

SEQUENCE LISTING

<110> Syngenta Participation AG

<120> ENGINEERING OF BOLTING RESISTANCE IN SUGAR BEET BY MEANS OF THE  
TRANSGENIC EXPRESSION OF THE BEET HOMOLOGUE OF FLOWERING TIME  
CONTROL GENE FT

<130> 72015 PCT

<150> EP08163495.8

<151> 2008-09-02

<160> 55

<170> PatentIn version 3.3

<210> 1

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<212> DNA

<213> Artificial

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<223> degenerate primer targeting conserved amino acid sequences motif  
KPRVEIGG located at exon 1 (aa 51 to 58) according to Ft protein  
of Arabidopsis th.

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<223> Oligonucleotide primer hybridizing to exon 3 immediately downstream of the splicing site of intron 2 and targets amino acid sequence motif "LVTDIPATT" (amino acid residues 89 to 98).

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<213> Beta vulgaris

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35 40 45  
Val Asn Gln Pro Arg Val Glu Val Gly Gly Asp Asp Leu Arg Thr Phe  
50 55 60  
Tyr Thr Leu Val Met Val Asp Pro Asp Ala Pro Ser Pro Ser Asn Pro  
65 70 75 80  
His Leu Arg Glu Tyr Leu His Trp Leu Val Thr Asp Ile Pro Gly Thr  
85 90 95

Thr Gly Ala Ser Phe Gly Gln Glu Val Val Cys Tyr Glu Asn Pro Arg  
100 105 110

Pro Ser Val Gly Ile His Arg Phe Ile Leu Val Leu Phe Arg Gln Leu  
115 120 125

Gly Arg Gln Thr Val Tyr Ala Pro Gly Trp Arg Gln Asn Phe Asn Thr  
130 135 140

Arg Asp Phe Ala Glu Leu Tyr Asn Leu Gly Leu Pro Val Ala Ala Val  
145 150 155 160

Tyr Phe Asn Cys Gln Arg Glu Gly Gly Ser Gly Gly Arg Arg Leu  
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<223> oligonucleotide primer

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32

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<220>

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<400> 12

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20

<210> 13

<211> 29

<212> DNA

<213> Artificial

<220>

<223> oligonucleotide primer

<400> 13

actctgtata taagtgtca tttggacac

29

<210> 14

<211> 28

<212> DNA

<213> Artificial

<220>

<223> oligonucleotide primer

<400> 14

cttaggaatt tcaaatacat ggaaaaaa

28

<210> 15

<211> 30

<212> DNA

<213> Artificial

<220>

<223> oligonucleotide primer

<400> 15

agtttctttt tatgggtatc aaacactaga

30

<210> 16

<211> 27

<212> DNA

<213> Artificial

<220>

<223> oligonucleotide primer

<400> 16

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27

<210> 17

<211> 16

<212> DNA

<213> Artificial

<220>

<223> oligonucleotide sequence used as a probe

<400> 17

acaatgcacg aataat

16

<210> 18

<211> 16

<212> DNA

<213> Artificial

<220>

<223> oligonucleotide sequence used as a probe

<400> 18

acaatgcacc aataat

16

<210> 19

<211> 23

<212> DNA

<213> Artificial

<220>

<223> oligonucleotide primer

<400> 19

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23

<210> 20

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<212> DNA

<213> Artificial

<220>

<223> oligonucleotide primer

<400> 20

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26

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15

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<212> DNA

<213> Artificial

<220>

<223> oligonucleotide sequence used as a probe

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16

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23

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<220>  
<223> oligonucleotide primer

<400> 27  
cacaccagat gaaggccgt 19

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



<220>

<223> oligonucleotide primer

<400> 28

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18

<210> 29

<211> 540

<212> DNA

<213> Artificial

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<223> chimeric sequence consisting of sequences of the fourth codon of BvFT2

