

LISTADO DE SECUENCIAS

<110> Monsanto Technology, LLC

<120> ELEMENTOS REGULADORES DE PLANTAS Y SUS USOS

<130> MONS:419WO

<150> US 62/340,656

<151> 2016-05-24

<160> 10

<170> PatentIn versión 3.5

<210> 1

<211> 2066

<212> ADN

<213> Bouteloua gracilis

<220>

<221> misc_feature

<222> (1)..(2066)

<223> Secuencia de ADN de un grupo de elementos de expresión reguladora que comprende

un promotor, líder, e intrón unido de forma operativa y derivado de un

gen de ubiquitina putativa de hierba Blue Gama.

<400> 1

tacgagcaaa cgcacaaccg ggatacagat ctacggtaca gaggttactt ccaacgggaa

60

ggttcccgtc cctctagcgc aagcaagacg acgcagagat ggtgaccaa aacgattctt
120

tgctttacct ggtcatgaca ccaccggata cggataagaa ggaaaaccgg agcatctcta
180

gcaatagaga aatcgacgtt gcctcctaga ggaagaaagc gacggcctat gcttttttct
240

tttgtcgatg attccactga attgtttctc ttttttttct gttgtgtaat ggtcctggta
300

caaacgttca tccaatcatg caacttgcaa gaataaaaat aaaaaatata atctcagacg
360

tccaatcatg gcttcctaaa aaaataaaaa ggacgagaaa ctactcagaa aaaataaata
420

aatacacaac tgtaggaacc aaagcaaagt tgacaaggaa ccaaagcaag gcaggtcac
480

atgtgctgcg agcagggtcg cctcctcctc cgtttcttcg ccttgctaata cagctcgcta
540

aatacagagg ccgacttaag aatgccgaca tggcaatttt gctggatatt tttgcttct
600

tgtagtatca aacagaagaa tattaacgtg ggagtataca gtaattttct tttaccattt
660

ttctttaatc gcgtttttgt tcaaccaaac acaactttag acgtactagt actccactat
720

tttttatatt attttctcct acagtacttt tgaaaaaaag gaatcttgtc atgcatgatt
780

gagatcacgg taacggcgac tcacgccgcc gcacgggtaa cggccaccaa ccaaagtag
840

caaacggcgt caacctcctc gacatctcgg cgtcgctttt cttttctcc gcagagaatg
900

agtggcgggg agggacccca cgacgcaacc ccacgacgca accgcttata gcagccgggt
960

ccacaccgca ccgctgccgt agcgtcatgg gactcggccc ggggcccgcc ctccgaccgg
1020

gaccgcgttt ccttcccctc ccgtgtataa ataccgcccc cctgctcgc ctctcccca
1080

atccatccga tccccaatcc agtcccgcga gcgaaatcgc cgacgaccga tcgaagcgaa
1140

gcagccttcc cccatcctct caaggatatgc gaattctoga tctcctctc ctatgttcgt
1200

tgtggatctg ctggtttagga ttgattaggt tgcgtacca tgccttttcc ctgttcgtgt
1260

tctcagatc tatagtcggg ttgcacaggt agagggctaa tctctagtcg atctgcgggt
1320

agagttgttg aatcatgtgc tgccttcagt tcatgtgggt tagatccgtg ttgcttggtg
1380

cggtcatgtg ttcacacaac acgtacgggt cctgcctgtc gcggattagc cgcgctgagg
1440

ctctgacgtt gtcgggtgtg gcgtgatcgc gcgggctgcc taggcttggt attgttgaat
1500

taggcttggt cgattgggtc tgtttctatt cacggatggt cttcgatggt tcatgtgcat
1560

gctgttggtc gctgggttagg tggtgatacc gttcgatttt tgtttaatct gtctagaatt
1620

