

PF60883.ST25.txt
 SEQUENCE LISTING

<110> CropDesign N.V.
 <120> Yield enhancement in plants by modulation of maize MYB-ADA2 gene
 <130> PF60883
 <150> US 60/945,609
 <151> 2007-06-22
 <160> 14
 <170> PatentIn version 3.3

<210> 1
 <211> 1343
 <212> DNA
 <213> Zea mays

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 acaccgtaca caggtcgaag cggaggaggg tcgcatcggg cggggatgcg acggactccg 180
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 actactgcaa caaggacatc tcgggggaaga tacggatcaa atgctccaag tgcctgact 300
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 acgaagaaat tctcctcctt gaggggaattg aaatgtatgg tctgggaaac tggcttgaag 480
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 acatgaactc accttgttat cccctaccgg atatgtctca tgttaatggc aagaacagga 600
 aggagcttct agctatggct aaagtgcagg gtgaaagtaa aaaagggact tctactgttg 660
 ctggagaact gactcctaag gctgaatctc cttttctcc ctccagggtc aagggtggaag 720
 atgcacttgg agaaggtcta gctggtcgat caccttcgca catagctgtt ggtgcaata 780
 aaaaagcttc aaatgtggga catattaaag atgggtctaa tgtatcaaaa gttgaagatg 840
 gtcatgtcga tagaagtgtt ggtgtgaaga agcccagata ttctgcagat gaaggccctt 900
 cgttgactga actgagtgga tacaatgcaa agagacacga gtttgacca gagtatgata 960
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 gtgaactgaa actccgtgtg ctgctgattt atctgtccag gcttgatgaa agaaaaagga 1080
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 caaatgaaga caggggaagt taccatcggg ataaggctt catgctgttt ctttccaagg 1200
 aggaacatga agcccttggt aggagtgtca ttgaagagcg aaaaattcgg aggagaattc 1260
 aagaactcca ggaatgtcgt tctgctggat gccgcacact tgctgaagca aagatacaca 1320
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<210> 2
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 <212> PRT
 <213> Zea mays

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 His Arg Ser Lys Arg Arg Arg Val Ala Ser Gly Gly Asp Ala Thr Asp
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 Ser Val Ser Ala Gly Ile Gly Gly Ala Gly Glu Gly Gly Gly Lys Lys
 35 40 45
 Ala Leu Tyr His Cys Asn Tyr Cys Asn Lys Asp Ile Ser Gly Lys Ile
 50 55 60

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Arg Ile Lys Cys Ser Lys Cys Pro Asp Phe Asp Leu Cys Val Glu Cys
 65 70 75 80
 Phe Ser Val Gly Ala Glu Val Thr Pro His Arg Ser Asn His Pro Tyr
 85 90 95
 Lys Val Met Asp Asn Leu Ser Phe Pro Leu Ile Cys Pro Asp Trp Asn
 100 105 110
 Ala Asp Glu Glu Ile Leu Leu Leu Glu Gly Ile Glu Met Tyr Gly Leu
 115 120 125
 Gly Asn Trp Leu Glu Val Ala Glu His Val Gly Thr Lys Ser Lys Leu
 130 135 140
 Gln Cys Ile Asp His Tyr Thr Thr Ala Tyr Met Asn Ser Pro Cys Tyr
 145 150 155 160
 Pro Leu Pro Asp Met Ser His Val Asn Gly Lys Asn Arg Lys Glu Leu
 165 170 175
 Leu Ala Met Ala Lys Val Gln Gly Glu Ser Lys Lys Gly Thr Ser Leu
 180 185 190
 Leu Pro Gly Glu Leu Thr Pro Lys Ala Glu Ser Pro Phe Ser Pro Ser
 195 200 205
 Arg Val Lys Val Glu Asp Ala Leu Gly Glu Gly Leu Ala Gly Arg Ser
 210 215 220
 Pro Ser His Ile Ala Val Gly Ala Asn Lys Lys Ala Ser Asn Val Gly
 225 230 235 240
 His Ile Lys Asp Gly Ser Asn Val Ser Lys Val Glu Asp Gly His Val
 245 250 255
 Asp Arg Ser Val Gly Val Lys Lys Pro Arg Tyr Ser Ala Asp Glu Gly
 260 265 270
 Pro Ser Leu Thr Glu Leu Ser Gly Tyr Asn Ala Lys Arg His Glu Phe
 275 280 285
 Asp Pro Glu Tyr Asp Asn Asp Ala Glu Gln Ala Leu Ala Glu Met Glu
 290 295 300
 Phe Lys Glu Thr Asp Ser Glu Thr Asp Arg Glu Leu Lys Leu Arg Val
 305 310 315 320
 Leu Arg Ile Tyr Leu Ser Arg Leu Asp Glu Arg Lys Arg Arg Lys Glu
 325 330 335
 Phe Ile Leu Glu Arg Asn Leu Leu Phe Pro Asn Pro Leu Glu Lys Asp
 340 345 350
 Leu Thr Asn Glu Asp Arg Glu Val Tyr His Arg Tyr Lys Val Phe Met
 355 360 365
 Arg Phe Leu Ser Lys Glu Glu His Glu Ala Leu Val Arg Ser Val Ile
 370 375 380
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 <212> PRT
 <213> *Oryza sativa*

