

SEQUENCE LISTING

<110> Fraunhofer-Gesellschaft zur Foerderung der angewandten Forschung e.V.

<120> Artifizielle Forisomenkrper mit SEO-F-Fusionsproteinen, pflanzliche oder Hefezellen mit Vektoren, die fr diese Proteine codieren, sowie Vektoren, die fr SEO-F-Fusionsproteine codieren

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Asp Lys Cys Asp Lys Asp Val Leu Phe His Ile Leu Ser Asn Val Ile
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Arg Thr Leu Lys Leu Ile Ser Cys Gln Met Ile Thr Thr Pro Arg Gly
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Glu Arg Tyr Val His Gln Thr Thr Met Trp Ile Leu Gln Gln Leu Lys
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Thr Tyr Ser Trp Asp Ala Lys Ala Leu Ile Ala Leu Ala Ala Phe Thr
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Leu Glu Tyr Gly Asn Leu Leu Tyr Leu Thr Glu Thr Ser Thr Ser Ser
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Asp Gln Leu Val Asn Ser Leu Lys Ile Leu Asn Gln Ile Gln Asn Arg
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 Lys Gln Pro Cys Glu Ile Ile Asn Val Asp Asn Asn Ile Asn Gly Asn
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 Val Asn Asp Asn Met Lys Tyr Asp Arg Asp Thr Leu Phe Asn Leu Val
 50 55 60
 Ser Asn Ile Ile Ser Ala Ser Thr Gln Thr Ser Gly Thr Asn Ser Gly
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 Leu Asn Thr Gln Ile Ser Phe Lys Pro Asp Phe Ser Val Leu Lys Arg
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 Ile Ser Cys Gln Met Ile Thr Thr Arg Gly Thr Ala Glu Cys Ala His
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 Gln Thr Thr Met Trp Val Leu His His Leu Arg Gly Phe Ser Trp Glu
 115 120 125
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 Leu Lys Gln Leu Ser Gln Val Gln Phe Arg Lys Val Pro Ala Asp Ile
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 Thr Glu Leu Val Thr Phe Leu Leu Gln Val Leu Gln Asp Ile Lys Thr
 180 185 190
 Trp Ala Ala Trp Ser Ala Phe Gly Tyr Asp Leu Asp Asp Val Asn Ser
 195 200 205

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 Lys Leu Ser Asp Tyr Val Lys Ser Leu Ser Asp Val Val Lys Glu Leu
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 Arg Arg His Leu Lys Ser Cys Glu Leu Glu Ile Gly Lys Ile His Glu
 260 265 270
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 595 600 605

