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<110> Temasek Life Sciences Laboratory Ltd.

<120> Functional Analysis of Jatropha Curcas Genes

<130> FP4893

<150> US 61/143,484

<151> 2009-01-09

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<170> PatentIn version 3.3

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<220>
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 <213> Artificial

<220>
 <223> PCR primer

<400> 3
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<210> 4
 <211> 30
 <212> DNA
 <213> Artificial

<220>
 <223> PCR primer

<400> 4
 ccctccaaaa caccgtacgt cagatctatt

30

<210> 5
 <211> 28
 <212> DNA
 <213> Artificial

<220>
 <223> PCR primer

<400> 5
 tctagaccat ggattccagc cacgttgc

28

<210> 6
 <211> 28
 <212> DNA
 <213> Artificial

<220>
 <223> PCR primer

<400> 6
 ccaactcatg ttctaacgac tccctagg

28

<210> 7
 <211> 613
 <212> DNA
 <213> *Jatropha curcas*

<400> 7
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<220>
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<220>
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<210> 9
 <211> 29
 <212> DNA
 <213> Artificial

<220>
 <223> degenerate PCR primer

<400> 9
 tawttmcavg tmtataccaa actcctagg 29

<210> 10
 <211> 38
 <212> DNA
 <213> Artificial

<220>
 <223> PCR primer

<400> 10
 aattctctag aggccagaga aagtaagttt gcaattgg 38

<210> 11
 <211> 40
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 <213> Artificial

<220>
 <223> PCR primer

<400> 11
 aaaggactac tttatagacg actagtctcc taggttaagt 40

<210> 12
 <211> 786
 <212> DNA
 <213> *Jatropha curcas*

<400> 12
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 agtcgatgct ggagttagtt ttgcgccctg cagaagaatg gatctcacgt agtgactcag 720
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 atcaga 786

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<220>
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<210> 14
 <211> 29
 <212> DNA
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<220>
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<400> 14
 ccaaacgaac agtaactctt taacctagg 29

<210> 15
 <211> 44
 <212> DNA
 <213> Artificial

<220>
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<400> 15
 aatccatcta gaagagaggg caatttctat ttccaccgg cacg

44

<210> 16
 <211> 34
 <212> DNA
 <213> Artificial

<220>
 <223> PCR primer

<400> 16
 catgatttaa ctctctttac ttatctagat ataa

34

<210> 17
 <211> 696
 <212> DNA
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<220>
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<400> 18
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<210> 19
<211> 25
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<220>
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<210> 20
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<220>
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<400> 20
aactttctag accaccattc acacttggtc ag 32

<210> 21
<211> 33
<212> DNA
<213> Artificial

<220>
<223> PCR primer

<400> 21
gtattgtaat gtctgtgagt accctagggtt att 33

<210> 22
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<212> DNA
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<220>
<223> PCR primer

<400> 22
aactttctag acgactcact atagggcga 29

<210> 23
<211> 29
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<220>

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<400> 23

taccttgaga tgttgaaccc taggttatt

29

<210> 24

<211> 711

<212> DNA

<213> *Jatropha curcas*

<400> 24

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ggcaaaagg ttagcttggc tgatatctat ttatgggata ccattgctta ttgttaatgc 180

ttttcttgtg acaatcacat atttgcggca cactcaccct gcattgccac actatgactc 240

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<211> 29

<212> DNA

<213> Artificial

<220>

<223> PCR primer

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<210> 26

<211> 29

<212> DNA

<213> Artificial

<220>

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<400> 26

caagtaacac tgatgggacc taggttatt

29

<210> 27
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<220>
<223> PCR primer

<400> 27
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<220>
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<210> 29
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<220>
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22

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<220>
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29

<210> 31
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<400> 31
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<210> 32
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<220>
 <223> PCR primer

<400> 32
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<210> 33
 <211> 821
 <212> DNA
 <213> Jatropha curcas

