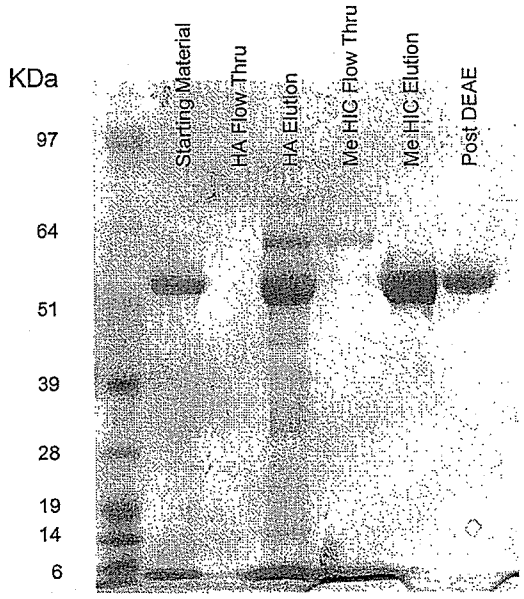
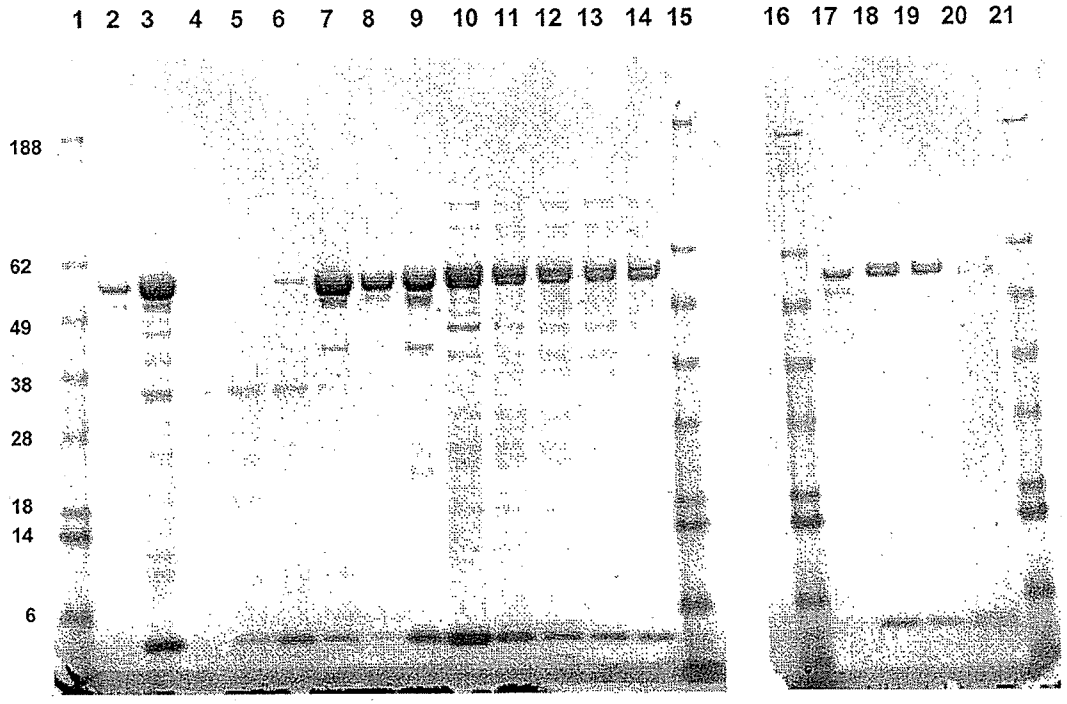
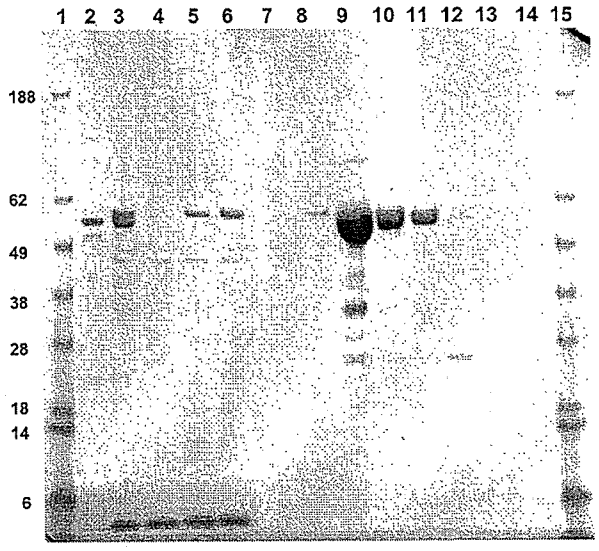

KDa
97
64
51
39
28
19
14
6
Starting Material
HA Flow Thru
HA Elution
Me HIC Flow Thru
Me HIC Elution
Post DEAE