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 Tyr Asp Val Glu Ser Leu Phe Asn Leu Thr Ser Asn Ile Leu Lys Arg
 50 55 60
 Ser Thr Ala Val Ala Asp Ser Val Ala Ser Lys Thr Gly Thr Pro Val
 65 70 75 80
 Gly Leu Val Glu Asp Arg Leu Pro Leu Ser Gly Tyr Glu Pro Pro Ile
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 Arg Lys Leu Lys His Ile Ser Ala Gln Met Met Ser Thr Leu Pro Gly
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 Glu His His Ala His Met Thr Thr Met Ser Ile Leu Asp Gln Leu Lys
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 Ser His Thr Trp Asp Gly Lys Ala Ile Phe Ala Leu Ala Ala Phe Ser
 130 135 140
 Leu Glu Tyr Gly Asn Phe Trp His Leu Val Gln Thr Pro Ser Gly Asp
 145 150 155 160
 Thr Leu Gly Arg Ser Leu Ala Thr Met Asn Arg Val Gln Ser Val Asp
 165 170 175
 Lys Asn Arg Gln Ala Ile Ala Asp Tyr Asn Ser Leu Val Lys Asn Leu
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 Leu Phe Ala Val Glu Cys Ile Thr Glu Leu Glu Lys Leu Ser Thr Lys
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Ser	Ser	Tyr	Asp	Val	Lys	Leu	Ala	Ser	Ile	Val	Ser	Lys	Leu	Lys	Ala	260	265	270
His	Leu	Thr	Arg	Ser	Arg	Lys	His	Ile	Gly	Glu	Leu	Glu	Asp	Tyr	Trp	275	280	285
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Lys	Val	Leu	Val	Phe	His	Asn	Glu	Ile	Gln	Asp	Pro	Leu	Val	Phe	Asp	305	310	315
Gly	Leu	Asn	Arg	Gln	Met	Val	Ser	Ile	Glu	Val	Phe	Arg	Lys	Lys	His	325	330	335
Val	Leu	Val	Phe	Ile	Ser	Gly	Leu	Asp	Ser	Ile	Arg	Asp	Glu	Ile	Arg	340	345	350
Leu	Leu	Gln	Ser	Ile	Tyr	Val	Gly	Leu	Gln	Glu	Glu	Pro	Arg	Glu	Leu	355	360	365
Lys	Gly	Tyr	Arg	Lys	Glu	Asp	Phe	Lys	Ile	Leu	Trp	Ile	Pro	Ile	Val	370	375	380
Asp	Asp	Trp	Thr	Leu	Leu	His	Lys	Ala	Glu	Phe	Asp	Asn	Leu	Lys	Leu	385	390	395
Glu	Met	Pro	Trp	Tyr	Val	Val	Glu	Tyr	Phe	Tyr	Pro	Leu	Ala	Gly	Ile	405	410	415
Arg	Leu	Ile	Arg	Glu	Asp	Leu	Ser	Tyr	Lys	Asn	Lys	Pro	Ile	Leu	Pro	420	425	430
Val	Leu	Asn	Pro	Leu	Gly	Arg	Ile	Val	Asn	His	Asn	Ala	Met	His	Met	435	440	445
Ile	Phe	Val	Trp	Gly	Ile	Asp	Ala	Phe	Pro	Phe	Arg	Pro	Thr	Asp	Asp	450	455	460
Glu	Ser	Leu	Thr	Gln	Lys	Trp	Asn	Trp	Phe	Trp	Ala	Glu	Met	Lys	Lys	465	470	475
Val	Tyr	Pro	Arg	Leu	Gln	Asp	Leu	Ile	Lys	Gly	Asp	Thr	Phe	Ile	Phe	485	490	495
Ile	Tyr	Gly	Gly	Thr	Asp	Pro	Lys	Trp	Thr	Gln	Asp	Phe	Ala	Leu	Ala	500	505	510
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Phe	Trp	Ile	Gly	Ile	Glu	Ser	Leu	Phe	Ala	Asn	Met	Ile	Gln	Lys	Lys	545	550	555
His	Lys	Asp	Pro	Thr	Ile	Asp	Glu	Ile	Lys	Ser	Leu	Leu	Cys	Leu	Lys	565	570	575
Gln	Asp	Gln	Pro	Gly	Trp	Val	Leu	Leu	Ser	Lys	Gly	Pro	Asn	Val	Lys	580	585	590
Leu	Leu	Gly	Arg	Gly	Asp	Gln	Met	Tyr	Ala	Thr	Ala	Val	Asp	Phe	Glu	595	600	605

