SEQUENCE LISTING

<110> EpicentRx, Inc.
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<120> RECOMBINANT ADENOVIRUSES CARRYING TRANSGENES

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<150> US 62/511,822
<151> 2017-05-26

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<223> L5 wt mGMCSF

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gtcgtctcta acgagttctc cttcaagaag ctaacatgtg tgcagacccg cctgaagata 240

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agctactacc agacatactg ccccccaact ccggaaacgg actgtgaaac acaagttacc 360

acctatgcgg atttcataga cagccttaaa acctttctga ctgatatccc ctttgaatgc 420

aaaaaaccag gccaaaaatg aaaataactt gtttattgca g 461

<210> 20
<211> 463
<212> DNA
<213> Artificial Sequence

<220>
<223> IX wt mGMCSF

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gccatcaaag aagccctgaa cctcctggat gacatgcctg tcacgttgaa tgaagaggta 180

gaagtcgtct ctaacgagtt ctccttcaag aagctaacat gtgtgcagac ccgcctgaag 240

atattcgagc agggtctacg gggcaatttc accaaactca agggcgcctt gaacatgaca 300

gccagctact accagacata ctgcccccca actccggaaa cggactgtga aacacaagtt 360

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<210> 21
<211> 760
<212> DNA
<213> Artificial Sequence

<220>
<223> IX revised Empty

<400> 21
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gccaataggg actttccatt gacgtcaatg ggtggagtat ttacggtaaa ctgcccactt 180

ggcagtacat caagtgtatc atatgccaag tacgcccct attgacgtca atgacggtaa 240

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gcgtggatag cggtttgact cacggggatt tccaagtctc caccccattg acgtcaatgg 420

gagtttgttt tggcaccaaa atcaacggga ctttccaaaa tgtcgtaaca actccgcccc 480

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gctaactaga gaacccactg cttactggct tatcgaaatt aatacgactc actataggga 600

gacccgcggc cgctgtgcct tctagttgcc agccatctgt tgtttgcccc tcccccgtgc 660

cttccttgac cctggaaggt gccactccca ctgtcctttc ctaataaaaa accagactct 720

gtttggattt ggatcaagca agtgtcttgc tgtctttatt 760

<210> 22
<211> 1526
<212> DNA
<213> Artificial Sequence

<220>
<223> IX revised hIL12A

<400> 22
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gccaataggg actttccatt gacgtcaatg ggtggagtat ttacggtaaa ctgcccactt 180

ggcagtacat caagtgtatc atatgccaag tacgcccccct attgacgtca atgacggtaa 240

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gcgtggatag cggtttgact cacggggatt tccaagtctc caccccattg acgtcaatgg 420

gagtttgttt tggcaccaaa atcaacggga ctttccaaaa tgtcgtaaca actccgcccc 480

attgacgcaa atgggcggta ggcgtgtacg gtgggaggtc tatataagca gagctctctg 540

gctaactaga gaacccactg cttactggct tatcgaaatt aatacgactc actataggga 600

gacccgcggc catgtggccc cctgggtcag cctcccagcc accgccctca cctgccgcgg 660

ccacaggtct gcatccagcg gctcgccctg tgtccctgca gtgccggctc agcatgtgtc 720

cagcgcgcag cctcctcctt gtggctaccc tggtcctcct ggaccacctc agtttggcca 780

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gtgccttcta gttgccagcc atctgttgtt tgcccctccc ccgtgccttc cttgaccctg 1440

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caagcaagtg tcttgctgtc tttatt 1526

<210> 23
<211> 1517
<212> DNA
<213> Artificial Sequence

<220>
<223> L5 initial hIL12B

<400> 23
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accaggtgtg gaaagtcccc aggctcccca gcaggcagaa gtatgcaaag catgcatctc 180

aattagtcag caaccatagt cccgccccta actccgccca tcccgcccct aactccgccc 240

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<210> 24
<211> 4
<212> PRT
<213> Unknown

<220>
<223> furin cleavage site

<400> 24

Arg Ala Lys Arg
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<210> 25
<211> 1625
<212> DNA
<213> Artificial Sequence

<220>

<223> hIL12 furin

<400> 25
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ggattggtat ccggatgccc ctggagaaat ggtggtcctc acctgtgaca cccctgaaga 180