ccttagatct gaaattctgt gatgtctaca tccagctgct tgttggtgaa tatttttagct
1680

atgttaatct gccatggtct tcgtagtttc catgcataaa gccatgcaaa tacgttgtat
1740

atttactggt gctgcaacct atctcagatt ctagtttgct gtgtactatt aggccctgta
1800

aatgcttggt aaaatggtta taaattgtgt tcatggttct gtgcctgtta agtcgtcatg
1860

tttattttct ggctgatgct atctgtgggt agaatttgca taggcttcaa tctactgact
1920

ctatgggtag gatctgtgta gcgttgcac aaacatggca gtgtcttaat gctttcacat
1980

aaaatgtgga actgtttata ttattattat gtactgcatg ttttggtggc ctaactttgc
2040

ctctgctgct aaatttgcag gtgcag
2066

<210> 2

<211> 1095

<212> ADN

<213> *Bouteloua gracilis*

<220>

<221> misc_feature

<222> (1)..(1095)

<223> Secuencia promotora derivada de un gen de ubiquitina putativa de la hierba Blue Gama.

<400> 2

tacgagcaaa cgcacaaccg ggatacagat ctacggtaca gaggttactt ccaacgggaa
60

ggttcccgtc cctctagcgc aagcaagacg acgcagagat ggtgaccaa aacgattctt
120

tgctttacct ggtcatgaca ccaccggata cggataagaa ggaaaaccgg agcatctcta
180

gcaatagaga aatcgacgtt gcctcctaga ggaagaaagc gacggcctat gcttttttct
240

tttgatgatg attccactga attgtttctc tatttttttc gttgtgtaat ggtcctggta
300

caaacgttca tccaatcatg caacttgcaa gaataaaaat aaaaaatata atctcagacg
360

tccaatcatg gcttcctaaa aaaataaaaa ggacgagaaa ctactcagaa aaaataaata
420

aatacacaac tgtaggaacc aaagcaaagt tgacaaggaa ccaaagcaag gcaggccac
480

atgtgctgcg agcagggtgcg cctcctcctc cgtttcttcg ccttgctaata cagctogcta
540

aatacagagg ccgacttaag aatgccgaca tggcaatfff gctggatatt ttgcttcct
600

tgtagtatca aacagaagaa tattaacgtg ggagtataca gtaatfffct ttaccattt
660

ttctttaatc gcgtttttgt tcaaccaaac acaactttag acgtactagt actccactat
720

tttttatfff atffttctct acagtactff tgaaaaaaag gaatcttgtc atgcatgatt
780

gagatcacgg taacggcgac tcacgccgcc gcacgggtaa cggccaccaa ccaaagtag
840

caaacggcgt caacctctc gacatctcg cgtcgctfff cttttctcc gcagagaatg
900

agtggcgggg agggacocca cgacgcaacc ccacgacga accgcttata gcagcgggt
960

ccacaccgca ccgctgcgt agcgtcatgg gactcggccc ggggccgcc ctccgaccg
1020

gaccgcfff ccttcccctc ccgtgtataa ataccgccc cctgctgc ctctccca
1080

atccatccga tccc
1095

<210> 3

<211> 69

<212> ADN

<213> *Bouteloua gracilis*

<220>

<221> misc_feature

<222> (1)..(69)

<223> Secuencia líder derivada de un gen de ubiquitina putativa de la hierba Blue Gama.

<400> 3

aatccagtcc cgcgagcgaa atcgccgacg accgatcgaa gcgaagcagc cttcccccat
60

cctctcaag
69

<210> 4

<211> 902

<212> ADN

<213> Bouteloua gracilis

<220>

<221> misc_feature

<222> (1)..(902)

<223> Secuencia de intrón derivada de un gen de ubiquitina putativa de la hierba Blue Gama.

