATTATGAACCGCCCAAACCCTCAGGTCGAACTGGGGCCTGTGGACACGTCAT

GTGCCCTGATCCTGTGCGATCTGAAGCAAAAGGACACTCCGATTGTCTACGCCTCGGAAGCCTTCTTGTATATGACCGGA

TACAGCAATGCAGAGGTGCTCGGTAGGAACTGCAGATTCCTGCAGTCCCCCGACGGGATGGTGAAACCAAAGTCGACTCG

CAAATATGTGGACTCGAACACGATCAATACAATTCGGAAGGCCATCGACCGGAACGCCGAGGTCCAGGTGGAGGTGGTCA

ACTTTAAGAAGAACGGCCAGCGGTTCGTGAACTTTCTCACCATTATTCCGGTCCGGGATGAAACCGGAGAGTACAGATAC

TCCATGGGATTCCAGTGCGAAACCGAAGGGTCCGGAAGTCCCGGA TACAGCCTGACGGTGGCCGTGAAGACCTTGAAGGATGAACCCATGGAGGTGGAAAAATTCTTGAAAGAACCTGCAGTCTT

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CTGGAGCCAAGTTCCCCATCAAATGGACTGCACCCGAGAGCCTGGCCTACAACAAGTTCTCCATCAAGTCCGACGTCTGG

GCATTTGGAGTATTGCTTTGGGAAATTGCTACCTATGGCATGTCCCCTTACCCGGGAATTGACCTGTCCCAGGTGTATGA

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AGTGGAATCCCTCTGACCGGCCCTCCTTTGCTGAAATCCACCAAGCCTTTGAAACAATGTTCCAGGAATCCAGTATCTCA

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