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gaccatccaa gtcaaagagt ttggagatgc tggccagtac acctgtcaca aaggaggcga 300

ggttctaagc cattcgctcc tgctgcttca caaaaaggaa gatggaattt ggtccactga 360

tattttaaag gaccagaaag aacccaaaaa taagaccttt ctaagatgcg aggccaagaa 420

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ggacagtgcc tgcccagctg ctgaggagag tctgcccatt gaggtcatgg tggatgccgt 660

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aggcg 1625

<210> 26
<211> 445
<212> DNA
<213> Artificial Sequence

<220>
<223> L5 revised SV40

<400> 26
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tccccaggct ccccagcagg cagaagtatg caaagcatgc atctcaatta gtcagcaacc 180

atagtcccgc ccctaactcc gcccatcccg cccctaactc cgcccagttc cgcccattct 240

ccgccccatg gctgactaat ttttttttatt tatgcagagg ccgaggccgc ctctgcctct 300

gagctattcc agaagtagtg aggaggcttt tttggaggcc taggcttttg caaaaagctt 360

tgcaaagatt taaataactt gtttattgca gcttataatg gttacaaata aagaatcgtt 420

tgtgttatgt ttcaacgtgt ttatt 445

<210> 27
<211> 502
<212> DNA
<213> Artificial Sequence

<220>
<223> IX mIL7

<400> 27
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aaagcatatg agagtgtact gatgatcagc atcgatgaat tggacaaaat gacaggaact 180

gatagtaatt gcccgaataa tgaaccaaac ttttttagaa aacatgtatg tgatgataca 240

aaggaagctg cttttctaaa tcgtgctgct cgcaagttga agcaatttct taaaatgaat 300

atcagtgaag aattcaatgt ccacttacta acagtatcac aaggcacaca aacactggtg 360

aactgcacaa gtaaggaaga aaaaaacgta aaggaacaga aaaagaatga tgcatgtttc 420

ctaaagagac tactgagaga aataaaaact tgttggaata aaattttgaa gggcagtata 480

taaggccgct gtgccttcta gt 502

<210> 28
<211> 445
<212> DNA
<213> Artificial Sequence

<220>
<223> L5 revised SV40 wt Empty

<400> 28
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tccccaggct ccccagcagg cagaagtatg caaagcatgc atctcaatta gtcagcaacc 180

atagtcccgc ccctaactcc gcccatcccg cccctaactc cgcccagttc cgcccattct 240

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gagctattcc agaagtagtg aggaggcttt tttggaggcc taggcttttg caaaaagctt 360

tgcaaagatt taaataactt gtttattgca gcttataatg gttacaaata aagaatcgtt 420

tgtgttatgt ttcaacgtgt ttatt 445

<210> 29
<211> 525
<212> DNA
<213> Artificial Sequence

<220>
<223> L5 revised EF1A Empty

<400> 29
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ttaaactccc actaacgtag aacccagaga tcgctgcgtt cccgcccccct cacccgcccg 180

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tgcctagaga aggtggcgcg gggtaaactg ggaaagtgat gtcgtgtact ggctccgcct 360

ttttcccgag ggtgggggag aaccgtatat aagtgcagta gtcgccgtga acgttctttt 420

tcgcaacggg tttgccgcca gaacacaatt taaataactt gtttattgca gcttataatg 480

gttacaaata aagaatcgtt tgtgttatgt ttcaacgtgt ttatt 525

<210> 30
<211> 502
<212> DNA
<213> Artificial Sequence

<220>
<223> mIL7 no poly-A

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aaagcatatg agagtgtact gatgatcagc atcgatgaat tggacaaaat gacaggaact 180

gatagtaatt gcccgaataa tgaaccaaac ttttttagaa aacatgtatg tgatgataca 240

aaggaagctg cttttctaaa tcgtgctgct cgcaagttga agcaatttct taaaatgaat 300

atcagtgaag aattcaatgt ccacttacta acagtatcac aaggcacaca aacactggtg 360

aactgcacaa gtaaggaaga aaaaaacgta aaggaacaga aaaagaatga tgcatgtttc 420

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<210> 31
<211> 456
<212> DNA
<213> Artificial Sequence

<220>
<223> mGMCSF Kozak

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ctctaacgag ttctccttca agaagctaac atgtgtgcag acccgcctga agatattcga 240

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<210> 32
<211> 591
<212> DNA
<213> Unknown

<220>
<223> adenoviral death protein

<400> 32
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<210> 33
<211> 4509
<212> DNA
<213> Artificial Sequence