<400> 4

gtatgcgaat tctcgatcct cctctcctat gttcgttgtg gatctgctgg ttaggattga
60

ttaggttgtc gtaccatgcc tttttcctgt tcgtgttctt cagatctata gtcggtttgc
120

acaggtagag ggctaatctc tagtcgatct gcgggtagag ttgttgaatc atgtgctgcc
180

ttcagttcat gtggttttaga tccgtgttgc ttgttgcggt catgtgttca cacaacacgt
240

acggttcctg ccgtgcgcgg attagccgcg ctgaggctct gacgttgtcg gtgtgggcgt
300

gatcgcgcgg gctgcctagg ctgtttattg ttgaattagg ctgggtcgat tgggtctggt
360

tctattcacg gatggtcttc gatggttcat gtgcatgctg ttggtcgctg gttagggtgt
420

gataccgttc gatTTTTgtt taatctgtct agaattcctt agatctgaaa ttctgtgatg
480

tctacatoca gctgcttggt gttgaatatt ttagctatgt taatctgcca tgggtcttct
540

agtttccatg cataaagcca tgcaaatacg ttgtatatTT actgttgctg caaaccatct
600

cagattctag ttgctgtgt actattaggc ctgttaaatag ctgtttaaaa tggttataaa
660

ttgtgttcat ggttctgtgc ctgttaagtc gtcatgttta ttttctggct gatgctatct
720

gtgggtagaa ttgcatagg ctccaatcta ctgactctat gggtaggata tgtgtagcgt
780

tgcataaac atggcagtgt cttaatgctt tcacataaaa tgtggaactg tttatattat
840

tattatgtac tgcattgttt ggtggcctaa ctttgctct gctgctaaat ttgcaggtgc
900

ag
902

<210> 5

<211> 498

<212> ADN

<213> Bouteloua gracilis

<220>

<221> misc_feature

<222> (1)..(498)

<223> región no traducida 3' derivada de un gen de ubiquitina putativo
de hierba Blue Gama.

<400> 5

gtttggtcag gagctgctct tgtctctggt ttcacaagta tgggtgtctct ggtgtatggc
60

gtgtccagtc ccgttgtggt tcgactgatg tctctgtcgt gttatgagtc ctatgtcgtc
120

tggttgtccg tgtgaaacat tgctgcatgt gcagctaatt cgtgtgaaac attgctgcat
180

gtgcagctgg ttggtttatg aataagtga accatgaactt tgtgtgaatt ctgcttcctc
240

tatgcgctga atgttttgat tgtgatcttt tatctactca cagttgctga gatgataagg
300

ctgaatcaat gtagagctaa gattctctcg taaatgttta tattaaatac cttgtgtaat
360

tgcgagtaca aatcgacagt aattcaagct gcgggtcttt gttcatccag aaggccaaga
420

ttgcaaattc aggtttcttg gcagtgaaag attgaacgca tgcaaatttc ctttgttctt
480

ttgatcacia aattgatc
498

<210> 6

<211> 2001

<212> ADN

<213> Artificial

<220>

<223> Secuencia de codificación sintética que codifica la Beta-glucuronidasa diseñada para la expresión en una célula de planta.