Figure 1



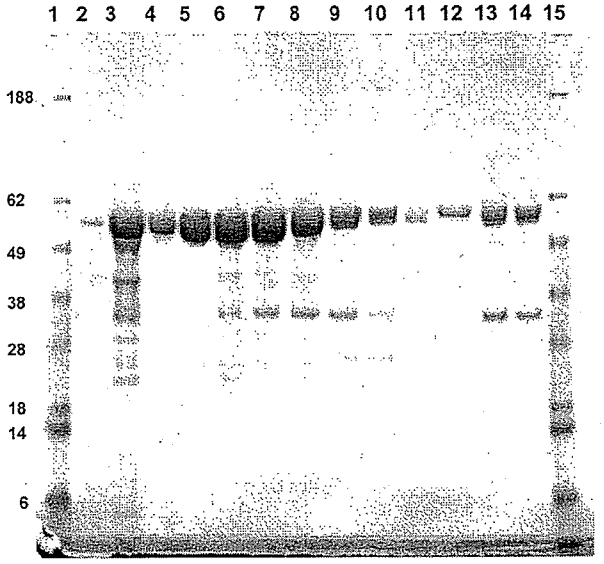
Lane	Sample ID
1.	MW Marker
2.	VLP Standard
3.	HXA Applied Sample
4.	HXA Flow-through Fraction 1
5.	HXA Flow-through Fraction 2
6.	HXA Flow-through Fraction 3
7.	HXA Wash Fraction 1
8.	HXA Wash Fraction 2
9.	HXA Elution Fraction 1
10.	HXA Elution Fraction 1 (Diluted 1:5)
11.	HXA Elution Fraction 1 (Diluted 1:10)
12.	HXA Elution Fraction 2
13.	HXA Elution Fraction 3
14.	HXA Sanitization
15.	MW Marker
16.	MW Marker
17.	VLP Standard 817-73
18.	HXA Elution Fraction 7
19.	HXA Elution Fraction 8
20.	HXA Sanitization
21.	MW Marker

Figure 2



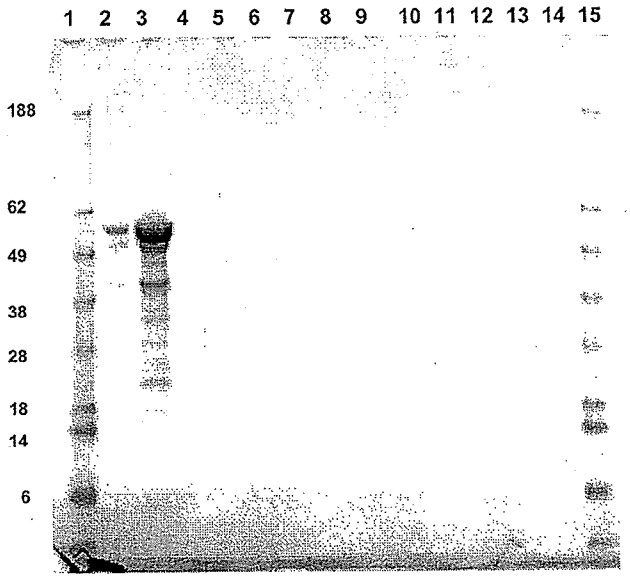
Lane	Sample ID
1.	MW Marker
2.	VLP Standard
3.	M-HIC Applied Sample (Pooled HXA Fractions)
4.	M-HIC Flow-through Fraction 1
5.	M-HIC Flow-through Fraction 2
6.	M-HIC Flow-through Fraction 3
7.	M-HIC Wash Fraction 1
8.	M-HIC Wash Fraction 2
9.	M-HIC Elution Fraction 1
10.	M-HIC Elution Fraction 1 (Diluted 1:5)
11.	M-HIC Elution Fraction 1 (Diluted 1:10)
12.	M-HIC Elution Fraction 2
13.	M-HIC Elution Fraction 3
14.	M-HIC Sanitization
15.	MW Marker

Figure 3



Lane	Sample ID
1.	MW Marker
2.	VLP Standard
3.	DEAE Applied Sample
4.	DEAE Flow-through Fraction 1
5.	DEAE Flow-through Fraction 2
6.	DEAE Flow-through Fraction 3
7.	DEAE Wash Fraction 1
8.	DEAE Wash Fraction 2
9.	DEAE Wash Fraction 3
10.	DEAE Wash Fraction 4
11.	DEAE Wash Fraction 5
12.	DEAE Sanitization
13.	VLP Pool 45-06002B Pool
14.	VLP Initial Concentrate Permeate (ICP) 45-06002B
15.	MW Marker

Figure 4



Lane	Sample ID
1.	MW Marker
2.	VLP Standard
3.	DEAE Pooled Fractions
4.	Initial Concentrate Permeate
5.	Permeate Sample 1
6.	Permeate Sample 2
7.	Permeate Sample 3
8.	Permeate Sample 4
9.	Permeate Sample 5
10.	Permeate Sample 6
11.	Permeate Sample 7
12.	Permeate Sample 8
13.	Permeate Sample 9
14.	Permeate Sample 10
15.	MW Marker