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Lys Glu Tyr Tyr Glu Arg Lys Arg Arg Glu Tyr Pro Val Ala Cys Ala
625 630 635 640
Asn Met Gln Leu Ala Asn Tyr Pro Ser Asp Ile Leu Asp Pro Ile Tyr
645 650 655
Cys Pro Asp Ser Asn Cys Gly Arg Ser Met Glu Ile Ala Ser Val Ser
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Pro Asn Pro Phe Asp Leu His Asp Pro Gln Ile Leu Asp Arg Val Tyr
35 40 45
Leu Thr His Val Thr Asp Asp Glu Phe Cys Asp Thr Asn Ile Ile Phe
50 55 60
Glu Leu Val Ser Ser Val Val Leu Gln Thr Ile Pro Lys Ile Ser Val
65 70 75 80
Thr Ser Phe Lys Pro Glu Phe Pro Thr Leu Lys Leu Ile Ser Cys Gln
85 90 95
Met Ile Thr Thr Arg Asn Asp Pro His Cys Val His Gln Thr Thr Leu
100 105 110
Trp Ile Leu Gln Asn Leu Arg Ser Tyr Ser Trp Asp Ala Lys Ala Leu
115 120 125
Ile Thr Leu Ala Ala Phe Thr Leu Glu Tyr Gly Asn Tyr Leu Gln Leu
130 135 140
Asn Arg Val Thr Thr Thr Asp Thr Leu Gly Asn Ser Leu Arg Val Leu
145 150 155 160
Asn Gln Val Gln Thr Arg Lys Ile Ser Asn Asp Val Thr Glu Leu Val
165 170 175
Lys Tyr Ile Val Asp Met Leu Ile His Leu Asn Val Trp Ala Thr Trp
180 185 190

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

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Trp Arg Arg Lys Ala Phe Glu Asn Pro Lys Asp Ile Val Asp Leu Leu		255
	260	265
Lys Leu Leu Ile His Ser Lys Gly Ser Pro Ile Pro Gln Ile Tyr Asp		270
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Gly Arg Thr Thr Thr Lys Thr Asp Ile Glu Val Phe Lys Gln Lys Tyr		285
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Val Leu Leu Phe Ile Ser Ser Leu Asp Ser Ile Asp Asp Glu Ile Arg		300
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Leu Leu Asn Ser Ile Tyr Asp Arg Leu Lys Glu Asp Pro Lys Glu Val		320
	325	330
Lys Gly Phe Asn Lys Glu Asp Phe Lys Ile Leu Trp Ile Pro Ile Val		335
	340	345
Asp Ser Trp Asp Lys Asp Ser Val Glu Lys Tyr Lys Thr Leu Lys Thr		350
	355	360
Lys Ile Lys Trp Tyr Ala Val Glu Phe Leu Ser Leu Val Pro Gly Ile		365
	370	375
Arg Leu Val Arg Glu Val Leu Lys Phe Glu Thr Lys Pro Ile Ile Pro		380
385	390	395
Val Ile Ser Pro Gln Gly Lys Arg Ile Asn Asp Asn Ala Met Asp Ile		400
	405	410
Ile Phe Glu Trp Gly Val Asp Ala Phe Pro Phe Arg Lys Glu Asp Gly		415
	420	425
Asp Gln Leu Thr Gln Lys Trp Lys Trp Phe Trp Asp Val Ile Lys Lys		430
	435	440
Val Asn Pro Ala Ile Gln Val Glu Pro Glu Ser Tyr Ile Phe Ile Tyr		445
	450	455
Gly Gly Thr Asp Asn Lys Trp Ile Gln Asp Phe Thr Leu Ala Val Asp		460
465	470	475
Lys Val Lys Arg His Asp Thr Ile Lys Arg Ala Asp Ala Ile Ile Glu		480
	485	490
His His Gln Leu Ala Lys Asp Asp Ser Ile Val Pro Arg Phe Trp Ile		495
	500	505
Gly Ile Glu Ser Lys Thr His Lys Lys His Gln Glu Ala Val Asp Cys		510
	515	520
Gln Ile Gln Thr Ile Val Lys Ser Leu Leu Cys Leu Lys Arg Asp Pro		525
	530	535
Gln Gly Trp Ala Ile Leu Ser Lys Gly Asn Asn Val Lys Ile Leu Gly		540
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His Gly Glu Pro Met Leu Gln Thr Leu Thr Gln Phe Glu Ser Trp Lys		560
	565	570
Asp Lys Val Leu Glu Lys Glu Gly Phe Asp Ile Ala Leu Lys Glu Phe		575
	580	585
Tyr Asp Gly Lys Val Glu Ser Leu Ser Tyr Arg Gln Pro Cys Glu Tyr		590
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 35 40 45
 Asp Asp Glu Ile Cys Asp Thr Lys Ile Leu Phe Asp Leu Val Ser Thr
 50 55 60
 Val Val Leu Gln Ser Val Ser Gln Ile Pro Ala Thr Ser Phe Lys Pro
 65 70 75 80
 Glu Phe Ser Thr Leu Lys Leu Ile Ser Cys Gln Met Ile Thr Thr Arg
 85 90 95
 Asn Ala Asp His Cys Val His Gln Thr Thr Met Trp Ile Leu Gln Asn
 100 105 110
 Leu Arg Ser Tyr Ser Trp Asp Ala Lys Ala Ile Ile Thr Leu Ala Ala
 115 120 125
 Phe Thr Leu Glu Tyr Gly Asn Tyr Leu His Leu Ser Arg Ala Ala Val
 130 135 140
 Ala Asp Thr Leu Gly Ser Ser Leu Arg Gln Leu Asn Gln Val His Thr
 145 150 155 160
 Arg Lys Val Pro Ala Asp Ile Thr Lys Leu Val Thr Phe Ile Val His
 165 170 175
 Ala Phe Gln His Leu Lys Glu Trp Ala Thr Trp Ala Asp Glu Gly Tyr
 180 185 190
 Glu Pro Glu Glu Val Pro Ser Leu Thr Glu Ala Leu Gln His Val Pro
 195 200 205
 Val Ala Val Tyr Trp Thr Ile Ala Ala Ile Val Ala Ser Thr Gly Asn
 210 215 220
 Leu Val Gly Val Ser Thr Tyr Asn Leu Gln Gly Tyr Ile Asp Arg Leu
 225 230 235 240
 Asp Glu His Val Thr Lys Leu Ala Glu Gln Leu Asn Ser Cys Lys Leu
 245 250 255