<220>
<223> Costim IRES

<400> 33
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ccaatccaca cattacaaac aggtcccgga gggcgccctc caccaccatt cttaaacaca 33600

ccctcataat gacaaaatat cttgctcctg tgtcacctgt agcgaattga gaatggcaac 33660

atcaattgac atgcccttgg ctctaagttc ttctttaagt tctagttgta aaaactctct 33720

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ccgccccttt taaccgttaa ccccacagcc aatcaccaca cggcccacac tttttaaaat 34740

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<210> 42
<211> 688
<212> DNA
<213> Artificial Sequence

<220>
<223> mouse IL12A cloned into the NotI restriction site of the revised IX-E2 site with an expression cassette

<400> 42
ctatagggag acccgcggcc atgtgtcaat cacgctacct cctcttttg gccacccttg 60

ccctcctaaa ccacctcagt ttggccaggg tcattccagt ctctggacct gccaggtgtc 120

ttagccagtc ccgaaacctg ctgaagacca cagatgacat ggtgaagacg gccagagaaa 180

aactgaaaca ttattcctgc actgctgaag acatcgatca tgaagacatc acacgggacc 240

aaaccagcac attgaagacc tgtttaccac tggaactaca caagaacgag agttgcctgg 300

ctactagaga gacttcttcc acaacaagag ggagctgcct gcccccacag aagacgtctt 360

tgatgatgac cctgtgcctt ggtagcatct atgaggactt gaagatgtac cagacagagt 420

tccaggccat caacgcagca cttcagaatc acaaccatca gcagatcatt ctagacaagg 480

gcatgctggt ggccatcgat gagctgatgc agtctctgaa tcataatggc gagactctgc 540

gccagaaacc tcctgtggga gaagcagacc cttacagagt gaaaatgaag ctctgcatcc 600

tgcttcacgc cttcagcacc cgcgtcgtga ccatcaacag ggtgatgggc tatctgagct 660

ccgcctgagg ccgctgtgcc ttctagtt 688

<210> 43
<211> 1048
<212> DNA
<213> Artificial Sequence

<220>
<223> mouse IL12B cloned into the SwaI restriction site of the L5-E4 site with an expression cassette using the EF1A promoter

<400> 43
ttgccgccag aacacaattt atgtgtcctc agaagctaac catctcctgg tttgccatcg 60

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aggtggactg gactcccgat gcccctggag aaacagtgaa cctcacctgt gacacgcctg 180

aagaagatga catcacctgg acctcagacc agagacatgg agtcataggc tctggaaaga 240

ccctgaccat cactgtcaaa gagtttctag atgctggcca gtacacctgc cacaaaggag 300

gcgagactct gagccactca catctgctgc tccacaagaa ggaaaatgga atttggtcca 360

ctgaaatttt aaaaaatttc aaaaacaaga ctttcctgaa gtgtgaagca ccaaattact 420

ccggacggtt cacgtgctca tggctggtgc aaagaaacat ggacttgaag ttcaacatca 480

agagcagtag cagttcccct gactctcggg cagtgacatg tggaatggcg tctctgtctg 540

cagagaaggt cacactggac caaagggact atgagaagta ttcagtgtcc tgccaggagg 600

atgtcacctg cccaactgcc gaggagaccc tgcccattga actggcgttg gaagcacggc 660

agcagaataa atatgagaac tacagcacca gcttcttcat cagggacatc atcaaaccag 720

acccgcccaa gaacttgcag atgaagcctt tgaagaactc acaggtggag gtcagctggg 780

agtaccctga ctcctggagc actccccatt cctacttctc cctcaagttc tttgttcgaa 840

tccagcgcaa gaaagaaaag atgaaggaga cagaggaggg gtgtaaccag aaaggtgcgt 900

tcctcgtaga gaagacatct accgaagtcc aatgcaaagg cgggaatgtc tgcgtgcaag 960

ctcaggatcg ctattacaat tcctcatgca gcaagtgggc atgtgttccc tgcagggtcc 1020

gatcctagaa ataacttgtt tattgcag 1048

<210> 44
<211> 8
<212> DNA
<213> Artificial Sequence

<220>
<223> modified TATA box

<400> 44
agtgcccg 8

<210> 45
<211> 8
<212> DNA
<213> Artificial Sequence

<220>
<223> modified TATA box

<400> 45
tattcccg 8

<210> 46
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> modified CAAT box

<400> 46
ttccgtggcg 10