Figure 5

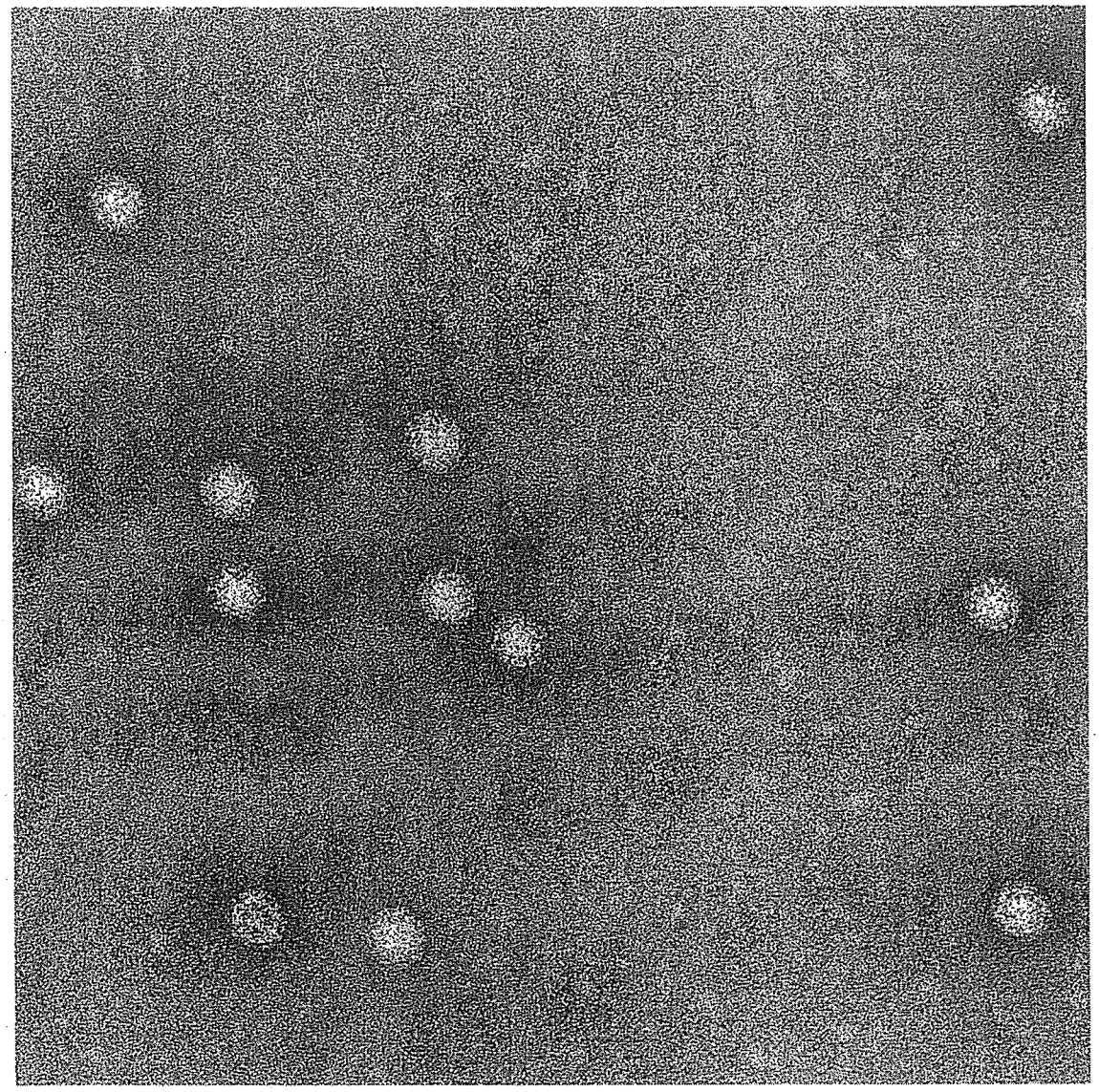


Figure 6

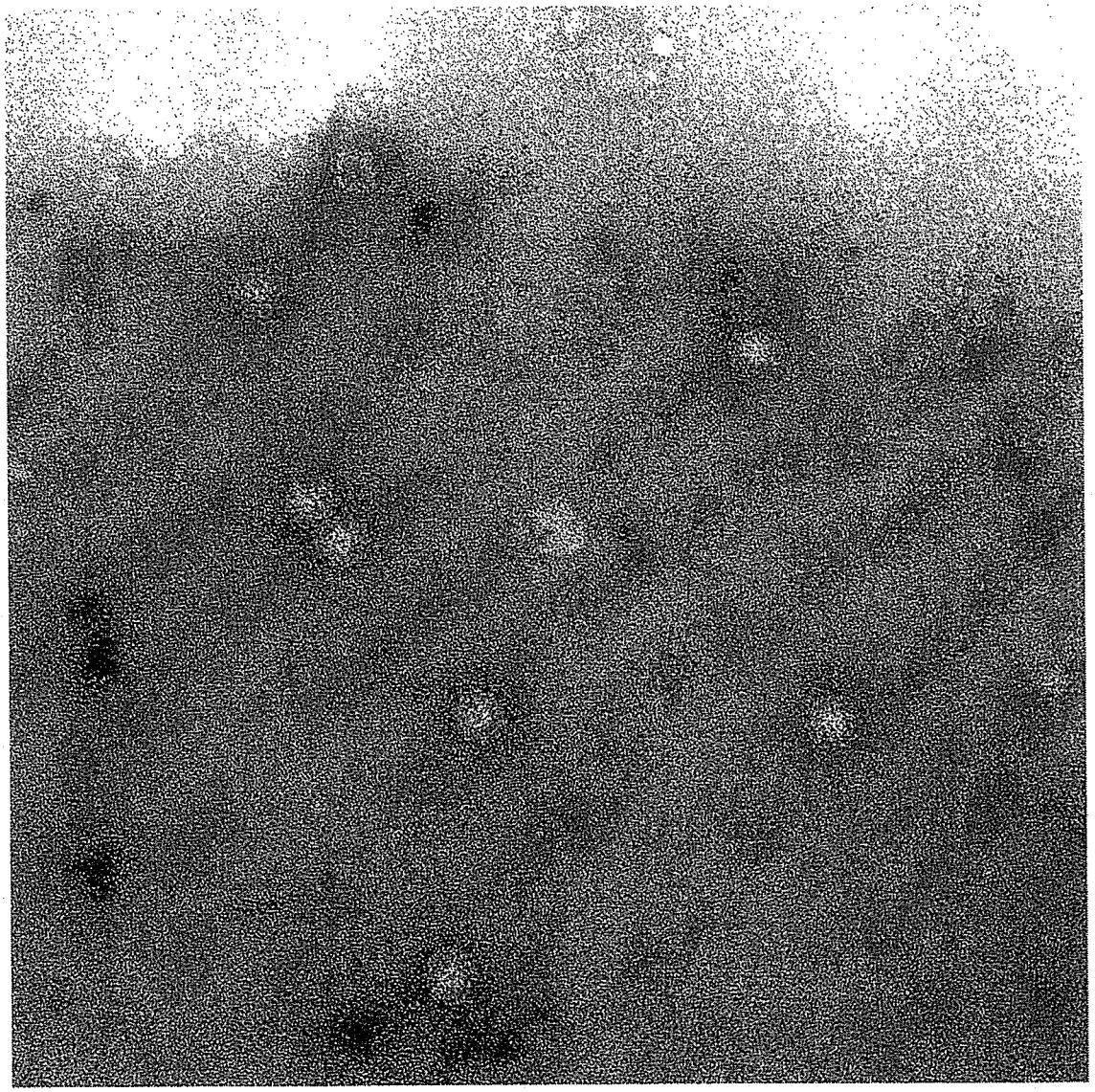


Figure 7