Gln	Ile	Gly	His	Val	Asp	Asp	Tyr	Phe	Asn	Arg	Arg	Lys	Ile	Phe	Asp	260	265	270
Lys	Pro	Lys	Asp	Ile	Val	Asp	Leu	Leu	Lys	Ala	Leu	Ile	His	Arg	Asn	275	280	285
Gly	Ala	Gln	Gly	Pro	Gln	Ile	Phe	Glu	Gly	Gly	Val	Ile	Val	Lys	Gln	290	295	300
Gly	Leu	Glu	Val	Phe	Arg	Gln	Lys	His	Val	Leu	Leu	Phe	Ile	Ser	Gly	305	310	315
Leu	Asn	Ser	Ile	Val	Asp	Glu	Ile	Leu	Leu	Leu	Asn	Ser	Ile	Tyr	Asn	325	330	335
Arg	Leu	Gln	Asp	Asn	Pro	Thr	Glu	Val	Ile	Lys	Gly	Phe	Lys	Lys	Glu	340	345	350
Asp	Phe	Lys	Ile	Leu	Trp	Val	Pro	Met	Val	Asp	Arg	Trp	Asp	Glu	Ala	355	360	365
Ser	Arg	Glu	Gln	Tyr	Leu	Asn	Thr	Trp	Lys	Arg	Gly	Ile	Lys	Trp	Tyr	370	375	380
Ile	Val	Glu	Tyr	Phe	Phe	Glu	Leu	Pro	Gly	Arg	Arg	Ile	Ile	Thr	Asp	385	390	395
Pro	Glu	Arg	Leu	Gly	Tyr	Glu	Gly	Asn	Pro	Ile	Ile	Pro	Val	Phe	Asn	405	410	415
Pro	Gln	Gly	Met	Leu	Thr	Asn	Asp	Asn	Ala	Met	Asp	Leu	Ile	Phe	Gln	420	425	430
Trp	Gly	Ile	Asp	Ala	Phe	Pro	Phe	Arg	Lys	Ser	Asp	Gly	Ile	Asp	Leu	435	440	445
Thr	Leu	Lys	Trp	Lys	Trp	Leu	Trp	Asp	Ile	Ile	Lys	Lys	Ala	Thr	Pro	450	455	460
Gly	Leu	Gln	Val	Lys	Val	Asp	Arg	Tyr	Ile	Phe	Ile	Phe	Gly	Ser	Thr	465	470	475
Asn	Asn	Lys	Trp	Ile	Gln	Asp	Phe	Thr	Ile	Glu	Leu	Asp	Lys	Leu	Lys	485	490	495
Arg	Asn	Glu	Thr	Val	Lys	Arg	Ala	Asp	Val	Ile	Ile	Glu	Gln	Tyr	Gln	500	505	510
Leu	Gly	Lys	Asp	Asp	Pro	Asn	Arg	Val	Pro	Ser	Phe	Trp	Met	Gly	Val	515	520	525
Glu	Arg	Lys	Lys	Gln	Asn	Lys	Lys	His	Gln	Glu	Ala	Val	Asp	Cys	Glu	530	535	540
Ile	Gln	Gly	Ile	Val	Lys	Ser	Leu	Phe	Cys	Leu	Lys	Arg	Asp	Pro	Gln	545	550	555
Gly	Trp	Val	Ile	Leu	Ser	Lys	Gly	His	Asn	Ile	Lys	Leu	Leu	Gly	His	565	570	575
Gly	Glu	Ala	Val	Tyr	Gln	Thr	Val	Val	Glu	Phe	Pro	Asn	Trp	Lys	Glu	580	585	590
Lys	Val	Leu	Glu	Arg	Glu	Gly	Phe	Asp	Ile	Ala	Phe	Lys	Glu	Tyr	Tyr	595	600	605
Asp	Ile	Lys	Ala	Lys	Glu	Ile	Ser	Ala	Arg	Gln	Pro	Cys	Glu	Ile	Ile	610	615	620
Asn	Val	Asp	Ser	Tyr	Ser	Ala	Asn	Val	Ile	Ala	Thr	Ile	Thr	Cys	Pro	625	630	635
Asn	Pro	Met	Cys	Gly	Arg	Val	Met	Glu	Val	Thr	Ser	Val	Asn	Tyr	Lys	645	650	655