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 <213> Artificial

<220>
 <223> PCR primer

<400> 34
 tataatctag accacagcct gagtctgaa 29

<210> 35
 <211> 30
 <212> DNA
 <213> Artificial

<220>
 <223> PCR primer

<400> 35
 ctcagttcctt tcgttgtagc ctaggttagt 30

<210> 36
 <211> 847
 <212> DNA
 <213> *Jatropha curcas*

<400> 36
 ccacagcctg agtctgaagg attctacgat caagtgaag agctgagaga aagatcaaag 60
 gaactttccg atgactatctt tctagtttta gcaggcgaca tgataacaga agaagcgatt 120
 ccaacatata agacgatact taacacttta gatggaactc gagatgagag tgggtgtttct 180
 ttaagtcctt gggccatttg gactcgtgca tggactgctg aagagaatcg acatggcgac 240
 cttctcaaca agtatcttta cctctccgga cgagttgaca tgaagatgat tgaaaggact 300
 atccaatatt tgatagggtg tggaacggat tctaaatttg aaaaacaacc ccttctccg 360
 gatttatata cacttcgttc caggagagag caacatttgt ctctcatggc aacacggcga 420
 gactgtcaaa ggagaaagga gacacaaagc ttgaacagat atgtggcata attgctgcag 480
 atgagaaacg gcatgaaact gcttatgtta agattgtaga gaagttattt gaggtcgatc 540
 cagacgctac gatctcggca ttgccgaca tgatgaggaa aaagattcaa atgccggccc 600
 gcttgatgca tgatggtgaa gattataacc tgttcgatca ctacgcagcg gttgctcagc 660
 gtcttggagt gtatactgca aaagactacg cagatatttt ggaatttctg ataggaagat 720
 ggaaagtaga caagttgaaa gatttgtctg gccaaaggacg taaagctcaa gattttatat 780
 gcggattagc tccgagggtt agaaagatag aggaaagagc tcaagaaaga gtcaagaaag 840
 caacatc 847

<210> 37
 <211> 29
 <212> DNA
 <213> Artificial

<220>
 <223> PCR primer

<400> 37
 ttatttctag acttgcacaa atgtgtcat 29

<210> 38
 <211> 28
 <212> DNA
 <213> Artificial

<220>
 <223> PCR primer

<400> 38
 cacccttata tgaaggacct aggaagat 28

<210> 39
 <211> 854
 <212> DNA
 <213> *Jatropha curcas*

<400> 39
 cttgcacaaa tgtgtcatat ttctggcatg gcattttaatt ctgagcctgt actttctcct 60
 gtaagtgcac gtcctgagca agtagaaaag gtgttgaaga ctcgatacca tgatgccatg 120
 acaagactcc agggcaagga gcttgacctg cttattgtaa ttctccctga caacaatggg 180
 tctctttatg gtgatttgaa gcggatttgt gagacagatc ttggacttgt ttcccagtgc 240
 tgtttaacaa agcatgtctt tagaatgagc aaacaatata tagccaatgt agcgctgaag 300
 ataaatgtga aggttggggg aagaaacact gtacttggtg atgcattatc aaggcggtatt 360
 cctttagtca gtgaccggct tactattatt ttgtgtgctg atgttaccga tctcctcct 420
 ggcgaggact cgagcccatc tattgcagct gttgtggcat ctcaagattg gccagagggt 480
 acaaagtatg ctggtttggg ctgtgtcaa gcccatcgac aagagcttat ccaagatttg 540
 ttcaaagagt ggcaagatcc tgtaagaggg aaagtcactg gtggcatgat caaggaactc 600
 cttatatctt tccgaagagc aactgggcag aaacctcagc gtattatatt ttacagggat 660
 ggtgtcagtg aaggacagtt ctatcaagtt ttgttgtatg aacttgatgc tatccggaag 720
 gcttgtgctt ctttagaacc aaattatcag cctcctgtga cgtttgttgt gggtcagaag 780
 cgtcaccac caggttggtt gccataaacc atcatgaccg taatgctgtt gacaggagtg 840
 ggaatatact tcct 854