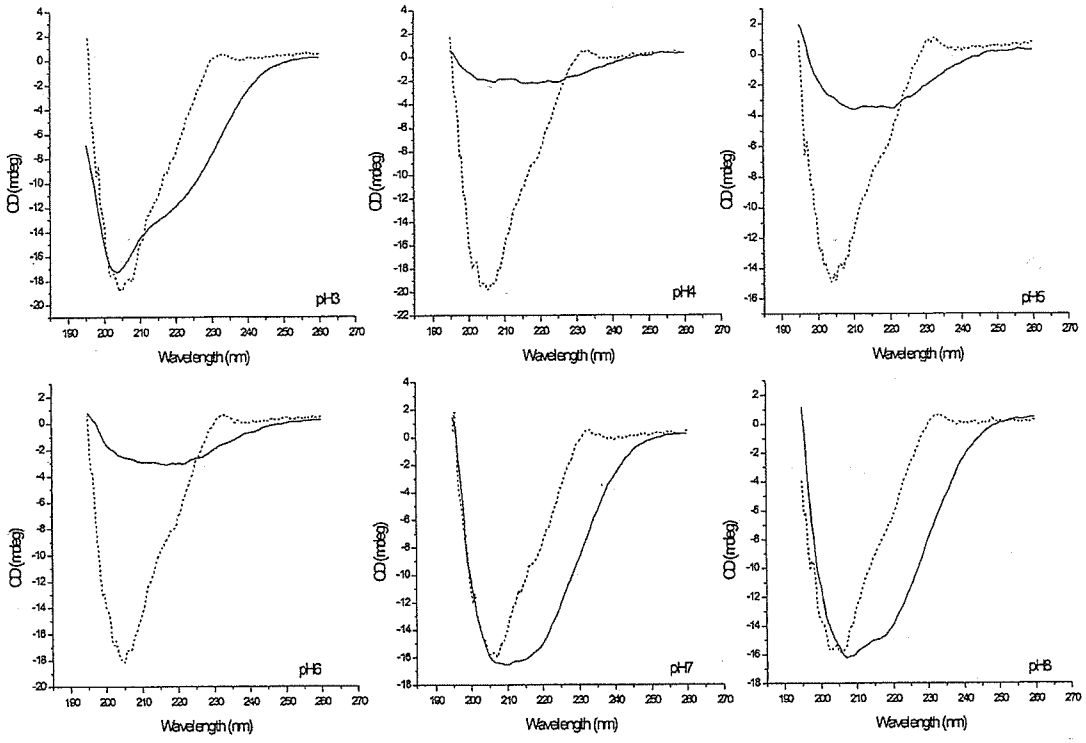


Figure 8

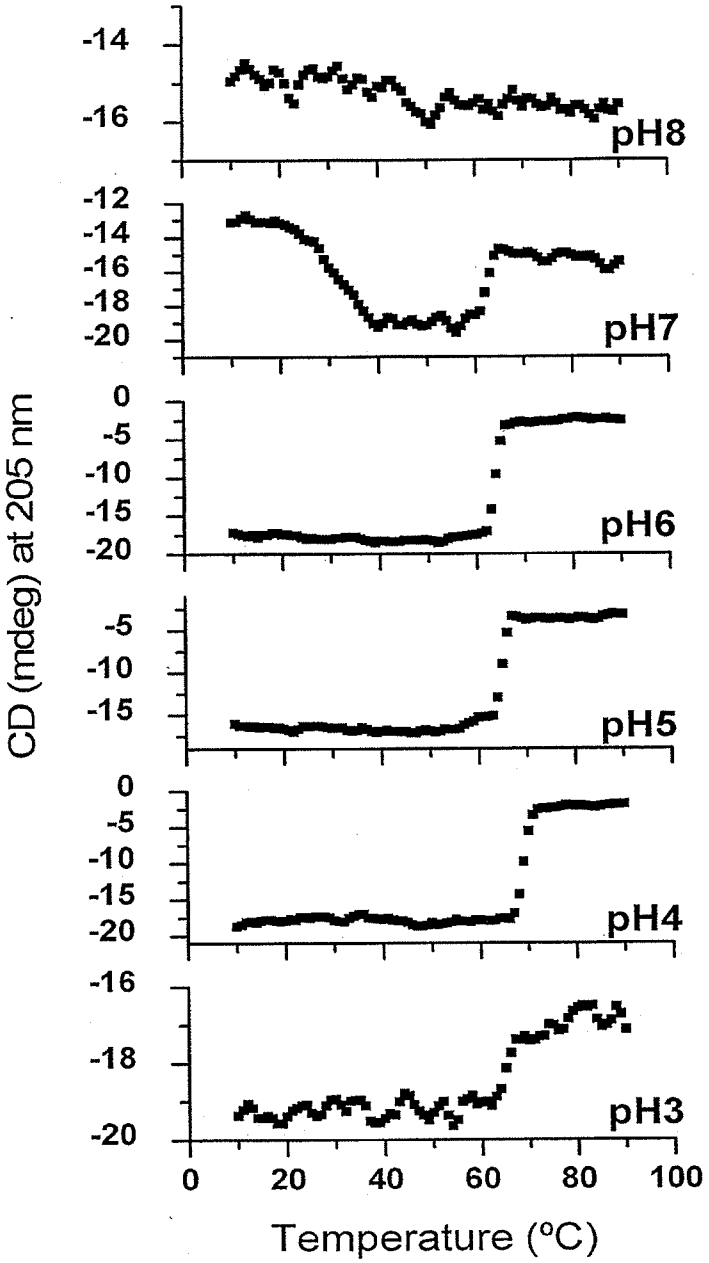

CD (mdeg) at 205 nm
-14
-16
pH8
-12
-14
-16
-18
-20
pH7
0
-5
-10
-15
-20
pH6
-5
-10
-15
pH5
0
-5
-10
-15
-20
pH4
-16
-18
-20
pH3
0
20
40
60
80
100
Temperature (°C)