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 Ser Leu Ser Ala Ala Cys Gly Gly Ala Gly Glu Gly Gly Gly Lys Lys
 35 40 45
 Ala Leu Tyr His Cys Asn Tyr Cys Asn Lys Asp Ile Ser Gly Lys Ile
 50 55 60

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Arg Ile Lys Cys Ser Lys Cys Pro Asp Phe Asp Leu Cys Val Glu Cys
 65 70 75 80
 Phe Ser Val Gly Ala Glu Val Thr Pro His Arg Ser Asn His Pro Tyr
 85 90 95
 Arg Val Met Asp Asn Leu Ser Phe Pro Leu Ile Cys Pro Asp Trp Asn
 100 105 110
 Ala Asp Glu Glu Ile Leu Leu Leu Glu Gly Ile Glu Met Tyr Gly Leu
 115 120 125
 Gly Asn Trp Ala Glu Val Ala Glu His Val Gly Thr Lys Thr Lys Ala
 130 135 140
 Gln Cys Ile Asp His Tyr Thr Thr Ala Tyr Met Asn Ser Pro Cys Tyr
 145 150 155 160
 Pro Leu Pro Asp Met Ser His Val Asn Gly Lys Asn Arg Lys Glu Leu
 165 170 175
 Leu Ala Met Ala Lys Val Gln Gly Glu Ser Lys Lys Gly Thr Ser Val
 180 185 190
 Leu Pro Gly Asp Leu Thr Pro Lys Asp Glu Ser Pro Phe Ser Pro Pro
 195 200 205
 Arg Val Lys Val Glu Asp Ala Leu Gly Glu Gly Leu Ala Gly Arg Ser
 210 215 220
 Pro Ser His Ile Ala Gly Gly Ala Asn Lys Lys Ala Ser Asn Val Gly
 225 230 235 240
 Gln Phe Lys Asp Gly Ala Asn Val Ala Lys Val Glu Asp Gly His Val
 245 250 255
 Asp Arg Ser Ile Gly Val Lys Lys Pro Arg Tyr Ser Ala Asp Glu Gly
 260 265 270
 Pro Ser Leu Thr Glu Leu Ser Gly Tyr Asn Ser Lys Arg His Glu Phe
 275 280 285
 Asp Pro Glu Tyr Asp Asn Asp Ala Glu Gln Ala Leu Ala Glu Met Glu
 290 295 300
 Phe Lys Glu Thr Asp Ser Glu Thr Asp Arg Glu Leu Lys Leu Arg Val
 305 310 315 320
 Leu Arg Ile Tyr Leu Ser Arg Leu Asp Glu Arg Lys Arg Arg Lys Glu
 325 330 335
 Phe Ile Leu Glu Arg Asn Leu Leu Phe Pro Asn Pro Leu Glu Lys Asp
 340 345 350
 Leu Thr Asn Glu Asp Lys Glu Val Tyr His Arg Tyr Lys Val Phe Met
 355 360 365
 Arg Phe Leu Ser Lys Glu Glu His Glu Ala Leu Val Arg Ser Val Leu
 370 375 380
 Glu Glu Arg Lys Ile Arg Arg Arg Ile Gln Glu Leu Gln Glu Cys Arg
 385 390 395 400
 Ser Ala Gly Cys Arg Thr Leu Ala Glu Ala Lys Ile His Ile Glu Gln
 405 410 415
 Lys Arg Lys Lys Glu His Glu Val Asn Ala Gln Lys Ala Lys Glu Ser
 420 425 430
 Gly Gln Leu Leu Ser Asn Thr Lys Val Val His Lys Thr Asn Arg Pro
 435 440 445
 Met Lys Ile Glu Ser Asp Gly Asn Leu Asp Gln Lys Lys Gly Gly Ala
 450 455 460
 Ser Leu Asp Ser Thr Gly Arg Asp Ser Pro Lys Thr Thr Gly His Ala
 465 470 475 480
 Gly Thr Lys His Trp Asp Asp Trp Asp Ile Val Gly Phe Pro Gly Ala
 485 490 495
 Glu Leu Leu Ser Thr Ser Glu Lys Asn Leu Cys Cys Gln Asn Arg Leu
 500 505 510
 Leu Pro Asn His Tyr Leu Lys Met Gln Glu Val Leu Met Gln Glu Ile
 515 520 525
 Phe Lys Gly Ser Val Ala Lys Lys Glu Asp Ala His Val Leu Phe Lys

