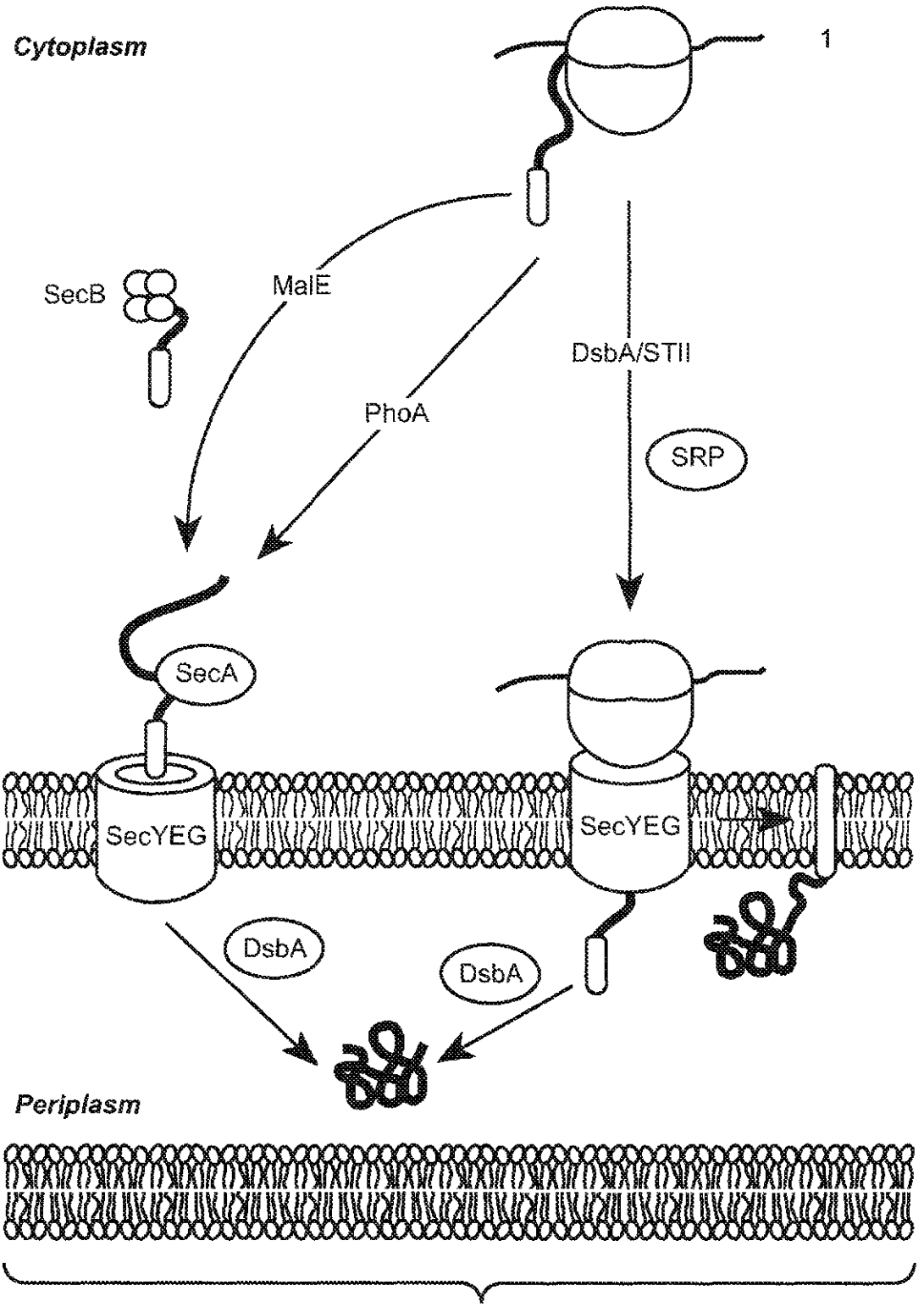

Cytoplasm
1
SecB
MalE
PhoA
DsbA/STII
SRP
SecA
SecYEG
SecYEG
DsbA
DsbA
Periplasm

FIG. 1

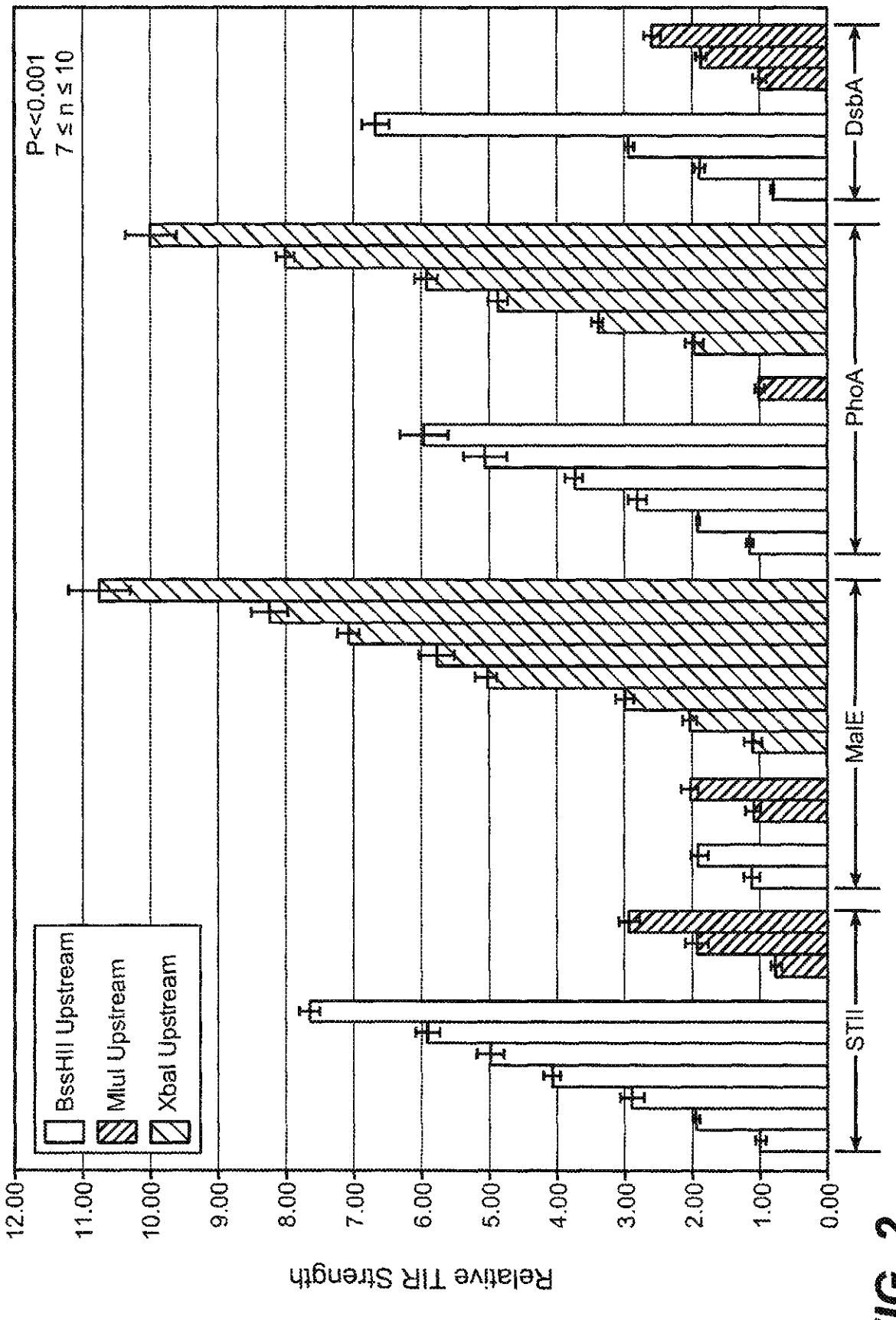

P<<0.001
7 ≤ n ≤ 10
BssHII Upstream
MluI Upstream
XbaI Upstream
Relative TIR Strength
12.00
11.00
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
STII
MalE
PhoA
DsbA