Figure 9

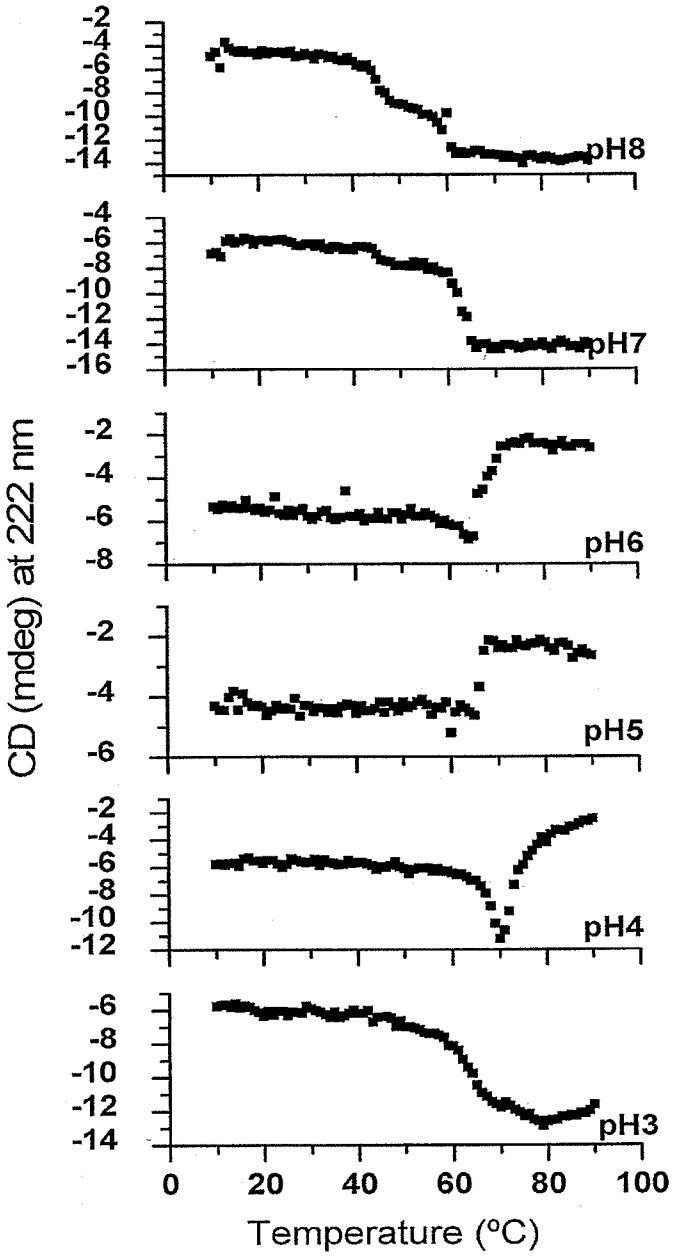

CD (mdeg) at 222 nm
pH8
pH7
pH6
pH5
pH4
pH3
Temperature (°C)
0
20
40
60
80
100

Figure 10

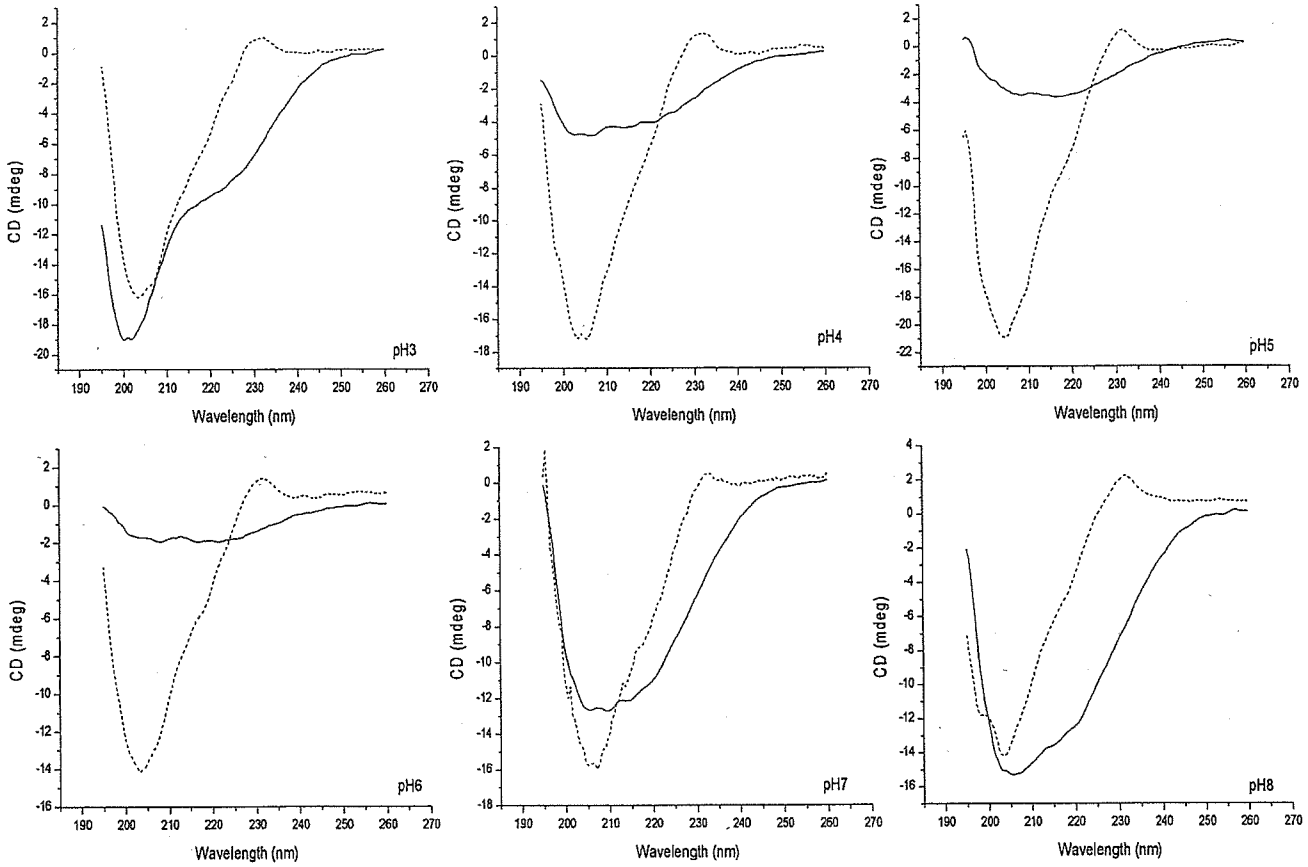


Figure 11

