

SEQUENCE LISTING

<110> VIB VZW
 LIFE SCIENCES RESEARCH PARTNERS VZW
 UNIVERSITEIT GENT

<120> Liver-specific nucleic acid regulatory elements and methods and use thereof

<130> MCH/ENH/V282

<150> US 61/125,181
 <151> 2008-04-22

<160> 40

<170> PatentIn version 3.5

<210> 1
 <211> 88
 <212> DNA
 <213> Homo sapiens

<400> 1
 ggagttgctg gtgcttcccc aggctggaga ttgagttaat attaacaggc ccaaggcgat 60
 gtgggcttgt gcaatcatag gcccggcc 88

<210> 2
 <211> 41
 <212> DNA
 <213> Homo sapiens

<400> 2
 atcgccaggt cacctgagga gttaatgaat acatatctcc t 41

<210> 3
 <211> 72
 <212> DNA
 <213> Homo sapiens

<400> 3
 gggggaggct gctggtgaat attaaccaag gtcaccccag ttatcggagg agcaaacagg 60
 ggctaagtcc ac 72

<210> 4
 <211> 71
 <212> DNA
 <213> Homo sapiens

<400> 4
 tgaatgacct tcagcctgtt cccgtccctg atatgggcaa acattgcaag cagcaaacag 60
 caaacacata g 71

<210> 5

<211> 173
<212> DNA
<213> Homo sapiens

<400> 5
ggcgtattct taagaataga ttaaataatc ataaaaagat ctataacttaa aaattgaaaa 60
atgcttaa attaaaattc ttctcataaa aaaatactaa tttaaaaatg agcctgaaat 120
gtttatctat ttattgcaca gggttgcata cataaaacga cacaccctct tgt 173

<210> 6
<211> 551
<212> DNA
<213> Homo sapiens

<400> 6
agtttggaac aagactatat accatattcct acaggaagaa taaaagtaaa ggaaaggtgc 60
catctctact gaatagagag tcctaacaaa aaggcttcaa aaggactctg catctttaat 120
aatataaaaa ggctaggaca caaacagcat catctaaaat gccattagaa atacttcaca 180
tacaaaaagg tctaagtaaa gcaggatttt ataaagtgat caaaaaagaa aactaaggg 240
ggaaaaatct ttttaagatta aagaggtttt tcaaaggaca agttgaagtg gctgtaaaat 300
ttatgaggca gcattaaact tcagttctaa gtaacaataa attattcacc ataaaaacat 360
acatgtgtca aatattataa gcctcttaaa ctttttaaaa caatttcttg cagaactgat 420
tagatatatt aagtcaagat tagcagatac taactttttc attagcatac tatgatcact 480
cagagtaaag gaggaatttt agaaaagaaa taagacagaa ccatcaatag tcgattcacc 540
accaaattgtg a 551

<210> 7
<211> 94
<212> DNA
<213> Homo sapiens

<400> 7
ctaaaatggg caaacattgc aagcagcaaa cagcaaacac acagccctcc ctgcctgctg 60
accttgagac tggggcagag gtcagagacc tctc 94

<210> 8
<211> 101
<212> DNA
<213> Homo sapiens

<400> 8
cagccaatga aatacaaaga tgagtctagt taataatcta caattattgg ttaaagaagt 60
atattagtgc taatttcctt ccgtttgtcc tagcttttct c 101

<210> 9
<211> 135
<212> DNA
<213> Homo sapiens

<400> 9
gcatgatttt aaggactggt tgtttatgag ccaatcagag gtgttgaata aacacctccc 60
tactaggtca aggtagaaag gggagggcaa atattggaaa aaaaaaacat gatgagaagt 120
ctataaaaaat tgtgt 135

<210> 10
<211> 141
<212> DNA
<213> Homo sapiens

<400> 10
tgcgggaatc agcctttgaa acgatggcca acagcagcta ataataaacc agtaatttgg 60
gatagacgag tagcaagagg gcattgggtg gtgggtcacc ctccttctca gaacacatta 120
taaaaacctt ccgtttccac a 141

<210> 11
<211> 74
<212> DNA
<213> Homo sapiens

<400> 11
tgccactcct agttcccac cttatttaa ctgcaagagg tttgggttaatt cattggcttt 60
gtcctgtgta gaca 74

<210> 12
<211> 441
<212> DNA
<213> Homo sapiens

<400> 12
ttccttcccc cttccaagac cccctgaat cctatcaaaa gcacatcttc cattcattgc 60
ttcccgggtgt cattatgaca agcggctaca aatcaatagc agaggggaaag gcaggaccaa 120
cccgactca ccaagtgata aagattcact ctgagccccg atttgctaatt agcccataat 180
agcagccatt ggcgccccgc attaaataat acatttcact ccgcgtttat tatgggattt 240
ttaaaactcc tcaccaaatt ggattttctc gatgggtctct aatttccaca tttatcattt 300
aaaattaaac tgctctgtgg aaagggggga tagagaagaa gaaggtagag agaggccaga 360
cagtactgta ttttcccttt tgactcccc ctttatgaaa acccataaat aatatcaggt 420
atcacagcta taagcagcag g 441