FIG. 2

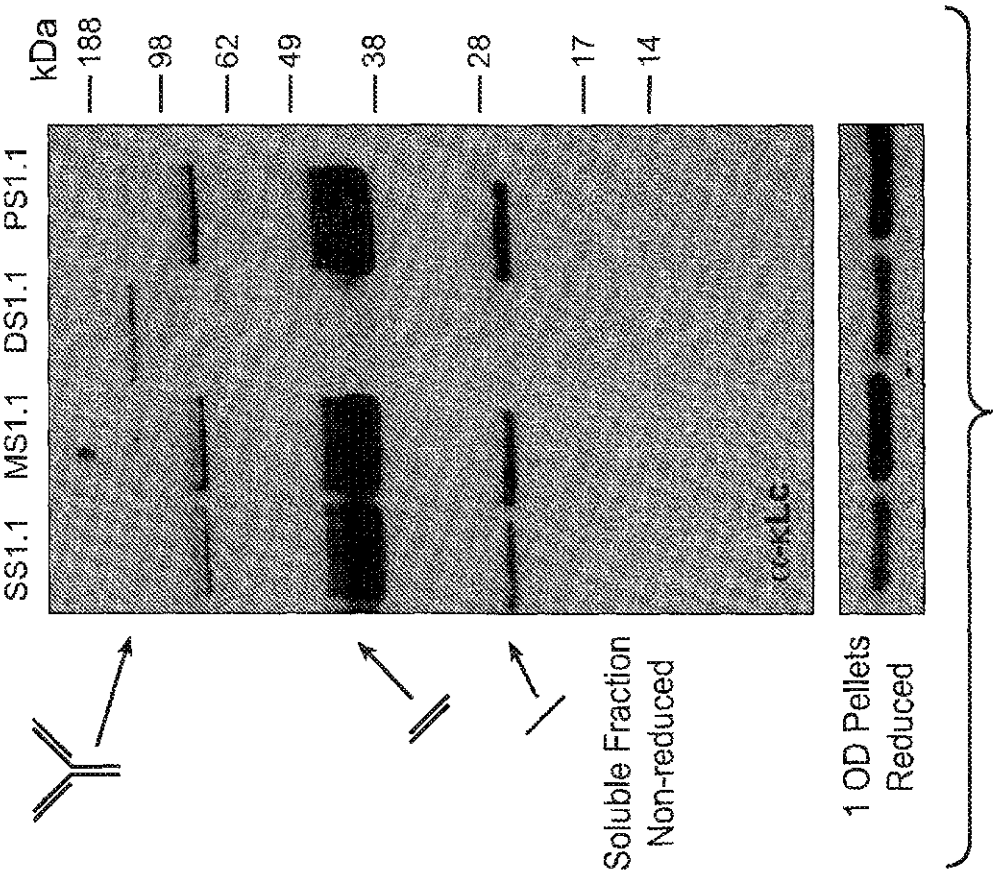

kDa
188
98
62
49
38
28
17
14
SS1.1
MS1.1
DS1.1
PS1.1
α-Fc
Soluble Fraction
Non-reduced
1 OD Pellets
Reduced

FIG. 3A


kDa
188
98
62
49
38
28
17
14
SS1.1
MS1.1
DS1.1
PS1.1
α-Lc
Soluble Fraction
Non-reduced
1 OD Pellets
Reduced