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530 535 540
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<210> 4
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 <213> Zea mays

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 35 40 45
 Ala Leu Tyr His Cys Asn Tyr Cys Asn Lys Asp Ile Ser Gly Lys Ile
 50 55 60
 Arg Ile Lys Cys Ser Lys Cys Pro Asp Phe Asp Leu Cys Val Glu Cys
 65 70 75 80
 Phe Ser Val Gly Ala Glu Val Thr Pro His Arg Ser Asn His Pro Tyr
 85 90 95
 Lys Val Met Asp Asn Leu Ser Phe Pro Leu Ile Cys Pro Asp Trp Asn
 100 105 110
 Ala Asp Glu Glu Ile Leu Leu Leu Glu Gly Ile Glu Met Tyr Gly Leu
 115 120 125
 Gly Asn Trp Leu Glu Val Ala Glu His Val Gly Thr Lys Ser Lys Leu
 130 135 140
 Gln Cys Ile Asp His Tyr Thr Thr Ala Tyr Met Asn Ser Pro Cys Tyr
 145 150 155 160
 Pro Leu Pro Asp Met Ser His Val Asn Gly Lys Asn Arg Lys Glu Leu
 165 170 175
 Leu Ala Met Ala Lys Val Gln Gly Glu Ser Lys Lys Gly Thr Ser Leu
 180 185 190
 Leu Pro Gly Glu Leu Thr Pro Lys Ala Glu Ser Pro Phe Ser Pro Ser
 195 200 205
 Arg Val Lys Val Glu Asp Ala Leu Gly Glu Gly Leu Ala Gly Arg Ser
 210 215 220
 Pro Ser His Ile Ala Val Gly Ala Asn Lys Lys Ala Ser Asn Val Gly
 225 230 235 240
 His Ile Lys Asp Gly Ser Asn Val Ser Lys Val Glu Asp Gly His Val
 245 250 255
 Asp Arg Ser Val Gly Val Lys Lys Pro Arg Tyr Ser Ala Asp Glu Gly
 260 265 270
 Pro Ser Leu Thr Glu Leu Ser Gly Tyr Asn Ala Lys Arg His Glu Phe
 275 280 285
 Asp Pro Glu Tyr Asp Asn Asp Ala Glu Gln Ala Leu Ala Glu Met Glu
 290 295 300
 Phe Lys Glu Thr Asp Ser Glu Thr Asp Arg Glu Leu Lys Leu Arg Val
 305 310 315 320
 Leu Arg Ile Tyr Leu Ser Arg Leu Asp Glu Arg Lys Arg Arg Lys Glu
 325 330 335
 Phe Ile Leu Glu Arg Asn Leu Leu Phe Pro Asn Pro Leu Glu Lys Asp
 340 345 350
 Leu Thr Asn Glu Asp Arg Glu Val Tyr His Arg Tyr Lys Val Phe Met
 355 360 365
 Arg Phe Leu Ser Lys Glu Glu His Glu Ala Leu Val Arg Ser Val Ile