<210> 13

<211> 171
<212> DNA
<213> Homo sapiens

<400> 13
aggaggaact gctcaaaaca gacagaggct ctttgtttgc tttgcttctg tgtcaactgg 60
gcaacatttg gaaacaacaa atattggttc agaggccac tgctttctta cccacctcct 120
gctggtcagc ttttccagct ttctgcacg tacacacaag cgcagctatt t 171

<210> 14
<211> 170
<212> DNA
<213> Homo sapiens

<400> 14
cgatgtcta atctctctag acaaggttca tatttgatg gggtacttat tctctctttg 60
ttgactaagt caataatcag aatcagcagg tttgcagtca gattggcagg gataagcagc 120
ctagctcagg agaagtgagt ataaaagccc caggctggga gcagccatca 170

<210> 15
<211> 48
<212> DNA
<213> artificial

<220>
<223> Forward primer

<400> 15
aagcggccgc ggtaccgtct gtctgcacat ttcttagagc gagtgttc 48

<210> 16
<211> 36
<212> DNA
<213> artificial

<220>
<223> Reverse primer

<400> 16
agcgtagcc aggagcttgt ggatctgtgt gacggc 36

<210> 17
<211> 223
<212> DNA
<213> artificial

<220>
<223> TTRmin sequence

<400> 17
gtctgtctgc acatttcgta gagcgagtgt tccgatactc taatctccct aggcaaggtt 60
catatttggtg taggttactt attctccttt tggtgactaa gtcaataatc agaatcagca 120

ggtttggagt cagcttggca gggatcagca gcctgggttg gaaggagggg gtataaaagc 180

cccttcacca ggagaagccg tcacacagat ccacaagctc ctg 223

<210> 18
<211> 114
<212> DNA
<213> artificial

<220>
<223> SEQ ID NO: 1 with restriction site

<400> 18
ggtaccggcg cgccggagtt gctgggtgctt cccagggctg gagattgagt taatattaac 60
aggcccaagg cgatgtgggc ttgtgcaatc ataggcccgg ccacgcgtgg tacc 114

<210> 19
<211> 67
<212> DNA
<213> artificial

<220>
<223> SEQ ID NO: 2 with restriction site

<400> 19
ggtaccggcg cgccatcgcc aggtcacctg aggagttaat gaatacatat ctccctacgcg 60
tggtacc 67

<210> 20
<211> 98
<212> DNA
<213> artificial

<220>
<223> SEQ ID NO: 3 with restriction site

<400> 20
ggtaccggcg cgccggggga ggctgctggt gaatattaac caaggtcacc ccagttatcg 60
gaggagcaaa caggggctaa gtccacacgc gtggtacc 98

<210> 21
<211> 97
<212> DNA
<213> artificial

<220>
<223> SEQ ID NO: 4 with restriction site

<400> 21
ggtaccggcg cgctgaatg accttcagcc tggtcccgtc cctgatatgg gcaaacattg 60
caagcagcaa acagcaaaca catagacgcg tggtacc 97

<210> 22
<211> 199
<212> DNA
<213> artificial

<220>
<223> SEQ ID NO: 5 with restriction site

<400> 22
ggtaccggcg cgccggcgta ttcttaagaa tagattaaat aatcataaaa agatctatac 60
ttaaaaaattg aaaaatgctt aaatattaaa attcttctca taaaaaata ctaattttaa 120
aatgagcctg aaatgtttat ctatttattg cacaggggtg catacataaa acgacacacc 180
ctcttgtagc cgtggtacc 199

<210> 23
<211> 576
<212> DNA
<213> artificial

<220>
<223> SEQ ID NO: 6 with restriction site

<400> 23
ggtaccggcg cgccagtttg gaacaagact atataccata tcctacagga agaataaaag 60
taaaggaaaag gtgccatctc tactgaatag agagtcctaa caaaaaggct tcaaaaggac 120
tctgcatctt taataatata aaaaggctag gacacaaaaca gcatcatcta aaatgccatt 180
agaaatactt cacatacaaa aaggtctaag taaagcagga ttttataaag tgatcaaaaa 240
agaaacacta agggggaaaa atcttttaag attaaagagg tttttcaaag gacaagttga 300
agtggctgta aaatttatga ggcagcatta aacttcagtt ctaagtaaca ataaattatt 360
caccataaaa acatacatgt gtcaaattatt ataagcctct taaacttttt aaaacaattt 420
cttgcagaac tgattagata tattaagtca agattagcag atactaactt tttcattagc 480
atactatgat cactcagagt aaaggaggaa atttagaaaa gaaataagac agaaccatca 540
atagtcgatt caccacaaa tgtgacgcgt ggtacc 576