<210> 40
 <211> 35
 <212> DNA
 <213> Artificial

<220>
 <223> PCR primer

<400> 40

acatatctcta gattgaggag agatgctgaa gcaaa

35

<210> 41
 <211> 31
 <212> DNA
 <213> Artificial

<220>
 <223> PCR primer

<400> 41
 aactcctctc tacgacttcg cctaggtagg t

31

<210> 42
 <211> 629
 <212> DNA
 <213> *Jatropha curcas*

<400> 42
 tatacattat gaagagttaa aggcaatggg cagtggagct ttacatgga aatgaaggag 60
 aggcagcgtt ggagagctga agaggacgcc ttattacgtg catatgttaa gcaatatggt 120
 ccaagggagt ggaaccttgt atcacagcgc atgaacacac ccctaaacag ggatgccaaa 180
 tcctgcttag aaaggtggaa gaactacctc aagcctggta taaagaaagg atcacttact 240
 gaagaagagc agcgtcttgt tatccgactt caggctaaac acggtacaaa atggaagaaa 300
 attgcagctg aagttocagg aagaactgct aagagacttg gaaagtgggtg ggaagtgttc 360
 aaggagaagc agcagagaga gcaaaaggaa aataacaaga caatagaacc aattgacgag 420
 ggcaagtacg ataggattct ggagactttt gcagagaagc tagtgaaaga gcgccctgct 480
 ccagcatttg tcatggccac ttccaatggg ggctttttac atactgatcc ccctactcct 540
 gcaccaacta tgcttcccc atggctttct acttccaaca gcacttctgc tgttaggcca 600
 ccctctccat ctgtaaccct aagcctctc 629