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370                               375                               380
Glu Glu Arg Lys Ile Arg Arg Arg Ile Gln Glu Leu Gln Glu Cys Arg
385                               390                               395                               400
Ser Ala Gly Cys Arg Thr Leu Ala Glu Ala Lys Ile His Ile Glu Gln
                               405                               410                               415
Lys Lys Lys Lys Lys Tyr Glu Leu Asn Ala Gln Lys Ala Lys Glu Ser
                               420                               425                               430
Asn His Leu Ile Ala Asn Asn Lys Leu Val Gln Lys Met Asn Arg Pro
                               435                               440                               445
Met Lys Ile Glu Ser Glu Gly Asn Leu Asp Pro Lys Lys Gly Gly Val
                               450                               455                               460
Gly Leu Asp Ser Pro Lys Thr Thr Gly Leu Thr Ser Val Lys Gln Trp
465                               470                               475                               480
Asp Asp Trp Asp Ile Val Gly Leu Pro Gly Ala Glu Leu Leu Ser Ala
                               485                               490                               495
Ser Glu Lys Leu Leu Cys Cys Gln Asn Arg Leu Leu Pro Ser His Tyr
                               500                               505                               510
Leu Arg Met Gln Glu Val Leu Met Gln Glu Ile Phe Lys Gly Ser Val
                               515                               520                               525
Leu Lys Lys Glu Asp Ala His Val Leu Phe Lys Val Asp Pro Thr Lys
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<210> 5
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 <212> PRT
 <213> Zea mays

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                               20                               25                               30
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                               35                               40                               45
Ala Leu Tyr His Cys Asn Tyr Cys Asn Lys Asp Ile Ser Gly Lys Ile
                               50                               55                               60
Arg Ile Lys Cys Ser Lys Cys Pro Asp Phe Asp Leu Cys Val Glu Cys
65                               70                               75                               80
Phe Ser Val Gly Ala Glu Val Thr Pro His Arg Ser Asn His Pro Tyr
                               85                               90                               95
Lys Val Met Asp Asn Leu Ser Phe Pro Leu Ile Cys Pro Asp Trp Asn
                               100                              105                              110
Ala Asp Glu Glu Ile Leu Leu Leu Glu Gly Ile Glu Met Tyr Gly Leu
                               115                              120                              125
Gly Asn Trp Leu Glu Val Ala Glu His Val Gly Thr Lys Ser Lys Leu
130                              135                              140
Gln Cys Ile Asp His Tyr Thr Ser Ala Tyr Met Asn Ser Pro Cys Tyr
145                              150                              155                              160
Pro Leu Pro Asp Met Ser His Val Asn Gly Lys Asn Arg Lys Glu Leu
                               165                              170                              175
Leu Ala Met Ala Lys Val Gln Gly Glu Ser Lys Lys Gly Thr Leu Leu
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Leu Pro Gly Glu Leu Thr Pro Lys Val Glu Ser Gln Phe Ser Pro Ser
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Arg Val Lys Val Glu Asp Ala Leu Gly Glu Gly Pro Ala Gly Arg Ser

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His Ile Lys Asp Gly Ala Thr Val Ser Lys Val Glu Asp Val His Val
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Asp Arg Ser Val Gly Val Lys Lys Pro Arg Tyr Ser Ala Asp Glu Gly
                260                265                270
Pro Ser Leu Thr Glu Leu Ser Gly Tyr Asn Ala Lys Arg His Glu Phe
                275                280                285
Asp Pro Glu Tyr Asp Asn Asp Ala Glu Gln Ala Leu Ala Glu Met Glu
290                295                300
Phe Lys Glu Thr Asp Ser Glu Thr Asp Arg Glu Leu Lys Leu Arg Val
305                310                315                320
Leu Arg Ile Tyr Leu Ser Arg Leu Asp Glu Arg Lys Arg Arg Lys Glu
                325                330                335
Phe Ile Leu Glu Arg Asn Leu Leu Phe Pro Asn Pro Leu Glu Lys Asp
                340                345                350
Leu Thr Ser Glu Asp Arg Glu Leu Tyr His Arg Tyr Lys Val Phe Met
                355                360                365
Arg Phe Leu Ser Lys Glu Glu His Glu Ala Leu Val Arg Ser Val Ile
                370                375                380
Glu Glu Arg Lys Ile Arg Arg Arg Ile Gln Glu Leu Gln Glu Cys Arg
385                390                395                400
Ser Ala Gly Cys Arg Thr Leu Ala Glu Ala Lys Ile His Ile Glu Gln
                405                410                415
Lys Arg Lys Lys Glu Tyr Glu Leu Asn Ala Gln Lys Ala Lys Asp Ser
                420                425                430
Ser Gln Leu Asn Ala Asn Asn Lys Ser Val Gln Lys Met Asn Arg Pro
                435                440                445
Met Lys Ile Glu Ser Asp Gly Asn Leu Asp Pro Lys Lys Gly Gly Ala
                450                455                460
Gly Leu Asp Ser Pro Lys Thr Thr Gly Pro Thr Ser Val Lys Gln Trp
465                470                475                480
Asp Asp Trp Asp Ile Val Gly Leu Pro Gly Ala Glu Leu Leu Ser Ala
                485                490                495
Ser Glu Lys Leu Leu Cys Cys Gln Asn Arg Leu Leu Pro Ser His Tyr
                500                505                510
Leu Arg Met Gln Glu Val Leu Met Gln Glu Ile Phe Lys Gly Ser Val
                515                520                525
Leu Lys Lys Glu Asp Ala His Val Leu Phe Lys Val Asp Pro Thr Lys
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Glu Ala Pro Thr Val
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<210> 6
<211> 483
<212> PRT
<213> Arabidopsis thaliana