FIG. 3B

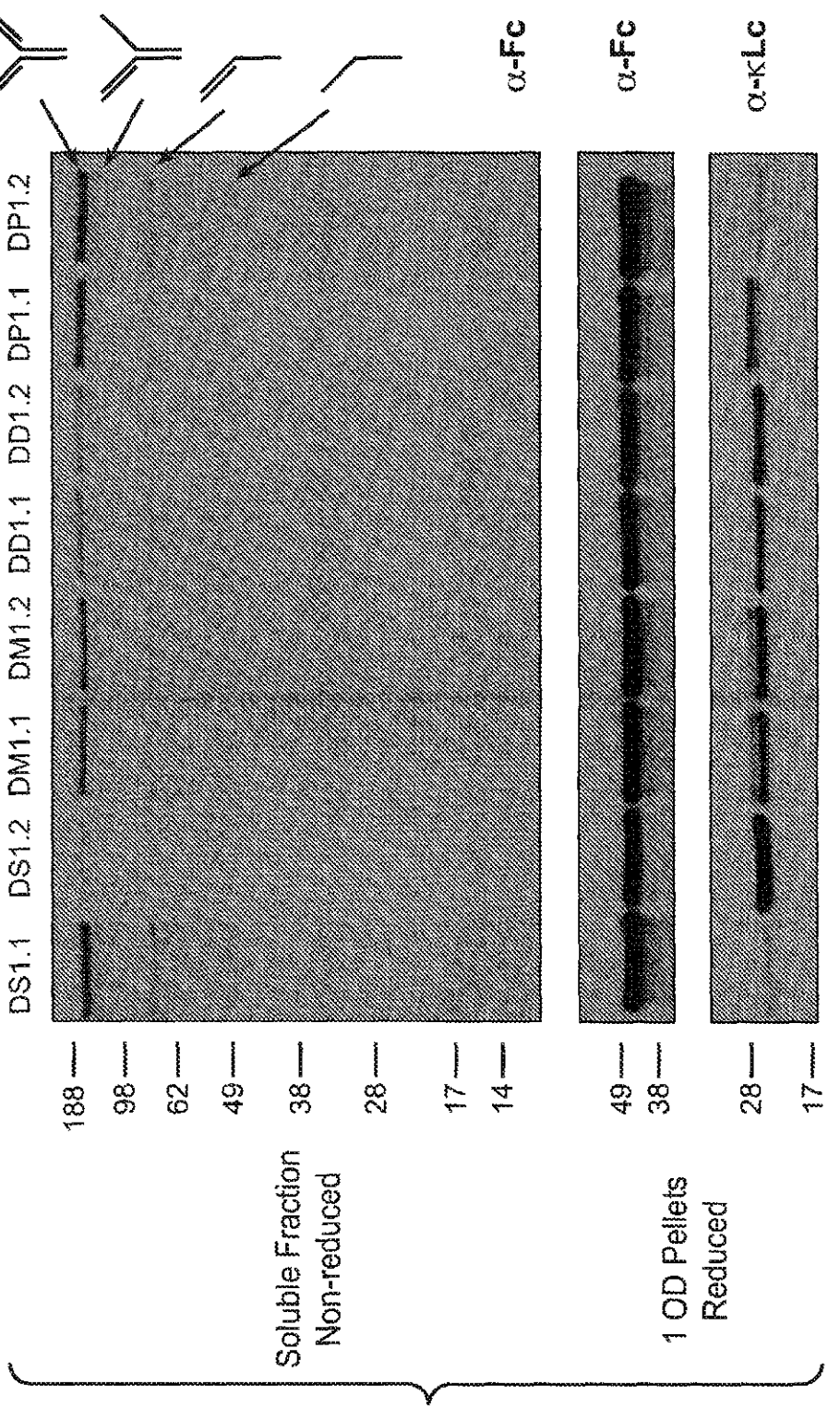

DS1.1
DS1.2
DM1.1
DM1.2
DD1.1
DD1.2
DP1.1
DP1.2
α-Fc
α-Fc
α-κLc
188
98
62
49
38
28
17
14
49
38
28
17
Soluble Fraction
Non-reduced
1 OD Pellets
Reduced