<210> 43
 <211> 39
 <212> DNA
 <213> Artificial

<220>
 <223> PCR primer

<400> 43
 aataactcta gacaggtata tatacgtgat caaccattt

39

<210> 44
 <211> 32
 <212> DNA
 <213> Artificial

<220>

<223> PCR primer

<400> 44

cctcctccga cgatagtcca tacctaggtta tt

32

<210> 45

<211> 678

<212> DNA

<213> *Jatropha curcas*

<400> 45

tatttgaagc actcactaca gagaggtgtc aggagcgact ttctcttgaa agacttgaaa 60

ttctgggtga tgcttttctc aaatttgctg ttggacgacg gctttttctt ttgcatgata 120

cccttgatga aggggagctt acaaggagac gctctagtgc tgtaaataat ttgaatttgt 180

tgaaactcgc atgtagaaaa aacttgcagg tatatatacg tgaccaacca ttgatccct 240

gtgaattctt tgctttgggc cgtccttgcc ctagaatttg taccaaggaa tcagaaggaa 300

gcattcattc tcaaaatgga aaccatgagg caggtcaagc aaaagccagt caagtcagat 360

gcagtaaaaa tcaccattgg ttacataaga aaacaattgc tgatgtagtc gaggctctca 420

ttggagcatt catagtcgat agtggcttta aagcggcaac tgcatttctt aagtggctgg 480

gcatcagtgt ggacttcgaa gcttcaaaag ttattaggtt ctgcctagca agcagtagct 540

tcatgccact tgctcctccc atagatattg ttgccctga aaatttgggtg gggcatcagt 600

ttcaccatag aggattactt ctacaagctt ttgtgcatcc ttctatggc aagcatggag 660

gaggctgcta tcaggtat 678

<210> 46

<211> 30

<212> DNA

<213> Artificial

<220>

<223> PCR primer

<400> 46

aataaggtac catacctgat agcagcctcc

30

<210> 47

<211> 30

<212> DNA

<213> Artificial

<220>

<223> PCR primer

<400> 47

25

aataagagct cataatcttc gtgagtgatg 30

<210> 48
 <211> 18
 <212> DNA
 <213> Jatropha curcas

<400> 48
 ctgtgcagat agatcatg 18

<210> 49
 <211> 18
 <212> DNA
 <213> Jatropha curcas

<400> 49
 atgacagtag caacatcc 18

<210> 50
 <211> 18
 <212> DNA
 <213> Jatropha curcas

<400> 50
 tggatcatca tacggctc 18

<210> 51
 <211> 20
 <212> DNA
 <213> Jatropha curcas

<400> 51
 atgtgaacat tgatatcatg 20

<210> 52
 <211> 19
 <212> DNA
 <213> Jatropha curcas

<400> 52
 ggcaaggagc ttgacctgc 19

<210> 53
 <211> 19
 <212> DNA
 <213> Jatropha curcas

<400> 53
 tcagcgctac attggctag 19

<210> 54
 <211> 18
 <212> DNA

<213> Jatropha curcas

<400> 54

agagctgaag aggacgcc

18

<210> 55

<211> 20

<212> DNA

<213> Jatropha curcas

<400> 55

caggcttgag gtagttcttc

20

<210> 56

<211> 18

<212> DNA

<213> Jatropha curcas

<400> 56

gccagtcaag tcagatgc

18

<210> 57

<211> 18

<212> DNA

<213> Jatropha curcas

<400> 57

ccacactgat gccagcc

18

<210> 58

<211> 18

<212> DNA

<213> Jatropha curcas

<400> 58

tgtggatgag gatggcag

18

<210> 59

<211> 18

<212> DNA

<213> Jatropha curcas

<400> 59

ccagccaatg tacttcac

18

<210> 60

<211> 18

<212> DNA

<213> Jatropha curcas

<400> 60

cagctgttgc acagcggc

18

<210> 61
<211> 18
<212> DNA
<213> Jatropha curcas

<400> 61
ggaggtagcc gacaaacg 18

<210> 62
<211> 18
<212> DNA
<213> Jatropha curcas

<400> 62
gtggactggg cctggact 18

<210> 63
<211> 18
<212> DNA
<213> Jatropha curcas

<400> 63
tctgattcctg ggtccatg 18

<210> 64
<211> 18
<212> DNA
<213> Jatropha curcas

<400> 64
ttcgttccag gagagagc 18

<210> 65
<211> 20
<212> DNA
<213> Jatropha curcas

<400> 65
tcgacctcaa ataacttctc 20

<210> 66
<211> 24
<212> DNA
<213> Jatropha curcas

<400> 66
ggttttgacc agaacaacat aaat 24

<210> 67
<211> 20
<212> DNA
<213> Jatropha curcas

<400> 67

cacccatgta gtgaccatcc 20

<210> 68
 <211> 20
 <212> DNA
 <213> Jatropha curcas

<400> 68
 ggggtggtggt tcaatcattc 20

<210> 69
 <211> 20
 <212> DNA
 <213> Jatropha curcas

<400> 69
 tctccgctag tctcttgtgc 20

<210> 70
 <211> 25
 <212> DNA
 <213> Jatropha curcas

<400> 70
 ccttggtggtg atccagtttt caagg 25

<210> 71
 <211> 24
 <212> DNA
 <213> Jatropha curcas

<400> 71
 gcttctccag aaagagcgag ccga 24

<210> 72
 <211> 24
 <212> DNA
 <213> Jatropha curcas

<400> 72
 caacagtaga caagcctgaa gagg 24

<210> 73
 <211> 25
 <212> DNA
 <213> Jatropha curcas

<400> 73
 gcaatcttgt actcaaccac aacag 25

<210> 74
 <211> 23
 <212> DNA

<213> Jatropha curcas

<400> 74

ctcctgaaga aatcggttca gtg

23

<210> 75

<211> 22

<212> DNA

<213> Jatropha curcas

<400> 75

tgaccgttca agaattgatg ag

22

<210> 76

<211> 19

<212> DNA

<213> Jatropha curcas

<400> 76

cttctccagc aacgggctc

19

<210> 77

<211> 19

<212> DNA

<213> Jatropha curcas

<400> 77

ggagttccgc ctgaggaag

19

<210> 78

<211> 21

<212> DNA

<213> Jatropha curcas

<400> 78

ggttgaggaa ggaggtggaa g

21

<210> 79

<211> 21

<212> DNA

<213> Jatropha curcas

<400> 79

ccaccattca cacttgggtca g

21

<210> 80

<211> 22

<212> DNA

<213> Jatropha curcas

<400> 80

agcaatcaag cctatatattgg gc

22

30

<210> 81
<211> 20
<212> DNA
<213> Jatropha curcas

<400> 81
ccagagaact cctcggttgg 20

<210> 82
<211> 32
<212> DNA
<213> Tobacco rattle virus

<400> 82
ttaagacgag tttttcttat tagacgtct ct 32

<210> 83
<211> 32
<212> DNA
<213> Tobacco rattle virus

<400> 83
atggaagaca agtcattggt caccttgaag aa 32

<210> 84
<211> 25
<212> DNA
<213> Tobacco rattle virus

<400> 84
gatcaatcaa gatcagtcga gaatg 25

<210> 85
<211> 25
<212> DNA
<213> Tobacco rattle virus

<400> 85
gatggacatt gttactcaag gaagc 25