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                20                25                30
Thr Ser Leu Val Pro Gly Ala Glu Gly Gly Gly Lys Tyr Asn Cys Asp
                35                40                45
Tyr Cys Gln Lys Asp Ile Thr Gly Lys Ile Arg Ile Lys Cys Ala Val

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Cys	Pro	Asp	Phe	Asp	Leu	Cys	Ile	Glu	Cys	Met	Ser	Val	Gly	Ala	Glu
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Ile	Thr	Pro	His	Lys	Cys	Asp	His	Pro	Tyr	Arg	Val	Met	Gly	Asn	Leu
				85					90					95	
Thr	Phe	Pro	Leu	Ile	Cys	Pro	Asp	Trp	Ser	Ala	Asp	Asp	Glu	Met	Leu
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Leu	Leu	Glu	Gly	Leu	Glu	Ile	Tyr	Gly	Leu	Gly	Asn	Trp	Ala	Glu	Val
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Ala	Glu	His	Val	Gly	Thr	Lys	Ser	Lys	Glu	Gln	Cys	Leu	Glu	His	Tyr
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Arg	Asn	Ile	Tyr	Leu	Asn	Ser	Pro	Phe	Phe	Pro	Leu	Pro	Asp	Met	Ser
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His	Val	Ala	Gly	Lys	Asn	Arg	Lys	Glu	Leu	Gln	Ala	Met	Ala	Lys	Gly
				165					170					175	
Arg	Ile	Asp	Asp	Lys	Lys	Ala	Glu	Gln	Asn	Met	Lys	Glu	Glu	Tyr	Pro
		180						185						190	
Phe	Ser	Pro	Pro	Lys	Val	Lys	Val	Glu	Asp	Thr	Gln	Lys	Asp	Arg	Ser
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Phe	Gly	Gly	Lys	Lys	Pro	Val	Ser	Thr	Ser	Val	Asn	Asn	Ser	Leu	Val
	210					215					220				
Glu	Leu	Ser	Asn	Tyr	Asn	Gln	Lys	Arg	Glu	Glu	Phe	Asp	Pro	Glu	Tyr
225					230					235					240
Asp	Asn	Asp	Ala	Glu	Gln	Leu	Leu	Ala	Glu	Met	Glu	Phe	Lys	Glu	Asn
			245						250					255	
Asp	Thr	Pro	Glu	Glu	His	Glu	Leu	Lys	Leu	Arg	Val	Leu	Arg	Ile	Tyr
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Ser	Lys	Arg	Leu	Asp	Glu	Arg	Lys	Arg	Arg	Lys	Glu	Phe	Ile	Ile	Glu
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Arg	Asn	Leu	Leu	Tyr	Pro	Asn	Pro	Phe	Glu	Lys	Asp	Leu	Ser	Gln	Glu
	290					295					300				
Glu	Lys	Val	Gln	Cys	Arg	Arg	Leu	Asp	Val	Phe	Met	Arg	Phe	His	Ser
305				310						315					320
Lys	Glu	Glu	His	Asp	Glu	Leu	Leu	Arg	Asn	Val	Val	Ser	Glu	Tyr	Arg
				325					330					335	
Met	Val	Lys	Arg	Leu	Lys	Asp	Leu	Lys	Glu	Ala	Gln	Val	Ala	Gly	Cys
			340					345					350		
Arg	Ser	Thr	Ala	Glu	Ala	Glu	Arg	Tyr	Leu	Gly	Arg	Lys	Arg	Lys	Arg
			355				360					365			
Glu	Asn	Glu	Glu	Gly	Met	Asn	Arg	Gly	Lys	Glu	Ser	Gly	Gln	Phe	Gly
	370					375					380				
Gln	Ile	Ala	Gly	Glu	Met	Gly	Ser	Arg	Pro	Pro	Val	Gln	Ala	Ser	Ser
385					390					395					400
Ser	Tyr	Val	Asn	Asp	Leu	Asp	Leu	Ile	Gly	Phe	Thr	Glu	Ser	Gln	Leu
			405					410						415	
Leu	Ser	Glu	Ser	Glu	Lys	Arg	Leu	Cys	Ser	Glu	Val	Lys	Leu	Val	Pro
			420					425						430	
Pro	Val	Tyr	Leu	Gln	Met	Gln	Gln	Val	Met	Ser	His	Glu	Ile	Phe	Lys
		435					440					445			
Gly	Asn	Val	Thr	Lys	Lys	Ser	Asp	Ala	Tyr	Ser	Leu	Phe	Lys	Ile	Asp
	450					455					460				
Pro	Thr	Lys	Val	Asp	Arg	Val	Tyr	Asp	Met	Leu	Val	Lys	Lys	Gly	Ile
465					470					475					480
Ala	Gln	Leu													