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gttaataatg gaggagattt taggccatca caagttgtta accaacctag ggtcgaagtc	180
ggaggtgatg accttaggac ttgctatacc ttggtaatgg tagatccaga tgctcctagc	240
ccaagtaacc cgcaccaaag agagtacttg cactgggttg tgactgatat tcccgaacc	300
acaagtgcac catttggcca agaagttgtc tgctatgaaa atccaagacc atcagttgga	360
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gttgctgctg tctatttcaa ttgtcagagg gaaggaggct ctggtggaag aaggttgtaa	540

<210> 30

<211> 528

<212> DNA

<213> Artificial

<220>

<223> chimeric sequence consisting of sequences of the fourth codon of BvFT2

<400> 30

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cccttttagta ggactgtgaa tctgagagtt agctatagca atagagatgt taataatgga	120
tgtgaactta ggccttctca agttgttaac caaccaagag ttgaagttgg tggatgatgac	180
cttagaactt tctacacctt ggttatggtg gaccagatg ctccgagccc aagtaatcca	240
cacttgaggg aatattttaca ctggttggtg actgatattc ctgggaccac aggtgcatca	300
tttggagaag agattgttta ctatgaaaac ccacgaccct caacggggat acatcgattt	360

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aatttta	ata	caagag	actt	tgtg	aactc	tacaat	cttg	gcttg	cctgt	tgtg	ctgta	480
tatttca	att	gccaa	aggga	gggagg	ctgt	ggtgga	aggga	ggtttt	ag			528

<210> 31

<211> 540

<212> DNA

<213> Artificial

<220>

<223> chimeric sequence consisting of sequences of the fourth codon of BvFT

<400> 31

atgcctag	aa	catcag	caag	tgcgcca	aga	gatccatt	ag	tattagg	tgg	agttatt	gg	60
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gttaata	atg	gaggag	attt	taggcc	atca	caagtt	gtta	accaac	ctag	ggtcga	agtc	180
ggaggt	gatg	accttag	gac	ttgctat	acc	ttggta	atgg	tagatcc	aga	tgctc	tagc	240
ccaagta	aacc	cgcata	caaag	agagtact	tg	cactggt	tgg	tgactga	tat	tcccgg	aacc	300
acaagt	gcat	catttgg	aga	agattgtt		tactatg	aaa	acccac	gacc	ctcaac	gggg	360
atacat	cgat	ttgtatt	tgc	attgttt	cgg	caattgg	gaa	gacaa	actgt	ttatgc	acca	420
gggtgg	cgtc	aaaact	ttta	tacaaga	gac	tttgtg	aac	tctaca	atct	tggett	gcct	480
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<210> 32

<211> 528

<212> DNA

<213> Artificial

<220>

<223> chimeric sequence consisting of sequences of the fourth codon of BvFT

<400> 32

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cacttg	aggg	aatat	ttaca	ctggtt	ggtg	actgat	at	ctggg	accac	aggtgc	atca	300
tttggc	caag	aagtt	gtctg	ctatg	aaaat	ccaaga	ccat	cagttg	gaat	acatgc	at	360
atactt	gtgt	tgttt	agaca	attgga	agg	caaact	gtaa	atgctc	caca	acaacg	ccaa	420
aattt	caaca	ctagag	attt	tgtg	aactt	tacaac	cttg	gtttgc	cctgt	tgtg	ctgtc	480

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528

<210> 33

<211> 10904

<212> DNA

<213> Artificial

<220>

<223> vector sequence comprising inverted repeat of exon 4 of BvFT2

<220>

<221> misc\_feature

<222> (8747)..(9046)

<223> heterologous DNA encoding inverted repeat of exon 4 of BvFT2  
inserted into the vector

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<211> 9270

<212> DNA

<213> Artificial

<220>

<223> vector sequence comprising an expression cassette comprising the coding sequence of BvFT1 downstream of the pOp6 promoter fragment and combined with the PMI selectable marker gene under the control of the SuperMAS promoter



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