Cys Cys His Ser Asp Ala Pro Asn Gly Phe Gly Ile

660

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<211> 685

<212> PRT

<213> Pisum sativum

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Thr Ser Pro His Ser His His Lys Ala Asn Asn Tyr Leu Pro Asn Pro
35 40 45
Phe Glu Leu His Asp Ser Gln Ile Leu Asp Lys Val Tyr Leu Thr His
50 55 60
Val Thr Asp Asp Gln Phe Cys Asp Thr Asp Ile Ile Phe Asp Leu Val
65 70 75 80
Ser Thr Leu Val Leu Gln Thr Asn Thr Gln Ile Pro Val Thr Gly Phe
85 90 95
Lys Pro Asp Phe Pro Thr Leu Lys Leu Ile Ser Cys Gln Met Ile Thr
100 105 110
Thr Arg Ser Ala Ala His Cys Val His Gln Thr Thr Leu Trp Ile Leu
115 120 125
Gln Asn Leu Arg Ser Tyr Ser Trp Asp Ala Lys Ala Leu Ile Thr Leu
130 135 140
Ala Ala Phe Thr Leu Glu Tyr Gly Asn Tyr Leu His Leu Thr Arg Val
145 150 155 160
Thr Ala Thr Asp Pro Ile Gly Asn Ser Leu Arg Gln Leu Asn Gln Ile
165 170 175
Gln Thr Arg Asn Ile Ser Thr Asp Ile Thr Glu Leu Val Ser Phe Ile
180 185 190
Val His Gln Leu Leu His Leu Lys Glu Trp Ala Thr Trp Ser Ala Glu
195 200 205
Gly Tyr Asp Pro Glu Asp Val Pro Ala Leu Thr Glu Ala Leu Gln Glu
210 215 220
Ile Pro Val Phe Val Tyr Trp Thr Ile Ala Ser Ile Val Ala Ser Thr
225 230 235 240
Gly Asn Leu Val Gly Val Ser Asp Tyr Lys Leu Ser Glu Tyr Arg Glu
245 250 255
Arg Leu Ser Gly Ile Val Gln Lys Leu Val Val His Leu Asn Asn Cys
260 265 270
Lys Leu Gln Ile Ser Tyr Ile Asp Asp Leu Phe Asn Arg Lys Lys Ile