<210> 7
 <211> 548
 <212> PRT

<213> Arabidopsis thaliana

<400> 7

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 35 40 45
 Gly Leu Tyr Cys Cys Asn Tyr Cys Asp Lys Asp Leu Ser Gly Leu Val
 50 55 60
 Arg Phe Lys Cys Ala Val Cys Met Asp Phe Asp Leu Cys Val Glu Cys
 65 70 75 80
 Phe Ser Val Gly Val Glu Leu Asn Arg His Lys Asn Ser His Pro Tyr
 85 90 95
 Arg Val Met Asp Asn Leu Ser Phe Ser Leu Val Thr Ser Asp Trp Asn
 100 105 110
 Ala Asp Glu Glu Ile Leu Leu Leu Glu Ala Ile Ala Thr Tyr Gly Phe
 115 120 125
 Gly Asn Trp Lys Glu Val Ala Asp His Val Gly Ser Lys Thr Thr Thr
 130 135 140
 Glu Cys Ile Lys His Phe Asn Ser Ala Tyr Met Gln Ser Pro Cys Phe
 145 150 155 160
 Pro Leu Pro Asp Leu Ser His Thr Ile Gly Lys Ser Lys Asp Glu Leu
 165 170 175
 Leu Ala Met Ser Lys Asp Ser Ala Val Lys Thr Glu Ile Pro Ala Phe
 180 185 190
 Val Arg Leu Ser Pro Lys Glu Glu Leu Pro Val Ser Ala Glu Ile Lys
 195 200 205
 His Glu Ala Ser Gly Lys Val Asn Glu Ile Asp Pro Pro Leu Ser Ala
 210 215 220
 Leu Ala Gly Val Lys Lys Lys Gly Asn Val Pro Gln Ala Lys Asp Ile
 225 230 235 240
 Ile Lys Leu Glu Ala Ala Lys Gln Gln Ser Asp Arg Ser Val Gly Glu
 245 250 255
 Lys Lys Leu Arg Leu Pro Gly Glu Lys Val Pro Leu Val Thr Glu Leu
 260 265 270
 Tyr Gly Tyr Asn Leu Lys Arg Glu Glu Phe Glu Ile Glu His Asp Asn
 275 280 285
 Asp Ala Glu Gln Leu Leu Ala Asp Met Glu Phe Lys Asp Ser Asp Thr
 290 295 300
 Asp Ala Glu Arg Glu Gln Lys Leu Gln Val Leu Arg Ile Tyr Ser Lys
 305 310 315 320
 Arg Leu Asp Glu Arg Lys Arg Arg Lys Glu Phe Val Leu Glu Arg Asn
 325 330 335
 Leu Leu Tyr Pro Asp Gln Tyr Glu Met Ser Leu Ser Ala Glu Glu Arg
 340 345 350
 Lys Ile Tyr Lys Ser Cys Lys Val Phe Ala Arg Phe Gln Ser Lys Glu
 355 360 365
 Glu His Lys Glu Leu Ile Lys Lys Val Ile Glu Glu His Gln Ile Leu
 370 375 380
 Arg Arg Ile Glu Asp Leu Gln Glu Ala Arg Thr Ala Gly Cys Arg Thr
 385 390 395 400
 Thr Ser Asp Ala Asn Arg Phe Ile Glu Glu Lys Arg Lys Lys Glu Ala
 405 410 415
 Glu Glu Ser Met Leu Leu Arg Leu Asn His Gly Ala Pro Gly Ser Ile
 420 425 430
 Ala Gly Lys Thr Leu Lys Ser Pro Arg Gly Leu Pro Arg Asn Leu His
 435 440 445