<400> 6

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60

ttctccctcg accgtgagaa ctgcggcatc gaccagcgct ggtgggagtc cgccctccag
120

gagtctaggg ccatcgccgt gcccggttcc ttcaacgacc agttcgccga cgccgacatc
180

cgcaactacg cgggcaacgt ctggtatcag cgcgaggtgt tcatcccgaa gggctggggc
240

ggccagcgca tcgtgctccg cttcgacgcc gtgacccact acggcaaggt ctgggtgaac
300

aatcaggagg taagtttctg cttctacctt tgatatatat ataataatta tcattaatta
360

gtagtaatat aatatttcaa atatTTTTTTT caaaataaaa gaatgtagta tatagcaatt
420

gcttttctgt agtttataag tgtgtatatt ttaatttata acttttctaa tatatgacca
480

aaatttggtg atgtgcaggt gatggagcac cagggcgggt acaccccggt cgaggccgac
540

gtgacgccgt acgtgatcgc cgggaagtcc gtccgcatca ccgtctcgt gaacaatgag
600

ctgaactggc agaccatccc gcctggcatg gtcatcaccc acgagaacgg caagaagaag
660

cagtccact tccacgactt cttcaactac gctggcatcc accgctccgt gatgctctac
720

accactccca acacctgggt ggacgacatc accgtggtca cccacgtggc ccaggactgc
780

aaccacgcct ccgtggactg gcaagtcgtt gccaacggcg acgtcagcgt cgagctgcgc
840

gacgccgacc agcaagtcgt tgccaccggc cagggcacca gcggcacct ccaagtcgtc
900

aaccctcacc tctggcagcc tggcgagggc tacctctacg agctgtcgt caccgccaaag
960

agccagactg agtgcgacat ctaccctctc cgcgtcggca tcaggagcgt cgctgtcaag
1020

ggcgagcagt tctcatcaa ccacaagcct ttctacttca ctggtttcgg ccgccacgag
1080

gacgtgacc tgaggggcaa gggtttcgac aacgtcctga tgggccacga ccacgctctg
1140

atggactgga tcggtgccaa cagctacagg accagtcact acccgtagcg tgaggagatg
1200

ctggactggg ctgacgagca cggtatcgtc gtgatcgacg agactgctgc ggtcggtttc
1260

aacctgtctc tgggcattgg ttctgaggct gggacaagc cgaaggagct gtactctgag
1320

gaagctgtca acggcgagac tcagcaagct catctocagg cgattaagga gctgattgcc
1380

agggacaaga accatccgtc tgtcgtgatg tgggtctattg cgaatgagcc ggacaccaga
1440

ccgcaagggg cgcgtgaata cttcgcgccg ctggcggagg cgactcgcaa actggaccca
1500

accggtccaa tcacgtgcgt caatgtcatg ttctgcgacg ccatacggg tacgatctcg
1560

gacctgttcg atgttccttg tctcaatcgg tactatgggt ggtatgttca gagcggggat
1620

cttgagacgg cggagaaggc tcttgagaag gaactcctgg cgtggcaaga gaagctccat
1680

cagccgatca ttatcacgga gtacgggggtt gacacacttg cgggccttca cagtatgtac
1740

acagatatgt ggtcggagga ataccagtgt gcatgggttg atatgtacca tcgtgtcttc
1800

gaccgggttt cagcggttgt cggcgaacaa gtctggaact tcgcagactt cgccacgagc
1860

caagggatac tgcgggtagg agggaacaag aagggaatct tcacacggga tcggaagccc
1920

aagtcagcag ccttcctggt gcagaagcga tggacaggaa tgaacttcgg agaaaagcca
1980

cagcaaggcg gaaagcagtg a
2001

<210> 7

<211> 1045

<212> ADN

<213> Bouteloua gracilis

<220>

<221> misc_feature

<222> (1)..(1045)

<223> Potenciador derivado del promotor de un gen de ubiquitina putativo
de hierba Blue Gama.