275	280	285
Phe Asp Lys Pro Lys Asp Ile Val Asp Cys Leu Lys Ala Leu Ile His		
290	295	300
Arg Asn Gly Thr Asp Ser Pro Gln Ile Tyr Glu Gly Ala Ile His Val		
305	310	315
Lys Thr Gly Leu Glu Val Phe Arg Asn Lys His Val Leu Val Phe Ile		
325	330	335
Ser Ser Leu Asp Ser Ile Glu Asp Glu Ile Ser Leu Leu Asn Ser Ile		
340	345	350
Tyr Glu Arg Leu Gln Glu Asn Ser Lys Glu Ser Ile Lys Gly Phe Lys		
355	360	365
Lys Glu Asp Phe Lys Ile Leu Trp Ile Pro Ile Val Asn Asn Trp Asp		
370	375	380
Asp Ile Arg Lys Glu Arg Phe Arg Ala Leu Lys Ser Gly Ile Lys Trp		
385	390	395
Tyr Ala Val Glu Tyr Phe Tyr Glu Leu Pro Gly His Arg Ile Ile Thr		
405	410	415
Asp Pro Glu Arg Ile Gly Tyr Ile Gly Asn Pro Ile Ile Pro Val Phe		
420	425	430
Asn Pro Gln Gly Tyr Ile Thr Asn Ile Asp Ala Met Asp Leu Ile Phe		
435	440	445
Gln Trp Gly Ile Asp Ala Phe Pro Phe Arg Lys Ser Asp Gly Ile Asp		
450	455	460
Leu Thr Leu Lys Trp Lys Trp Leu Trp Asp Val Ile Lys Lys Ala Thr		
465	470	475
Pro Gly Leu Gln Val Lys Gly Asp Arg Tyr Ile Phe Ile Tyr Gly Gly		
485	490	495
Thr Asn Asn Lys Trp Ile Gln Asp Phe Thr Leu Glu Leu Glu Lys Ile		
500	505	510
Lys Arg His Glu Ile Leu Lys Arg Ala Asp Val Ile Ile Glu Asn Tyr		
515	520	525
Gln Leu Gly Lys Glu Asp Pro Asn Arg Val Pro Ser Phe Trp Ile Gly		
530	535	540
Val Glu Arg Lys Lys Gln Asn Lys Lys His Gln Glu Ala Leu Asp Cys		
545	550	555
Glu Ile Gln Asp Ile Val Lys Ser Leu Phe Cys Leu Lys Arg Asp Pro		
565	570	575
Gln Gly Trp Ile Ile Leu Ser Lys Gly Gln Asn Ile Lys Leu Leu Gly		
580	585	590
His Gly Glu Pro Ala Tyr Gln Thr Leu Ala Glu Phe Gln Asn Trp Lys		
595	600	605
Asp Arg Val Leu Glu Lys Glu Gly Phe Asp Ile Ala Phe Lys Glu Tyr		
610	615	620
Tyr Glu Met Lys Ala Lys Glu Leu Ser Gly Arg Gln Pro Cys Glu Val		
625	630	635
Val Asn Val Asp Thr Tyr Ser Ser Asn Val Ile Ala Thr Ile Ala Cys		
645	650	655
Pro Asn Pro Met Cys Gly Arg Val Met Glu Val Ser Ser Ala His Tyr		
660	665	670
Lys Cys Cys His Arg Asp Glu Pro Asn Asn Phe Gly Val		