FIG. 4

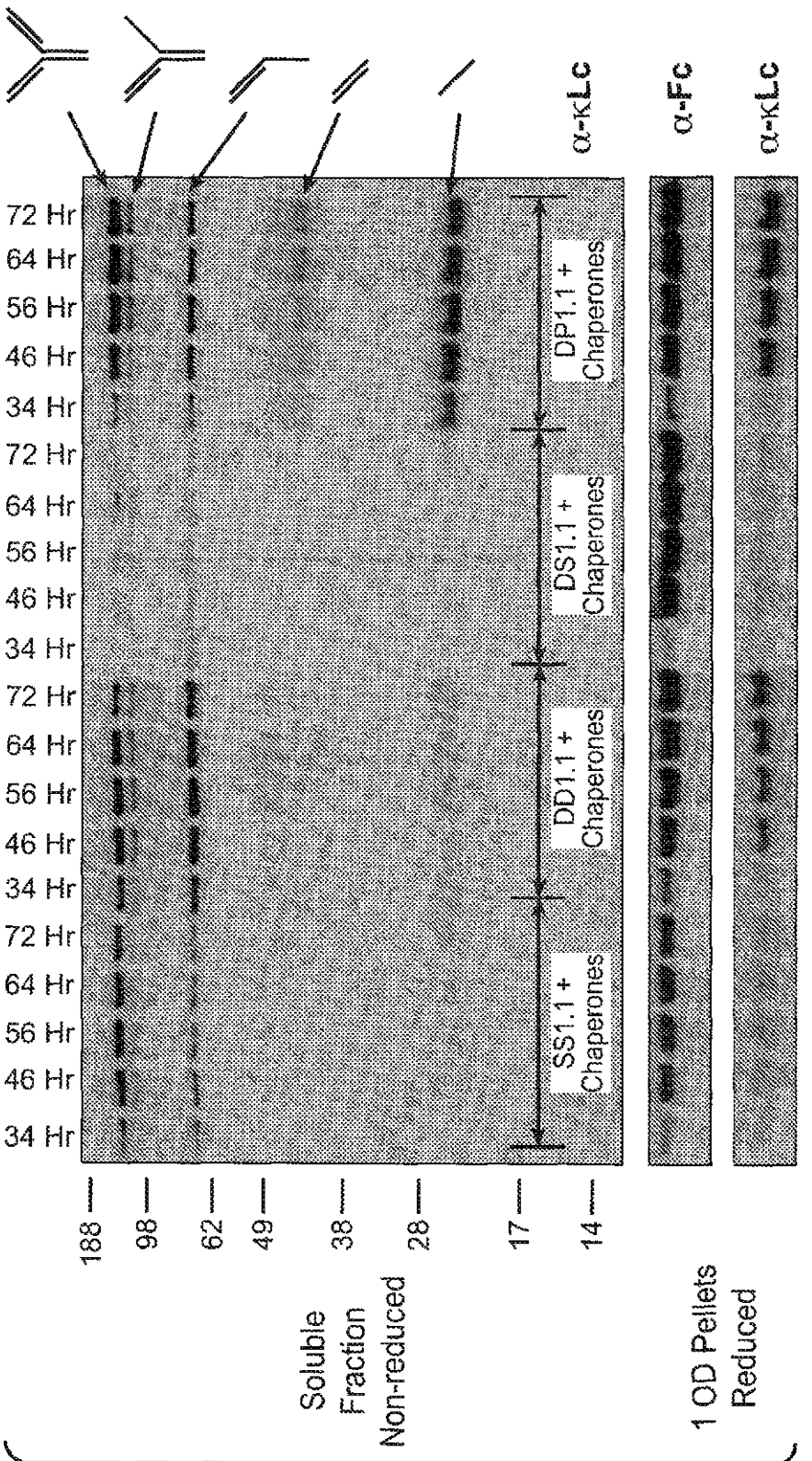

72 Hr
64 Hr
56 Hr
46 Hr
34 Hr
72 Hr
64 Hr
56 Hr
46 Hr
34 Hr
72 Hr
64 Hr
56 Hr
46 Hr
34 Hr
72 Hr
64 Hr
56 Hr
46 Hr
34 Hr
SS1.1 + Chaperones
DD1.1 + Chaperones
DS1.1 + Chaperones
DP1.1 + Chaperones
α-κLc
α-Fc
α-κLc
188
98
62
49
38
28
17
14
Soluble Fraction Non-reduced
1 OD Pellets Reduced