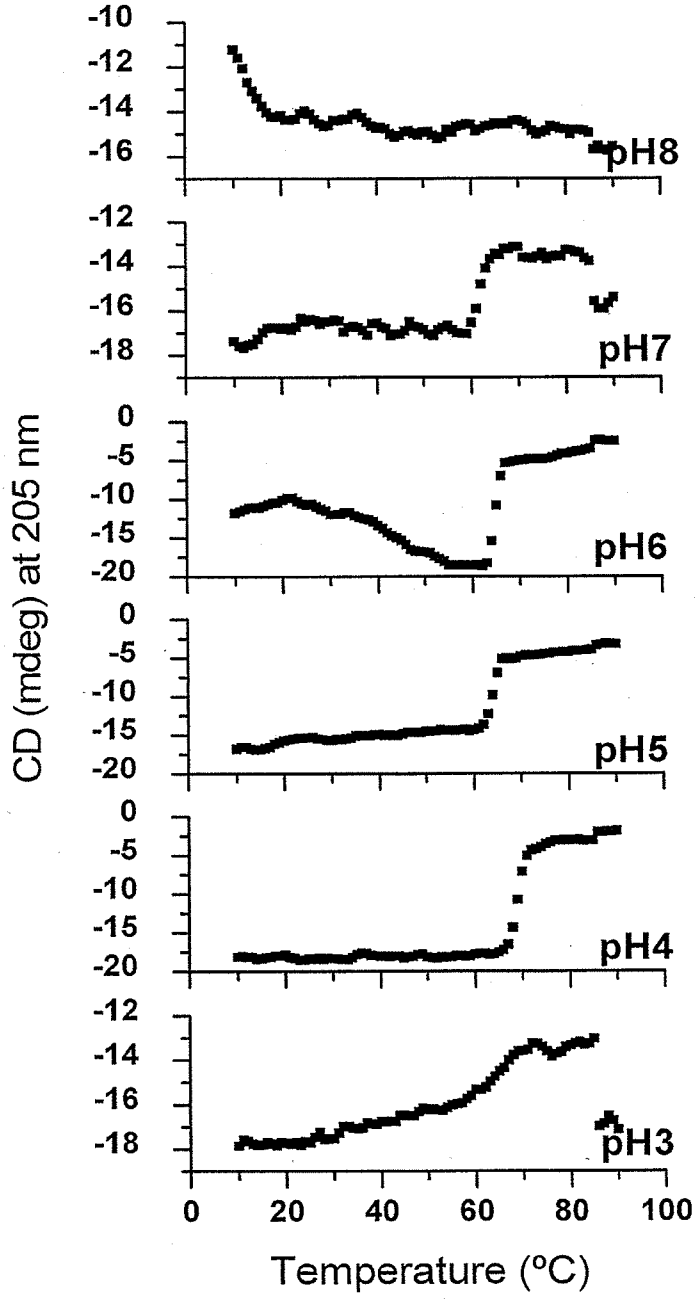

CD (mdeg) at 205 nm
-10
-12
-14
-16
pH8
-12
-14
-16
-18
pH7
0
-5
-10
-15
-20
pH6
0
-5
-10
-15
-20
pH5
0
-5
-10
-15
-20
pH4
-12
-14
-16
-18
pH3
0
20
40
60
80
100
Temperature (°C)