675

680

685

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<211> 684

<212> PRT

<213> Vicia faba

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<221> SOURCE

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<223> /mol_type="protein"

/organism="Vicia faba"

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          20           25           30
Ser Ser His Pro His His Lys Ala Asn Asn Tyr Leu Pro Asn Pro Phe
          35           40           45
Glu Leu His Asp Ser His Ile Leu Asp Lys Val Tyr Leu Thr His Val
          50           55           60
Thr Asp Asp Glu Phe Cys Asp Thr Asp Ile Ile Phe Asp Leu Val Ser
65           70           75           80
Thr Leu Ile Leu Gln Ser Asn Thr Gln Ile Pro Val Thr Gly Phe Lys
          85           90           95
Pro Asp Phe Pro Thr Leu Lys Leu Ile Ser Cys Gln Met Ile Thr Thr
          100          105          110
Arg Ser Val Ala His Cys Val His Gln Thr Thr Leu Trp Ile Leu Gln
          115          120          125
Asn Leu Arg Ser Tyr Ser Trp Asp Ala Lys Ala Leu Ile Thr Leu Ala
          130          135          140
Ala Phe Thr Leu Glu Tyr Gly Asn Tyr Leu Gln Leu Asn Arg Val Thr
          145          150          155          160
Ala Thr Asp Pro Ile Gly Asn Ser Leu Arg Gln Leu Asn Gln Ile Gln
          165          170          175
Thr Arg Lys Ile Ser Thr Asp Ile Pro Glu Leu Val Asn Phe Ile Val
          180          185          190
His Lys Leu Leu His Leu Lys Glu Trp Ala Ala Trp Ser Ala Glu Gly
          195          200          205
Tyr Asp Pro Glu Asp Val Pro Ala Leu Thr Glu Ala Leu Gln Glu Ile
          210          215          220
Pro Val Phe Val Tyr Trp Thr Ile Ala Ser Ile Val Ala Ser Thr Gly
          225          230          235          240
Asn Leu Val Gly Val Ser Asp Tyr Asn Leu Ser Glu Tyr Arg Glu Arg
          245          250          255
Leu Ser Gly Ile Val Gln Lys Leu Val Val His Leu Asn Asn Cys Lys
          260          265          270
Leu Gln Ile Ser Tyr Ile Asp Asp Leu Phe Asn Arg Arg Lys Ile Phe
          275          280          285