<400> 7

tacgagcaaa cgcacaaccg ggatacagat ctacggtaca gaggttactt ccaacgggaa
60

ggttcccgtc cctctagcgc aagcaagacg acgcagagat ggtgaccaa aacgattctt
120

tgctttacct ggtcatgaca ccaccggata cggataagaa ggaaaaccgg agcatctcta
180

gcaatagaga aatcgacgtt gcctcctaga ggaagaaagc gacggcctat gcttttttct
240

tttgctgatg attccactga attgtttctc ttttttttct gttgtgtaat ggtcctggta
300

caaacgttca tccaatcatg caacttgcaa gaataaaaat aaaaaatata atctcagacg
360

tccaatcatg gcttcctaaa aaaataaaaa ggacgagaaa ctactcagaa aaaataaata
420

aatacacaac tgtaggaacc aaagcaaagt tgacaaggaa ccaaagcaag gcaggtcac
480

atgtgctgcg agcaggcgcg cctcctcctc cgtttcttcg ccttgctaata cagctcgcta
540

aatacagagg ccgacttaag aatgccgaca tggcaatttt gctggatatt tttgcttct
600

tgtagtatca aacagaagaa tattaacgtg ggagtataca gtaattttct tttaccattt
660

ttctttaatc gcgtttttgt tcaaccaaac acaactttag acgtactagt actccactat
720

tttttatatt attttctcct acagtacttt tgaaaaaaag gaatcttgct atgcatgatt
780

gagatcacgg taacggcgac tcacgccgcc gcacgggtaa cggccaccaa ccaaagtag
840

caaacggcgt caacctctc gacatctcgg cgtcgctttt cttttctcc gcagagaatg
900

agtggcgggg agggacccca cgacgcaacc ccacgacgca accgcttata gcagccgggt
960

ccacaccgca ccgctgccgt agcgtcatgg gactcggccc ggggcccgcc ctccgaccgg
1020

gaccgcgttt ccttcccctc ccgtg
1045

<210> 8

<211> 300

<212> ADN

<213> *Oryza sativa*

<220>

<221> misc_feature

<222> (1)..(300)

<223> región no traducida 3' derivada de un gen similar a la proteína de transferencia de lípido de arroz.

<400> 8

attaatgat cctccgatcc cttaattacc ataccattac accatgcata aatatccata
60

tatatataaa ccctttcgca cgtacttata ctatgttttg tcatacatat atatgtgtcg
120

aacgatcgat ctatcactga tatgatatga ttgatccatc agcctgatct ctgtatcttg
180

ttatttgtat accgtcaaataaaaagtttct tccacttggtg ttaataatta gctactctca
240

tctcatgaac cctatatata actagttttaa tttgctgtca attgaacatg atgatcgatg
300

<210> 9

<211> 631

<212> ADN

<213> Artificial

<220>

<223> Un promotor potenciado y secuencia líder nativa derivada del virus del mosaico de la coliflor.

<400> 9

ggtcgatgt gagacttttc aacaaaggggt aatatccgga aacctcctcg gattccattg
60

cccagctatc tgtcacttta ttgtgaagat agtggaaaag gaaggtggct cctacaaatg
120

ccatcattgc gataaaggaa aggccatcgt tgaagatgcc tctgccgaca gtggtcccaa
180

agatggaccc ccacccacga ggagcatcgt ggaaaaagaa gacgttccaa ccacgtcttc
240

aaagcaagtg gattgatgtg atggtccgat gtgagacttt tcaacaaagg gtaatatccg
300

gaaacctcct cggattccat tgcccagcta tctgtcactt tattgtgaag atagtggaaa
360

aggaaggtgg ctctacaaa tgccatcatt gcgataaagg aaaggccatc gttgaagatg
420

cctctgccga cagtgggtccc aaagatggac ccccacccac gaggagcatc gtggaaaaag
480

aagacgttcc aaccacgtct tcaaagcaag tggattgatg tgatatctcc actgacgtaa
540

gggatgacgc acaatcccac tctccttcgc aagacccttc ctctatataa ggaagttcat
600

ttcatttgga gaggacacgc tgaacacgct g
631

<210> 10

<211> 253

<212> ADN

<213> Agrobacterium tumefaciens

<220>

<221> misc_feature

<222> (1)..(253)

<223> región no traducida 3' derivada del gen de nopalina sintasa de
Agrobacterium tumefaciens.

<400> 10

gatcgttcaa acatttggca ataaagtttc ttaagattga atcctgttgc cgggtcttgcg
60

atgattatca tataatttct gttgaattac gttaagcatg taataattaa catgtaatgc
120

atgacgttat ttatgagatg ggtttttatg attagagtcc cgcaattata catttaatac
180

gcgatagaaa acaaaatata gcgcgcaaac taggataaat tatcgcgcgcg ggtgtcatct
240

atggttactag atc
253