

SEQUENCE LISTING

<110> VIB vzw
Universiteit Gent

<120> Insect inhibition by plant serpin

<130> FVB/Ser/V251

<150> EP 06123189.0

<151> 2006-10-30

<160> 5

<170> PatentIn version 3.3

<210> 1

<211> 391

<212> PRT

<213> Arabidopsis thaliana

<400> 1

Met	Asp	Val	Arg	Glu	Ser	Ile	Ser	Leu	Gln	Asn	Gln	Val	Ser	Met	Asn
1				5				10					15		

Leu	Ala	Lys	His	Val	Ile	Thr	Thr	Val	Ser	Gln	Asn	Ser	Asn	Val	Ile
			20					25				30			

Phe	Ser	Pro	Ala	Ser	Ile	Asn	Val	Val	Leu	Ser	Ile	Ile	Ala	Ala	Gly
		35				40						45			

Ser	Ala	Gly	Ala	Thr	Lys	Asp	Gln	Ile	Leu	Ser	Phe	Leu	Lys	Phe	Ser
50						55					60				

Ser	Thr	Asp	Gln	Leu	Asn	Ser	Phe	Ser	Ser	Glu	Ile	Val	Ser	Ala	Val
65					70					75					80

Leu	Ala	Asp	Gly	Ser	Ala	Asn	Gly	Gly	Pro	Lys	Leu	Ser	Val	Ala	Asn
			85						90					95	

Gly	Ala	Trp	Ile	Asp	Lys	Ser	Leu	Ser	Phe	Lys	Pro	Ser	Phe	Lys	Gln
			100					105					110		

Leu	Leu	Glu	Asp	Ser	Tyr	Lys	Ala	Ala	Ser	Asn	Gln	Ala	Asp	Phe	Gln
		115					120					125			

Ser	Lys	Ala	Val	Glu	Val	Ile	Ala	Glu	Val	Asn	Ser	Trp	Ala	Glu	Lys
	130					135					140				

Glu	Thr	Asn	Gly	Leu	Ile	Thr	Glu	Val	Leu	Pro	Glu	Gly	Ser	Ala	Asp
145					150					155					160