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Asp Lys Pro Lys Asp Ile Val Asp Cys Leu Lys Ala Leu Ile His His
 290 295 300
 Asn Gly Ala Asp Ser Pro Gln Ile Tyr Glu Gly Ala Ile His Val Lys
 305 310 315 320
 Thr Gly Leu Glu Val Phe Arg His Lys His Val Leu Met Phe Ile Ser
 325 330 335
 Ser Leu Asp Ser Ile Glu Asp Glu Ile Ser Leu Leu Asn Ser Ile Tyr
 340 345 350
 Glu Arg Leu Gln Glu Asn Ser Lys Glu Ser Ile Lys Gly Phe Lys Lys
 355 360 365
 Glu Asp Phe Lys Ile Leu Trp Ile Pro Ile Val Asn Asn Trp Asp Asp
 370 375 380
 Ile Arg Lys Glu Arg Phe Arg Ala Leu Lys Ser Gly Ile Lys Trp Tyr
 385 390 395 400
 Ala Val Glu Tyr Phe Tyr Glu Leu Pro Gly His Arg Ile Ile Thr Asp
 405 410 415
 Pro Glu Arg Ile Gly Tyr Ile Gly Asn Pro Ile Ile Pro Val Phe Asn
 420 425 430
 Pro His Gly Tyr Ile Thr Asn Ile Asp Ala Met Asp Leu Ile Phe Gln
 435 440 445
 Trp Gly Ile Asp Ala Phe Pro Phe Arg Lys Ser Asp Gly Ile Asp Leu
 450 455 460
 Thr Phe Lys Trp Lys Trp Leu Trp Asp Val Ile Lys Lys Ala Thr Pro
 465 470 475 480
 Gly Leu Gln Val Lys Gly Asp Arg Tyr Ile Phe Ile Tyr Gly Gly Thr
 485 490 495
 Asn Asn Lys Trp Ile Gln Asp Phe Thr Leu Glu Leu Glu Lys Ile Lys
 500 505 510
 Arg His Glu Thr Leu Lys Arg Ala Asp Val Ile Ile Asp Asn Tyr Gln
 515 520 525
 Leu Gly Lys Asp Asp Pro Asn Arg Val Pro Ser Phe Trp Ile Gly Val
 530 535 540
 Glu Arg Lys Lys Gln Asn Lys Lys His Gln Glu Ala Val Asp Cys Glu
 545 550 555 560
 Ile Gln Asp Ile Val Lys Ser Leu Phe Cys Leu Lys Arg Asp Pro Gln
 565 570 575
 Gly Trp Val Ile Leu Ser Lys Gly Gln Asn Ile Lys Leu Leu Gly His
 580 585 590
 Gly Glu Pro Ala Tyr Gln Thr Leu Ala Glu Phe Gln Asn Trp Lys Asp
 595 600 605
 Arg Val Leu Glu Lys Glu Gly Phe Asp Ile Ala Phe Lys Glu Tyr Tyr
 610 615 620
 Glu Met Lys Ala Lys Glu Leu Ser Gly Arg Glu Pro Cys Glu Val Val
 625 630 635 640
 Asn Val Asp Thr Tyr Ser Ser Asn Val Ile Ala Thr Ile Ala Cys Pro
 645 650 655
 Asn Pro Met Cys Gly Arg Val Met Glu Val Ser Ser Val His Tyr Lys
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 Cys Cys His Arg Asp Glu Pro Asn Asn Phe Gly Val
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 <213> Aequorea victoria

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 20 25 30
 Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys
 35 40 45
 Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu
 50 55 60
 Thr Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Gln
 65 70 75 80
 His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg
 85 90 95
 Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val
 100 105 110
 Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile
 115 120 125
 Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn
 130 135 140
 Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly
 145 150 155 160
 Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser Val
 165 170 175
 Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro
 180 185 190
 Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser
 195 200 205
 Lys Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Leu Glu Phe Val
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 Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys
 225 230 235

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 <212> PRT
 <213> Venus

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          20          25          30
Glu Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Leu Ile
          35          40          45
Cys Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr
          50          55          60
Phe Gly Tyr Gly Leu Gln Cys Phe Ala Arg Tyr Pro Asp His Met Lys
65          70          75          80
Gln His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu
          85          90          95
Arg Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu
          100          105          110
Val Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly
          115          120          125
Ile Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr
          130          135          140
Asn Tyr Asn Ser His Asn Val Tyr Ile Thr Ala Asp Lys Gln Lys Asn
145          150          155          160
Gly Ile Lys Ala Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Gly
          165          170          175
Val Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly
          180          185          190
Pro Val Leu Leu Pro Asp Asn His Tyr Leu Ser Tyr Gln Ser Ala Leu
          195          200          205
Ser Lys Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Leu Glu Phe
          210          215          220
Val Thr Ala Ala Gly Ile Thr Leu Gly Met Asp Glu Leu Tyr Lys
225          230          235

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