FIG. 5

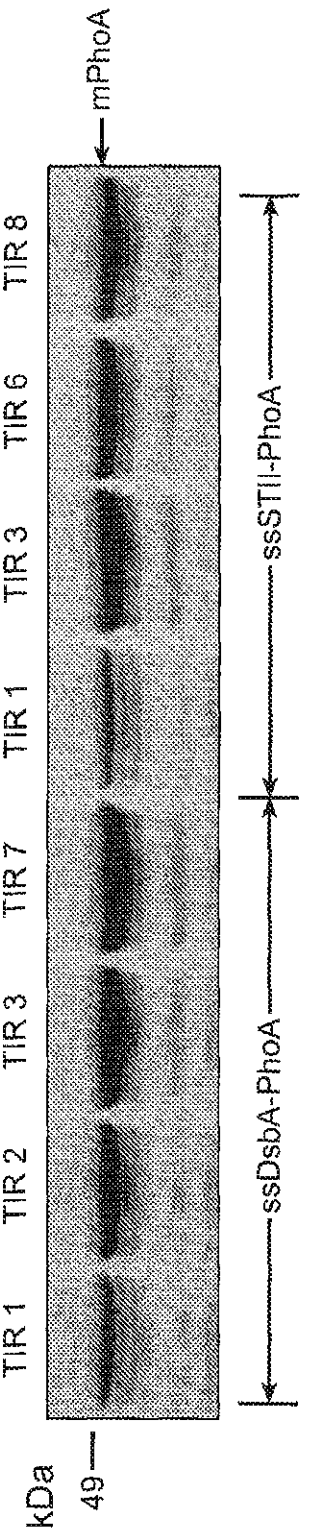

mPhoA
TIR 8
TIR 6
TIR 3
TIR 1
TIR 7
TIR 3
TIR 2
TIR 1
ssSTII-PhoA
ssDsbA-PhoA
kDa
49

FIG. 6

FIG. 7

**5D5.v2 Light Chain**

| | |
|---|---|
| FR1-LC: | DIQMTQSPSSLSASVGDRVTITC |
| FR2-LC: | WYQQKPGKAPKLLIY |
| FR3-LC: | GVPSRFSGSGSGTDFTLTISSLQPEDFATYYC |
| FR4-LC: | FGQGTKVEIKR |
| CDR1-LC: | KSSQSLLYTSSQKNYLA |
| CDR2-LC: | WASTRES |
| CDR3-LC: | QQYYAYPWT |
| CL1: | TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSK |
| | DSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC |

**5D5.v2 Heavy Chain**

| | |
|---|---|
| FR1-HC: | EVQLVESGGGLVQPGGSLRLSCAAS |
| FR2-HC: | WVRQAPGKGLEWV |
| FR3-HC: | RFTISADTSKNTAYLQMNSLRAEDTAVYYC |
| FR4-HC: | WGQGTLVTVSS |
| CDR1-HC: | GYTFTSYWLH |
| CDR2-HC: | GMIDPSNSDTRFNPNFKD |
| CDR3-HC: | ATYRSYVTPLDY |
| CH1: | ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPA |
| | VLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHT |
| Fc: | CPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVH |
| | NAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREP |
| | QVYTLPPSREEMTKNQVSLSCAVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFL |
| | VSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK |

FIG. 8

DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHED
PEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE
YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLWCL
VKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRW
QQGNVFSCSVMHEALHNHYTQKSLSLSPGK