<210> 24
<211> 119
<212> DNA
<213> artificial

<220>
<223> SEQ ID NO: 7 with restriction site

<400> 24
ggtaccggcg cgcttaaaat gggcaaacat tgcaagcagc aaacagcaaa cacacagccc 60
tcctgcctg ctgaccttgg agctggggca gaggtcagag acctctcacg cgtggtacc 119

<210> 25
<211> 126
<212> DNA
<213> artificial

<220>
<223> SEQ ID NO: 8 with restriction site

<400> 25
ggtaccggcg cgccagccaa tgaaatacaa agatgagtct agttaataat ctacaattat 60
tggttaaaga agtatattag tgctaatttc cctccgtttg tcctagcttt tctcacgcgt 120
ggtacc 126

<210> 26
<211> 161
<212> DNA
<213> artificial

<220>
<223> SEQ ID NO: 9 with restriction site

<400> 26
ggtaccggcg cgccgcatga ttttaaggac tggttgttta tgagccaatc agaggtgttg 60
aataaacacc tccctactag gtcaaggtag aaaggggagg gcaaattattg gaaaaaaaaa 120
acatgatgag aagtctataa aaattgtgta cgcgtggtac c 161

<210> 27
<211> 166
<212> DNA
<213> artificial

<220>
<223> SEQ ID NO: 10 with restriction site

<400> 27
ggtaccggcg cgctgcgagg aatcagcctt tgaaacgatg gccaacagca gctaataata 60
aaccagtaat ttgggataga cgagtagcaa gagggcattg gttggtgggt caccctcctt 120
ctcagaacac attataaaaa ccttccgttt ccacacgcgt ggtacc 166

<210> 28
<211> 99
<212> DNA
<213> artificial

<220>
<223> SEQ ID NO: 11 with restriction site

<400> 28
ggtaccggcg cgctgccac tcctagttcc catcctatct aaatctgcaa gaggttttgt 60

taatcattgg ctttgtcctg tgtagacacg cgtggtacc

99

<210> 29
<211> 467
<212> DNA
<213> artificial

<220>
<223> SEQ ID NO: 12 with restriction site

<400> 29
ggtaccggcg cgccttcctt cccccttcca agacccccct gaatcctatc aaaagcacat 60
cttcattca ttgcttcccg gtgtcattat gacaagcggc tacaaatcaa tagcagaggg 120
aaaggcagga ccaaccgcga ctcaccaagt gataaagatt cactctcagc ccgatttgc 180
taatagcca taatagcagc cattggcgcc ccgcattaaa taatacattt cactccgcgt 240
ttattatggg atttttaaaa ctctcacca aattggattt tctcgatggc ctctaatttc 300
cacatttatc atttaaaatt aaactgctct gtggaaaggg gggatagaga agaagaaggt 360
agagagaggc cagacagtac tgtatttttc cttttgactc ccccctttat gaaaacccat 420
aaataatatc aggtatcaca gctataagca gcaggacgcg tgggtacc 467

<210> 30
<211> 197
<212> DNA
<213> artificial

<220>
<223> SEQ ID NO: 13 with restriction site

<400> 30
ggtaccggcg cgccaggagg aactgctcaa aacagacaga ggctctttgt ttgctttgct 60
tctgtgtcaa ctgggcaaca tttggaaaca acaaattattg gttcagaggc ccaactgcttt 120
cttaccacc tctgtctggc cagcttttcc agctttcctg cacgtacaca caagcgcagc 180
tatttacgcg tgggtacc 197

<210> 31
<211> 194
<212> DNA
<213> artificial

<220>
<223> SEQ ID NO: 14 with restriction site

<400> 31
ggtaccggcg cgccgatgct ctaatctctc tagacaaggt tcatatttgc atgggttact 60
tattctctct ttgttgacta agtcaataat cagaatcagc aggtttgcag tcagattggc 120
agggataagc agcctagctc aggagaagtg agtataaaag ccccaggctg ggagcagcca 180

tcacgcgtgg tacc 194

<210> 32
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Forward primer

<400> 32
agggatatcg acttgcagaa aa 22

<210> 33
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Probe

<400> 33
agtctgtga accagcagtg ccatttc 27

<210> 34
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Reverse primer

<400> 34
gtgagcttag aagtttgtga aacag 25

<210> 35
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Forward primer

<400> 35
gccttctagt tgccagccat 20

<210> 36
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Probe

<400> 36

tgtttgcccc tcccccgtagc 20

<210> 37
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Reverse primer

<400> 37
ggcaccttcc agggtaag 19

<210> 38
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Forward primer

<400> 38
tgtgtccgta gtggatctga 20

<210> 39
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Probe

<400> 39
cctggagaaa cctgccaagt atgatgaca 29

<210> 40
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Reverse primer

<400> 40
cctgcttcac caccttcttg a 21