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Pro Phe Gly Ser Asp Ser Leu Pro Lys Val Thr Pro Pro Arg Ile Tyr
 450 455 460
 Ser Gly Leu Asp Thr Trp Asp Val Asp Gly Leu Leu Gly Ala Asp Leu
 465 470 475 480
 Leu Ser Glu Thr Glu Lys Lys Met Cys Asn Glu Thr Arg Ile Leu Pro
 485 490 495
 Val His Tyr Leu Lys Met Leu Asp Ile Leu Thr Arg Glu Ile Lys Lys
 500 505 510
 Gly Gln Ile Lys Lys Lys Ser Asp Ala Tyr Ser Phe Phe Lys Val Glu
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 Pro Ser Lys Val Asp Arg Val Tyr Asp Met Leu Val His Lys Gly Ile
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 Gly Asp Ser Thr
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<210> 8
 <211> 49
 <212> PRT
 <213> Zea mays

<400> 8
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 35 40 45
 Met

<210> 9
 <211> 42
 <212> PRT
 <213> Zea mays

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<210> 10
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 <212> PRT
 <213> Artificial Sequence

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 Val Gly Ala Glu Val Thr Pro His Arg Ser Asn His Pro Tyr Lys Val
 35 40 45
 Met

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 <220>
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 <212> PRT
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 <223> consensus SWIRM domain

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<223> Unknown amino acid

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Glu	Leu	Leu	Ser	Xaa	Ser	Glu	Lys	Xaa	Leu	Cys	Cys	Gln	Asn	Arg	Leu
			20					25					30		
Leu	Pro	Xaa	His	Tyr	Leu	Lys	Met	Gln	Glu	Val	Leu	Met	Gln	Glu	Ile
		35					40					45			
Phe	Lys	Gly	Ser	Val	Xaa	Lys	Lys	Glu	Asp	Ala	His	Val	Leu	Phe	Lys
	50					55					60				
Val	Asp	Pro	Thr	Lys	Val	Asp	Xaa	Val	Tyr	Asp	Met	Val	Thr	Lys	Lys
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<210> 13

<211> 81

<212> PRT

<213> Zea mays

<400> 13

Thr	Ser	Val	Lys	Gln	Trp	Asp	Asp	Trp	Asp	Ile	Val	Gly	Leu	Pro	Gly
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Ala	Glu	Leu	Leu	Ser	Ala	Ser	Glu	Lys	Leu	Leu	Cys	Cys	Gln	Asn	Arg
			20					25					30		
Leu	Leu	Pro	Ser	His	Tyr	Leu	Arg	Met	Gln	Glu	Val	Leu	Met	Gln	Glu
		35					40					45			
Ile	Phe	Lys	Gly	Ser	Val	Leu	Lys	Lys	Glu	Asp	Ala	His	Val	Leu	Phe
	50					55					60				
Lys	Val	Asp	Pro	Thr	Lys	Val	Asp	Ser	Val	Tyr	Asp	Met	Val	Thr	Lys
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Lys															

<210> 14

<211> 81

<212> PRT

<213> Zea mays

<400> 14

Thr	Ser	Val	Lys	Gln	Trp	Asp	Asp	Trp	Asp	Ile	Val	Gly	Leu	Pro	Gly
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Ala	Glu	Leu	Leu	Ser	Ala	Ser	Glu	Lys	Leu	Leu	Cys	Cys	Gln	Asn	Arg
			20					25					30		
Leu	Leu	Pro	Ser	His	Tyr	Leu	Arg	Met	Gln	Glu	Val	Leu	Met	Gln	Glu
		35					40					45			
Ile	Phe	Lys	Gly	Ser	Val	Leu	Lys	Lys	Glu	Asp	Ala	His	Val	Leu	Phe
	50					55					60				
Lys	Val	Asp	Pro	Thr	Lys	Val	Asp	Ser	Val	Tyr	Asp	Met	Val	Ser	Lys
65					70					75					80
Lys															