Ser Met Thr Lys Leu Ile Phe Ala Asn Ala Leu Tyr Phe Lys Gly Thr
165 170 175

Trp Asn Glu Lys Phe Asp Glu Ser Leu Thr Gln Glu Gly Glu Phe His
180 185 190

Leu Leu Asp Gly Asn Lys Val Thr Ala Pro Phe Met Thr Ser Lys Lys
195 200 205

Lys Gln Tyr Val Ser Ala Tyr Asp Gly Phe Lys Val Leu Gly Leu Pro
210 215 220

Tyr Leu Gln Gly Gln Asp Lys Arg Gln Phe Ser Met Tyr Phe Tyr Leu
225 230 235 240

Pro Asp Ala Asn Asn Gly Leu Ser Asp Leu Leu Asp Lys Ile Val Ser
245 250 255

Thr Pro Gly Phe Leu Asp Asn His Ile Pro Arg Arg Gln Val Lys Val
260 265 270

Arg Glu Phe Lys Ile Pro Lys Phe Lys Phe Ser Phe Gly Phe Asp Ala
275 280 285

Ser Asn Val Leu Lys Gly Leu Gly Leu Thr Ser Pro Phe Ser Gly Glu
290 295 300

Glu Gly Leu Thr Glu Met Val Glu Ser Pro Glu Met Gly Lys Asn Leu
305 310 315 320

Cys Val Ser Asn Ile Phe His Lys Ala Cys Ile Glu Val Asn Glu Glu
325 330 335

Gly Thr Glu Ala Ala Ala Ala Ser Ala Gly Val Ile Lys Leu Arg Gly
340 345 350

Leu Leu Met Glu Glu Asp Glu Ile Asp Phe Val Ala Asp His Pro Phe
355 360 365

Leu Leu Val Val Thr Glu Asn Ile Thr Gly Val Val Leu Phe Ile Gly
370 375 380

Gln Val Val Asp Pro Leu His
385 390

<210> 2
<211> 392
<212> PRT
<213> Brassica napus

<400> 2

Met Asp Val Arg Glu Ser Ile Ser Leu Gln Asn His Val Ser Leu Ser
1 5 10 15

Leu Ala Lys Asn Val Ile Ser Thr Val Ser Lys Asn Ser Asn Val Ile
20 25 30

Phe Ser Pro Ala Ser Ile Asn Val Val Leu Gly Ile Ile Ala Ala Gly
35 40 45

Ser Thr Gly Glu Thr Lys Asp Gln Ile Leu Ser Phe Leu Asn Phe Pro
50 55 60

Ser Ile Asp Gln Leu Asn Thr Phe Ser Ser Asp Ile Val Ser Ala Val
65 70 75 80

Leu Ala Asp Gly Ser Ala Asn Gly Gly Pro Lys Leu Ser Ala Ala Asn
85 90 95

Ala Pro Trp Ile Asp Lys Ser Leu Ser Leu Gln Pro Ser Phe Lys Gln
100 105 110

Leu Leu Asp Gly Ser Tyr Lys Ala Ala Ser Asn Leu Ala Asp Phe Gln
115 120 125

Thr Lys Ala Val Glu Val Ile Ala Glu Val Asn Ser Trp Ala Glu Lys
130 135 140

Glu Thr Asn Gly Leu Ile Thr Glu Val Leu Pro Glu Gly Ser Ala Asp
145 150 155 160

Ser Met Thr Arg Leu Ile Phe Ala Asn Ala Leu Tyr Phe Lys Gly Thr
165 170 175

Trp Asn Glu Lys Phe Asp Glu Ser Leu Thr Lys Asp Gly Asp Phe His
180 185 190

Leu Leu Asp Gly Ser Ser Lys Val Thr Ala Pro Phe Met Thr Ser Lys
195 200 205

Lys Lys Gln Tyr Val Ser Ala Tyr Asp Gly Phe Lys Val Leu Gly Leu

210

215

220

Pro Tyr Leu Gln Gly Glu Asp Lys Arg Gln Phe Ser Met Tyr Leu Tyr
 225 230 235 240

Leu Pro Asp Ala Asn Asn Gly Leu Ser Asp Leu Leu Asp Lys Ile Val
 245 250 255

Ser Thr Pro Gly Phe Leu Asp Ser His Ile Pro Arg Arg Gln Val Lys
 260 265 270

Val Gly Glu Phe Lys Ile Pro Lys Phe Lys Phe Ser Phe Gly Phe Glu
 275 280 285

Ala Ser Asp Val Leu Lys Gly Leu Gly Leu Ala Ser Pro Phe Ser Gly
 290 295 300

Glu Asp Gly Leu Thr Glu Met Val Glu Ser Pro Glu Met Gly Lys Asn
 305 310 315 320

Leu Lys Val Ser Ser Ile Phe His Lys Ala Cys Ile Glu Val Asn Glu
 325 330 335

Glu Gly Thr Glu Ala Ala Ala Ala Ser Ala Gly Val Ile Lys Leu Arg
 340 345 350

Gly Leu Ala Met Glu Glu Glu Met Ile Asp Phe Val Ala Asp His Pro
 355 360 365

Phe Leu Leu Val Val Met Glu Asn Ile Thr Gly Val Ile Leu Phe Ile
 370 375 380

Gly Gln Val Ile Asp Pro Leu His
 385 390

<210> 3

<211> 4

<212> PRT

<213> Artificial

<220>

<223> Reactive center loop

<220>

<221> misc_feature

<222> (1)..(1)

<223> X can be I or V

<220>
<221> misc_feature
<222> (2)..(2)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> misc_feature
<222> (3)..(3)
<223> X can be L or D

<400> 3

Xaa Xaa Xaa Arg
1

<210> 4
<211> 17
<212> DNA
<213> Artificial

<220>
<223> Forward primer

<400> 4
atggacgtgc gtgaatc

17

<210> 5
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Reverse primer

<400> 5
ttaatgcaac ggatcaaca c

21