Figure 12

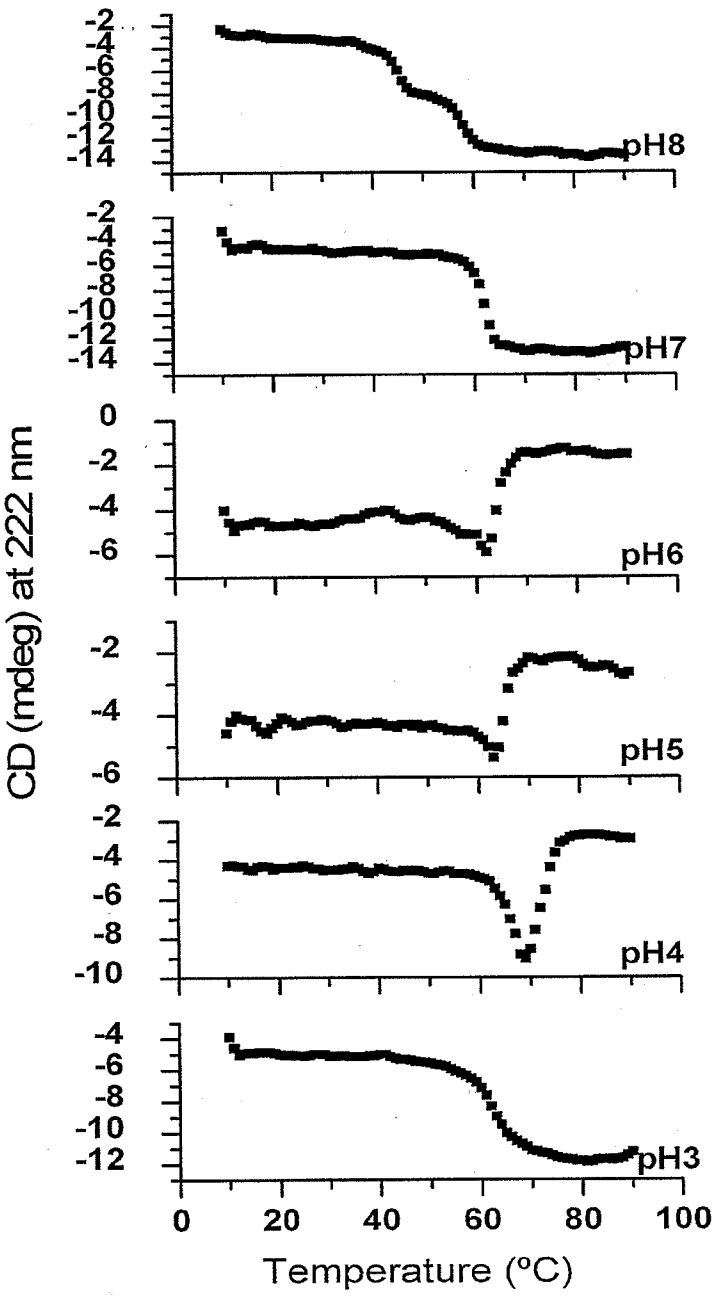

CD (mdeg) at 222 nm
pH8
pH7
pH6
pH5
pH4
pH3
Temperature (°C)
0
20
40
60
80
100

Figure 13

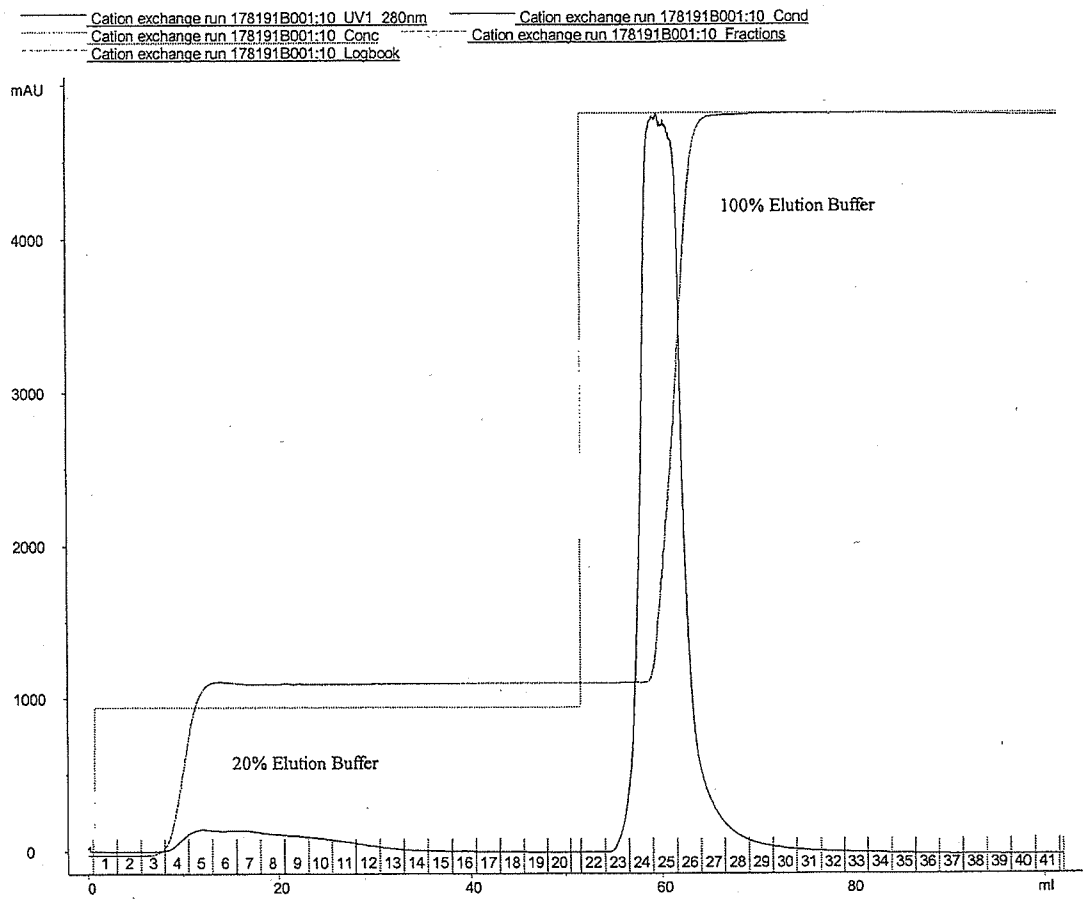

Cation exchange run 178191B001:10 UV1 280nm
Cation exchange run 178191B001:10 Cond
Cation exchange run 178191B001:10 Conc
Cation exchange run 178191B001:10 Fractions
Cation exchange run 178191B001:10 Logbook
mAU
4000
3000
2000
1000
0
100% Elution Buffer
20% Elution Buffer
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41
0
20
40
60
80
ml

Figure 14

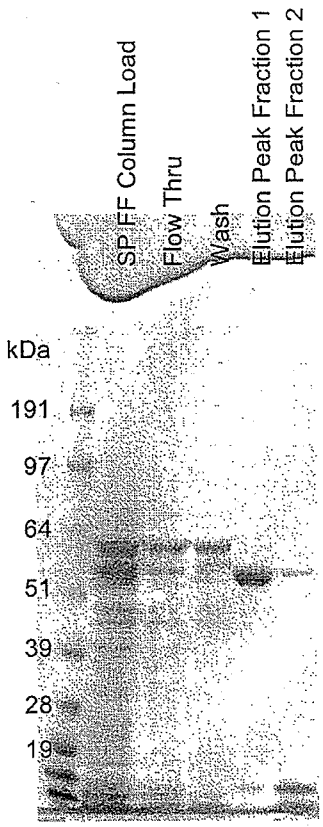

SP FF Column Load
Flow Thru
Wash
Elution Peak Fraction 1
Elution Peak Fraction 2
kDa
191
97
64
51
39
28
19

Figure 15

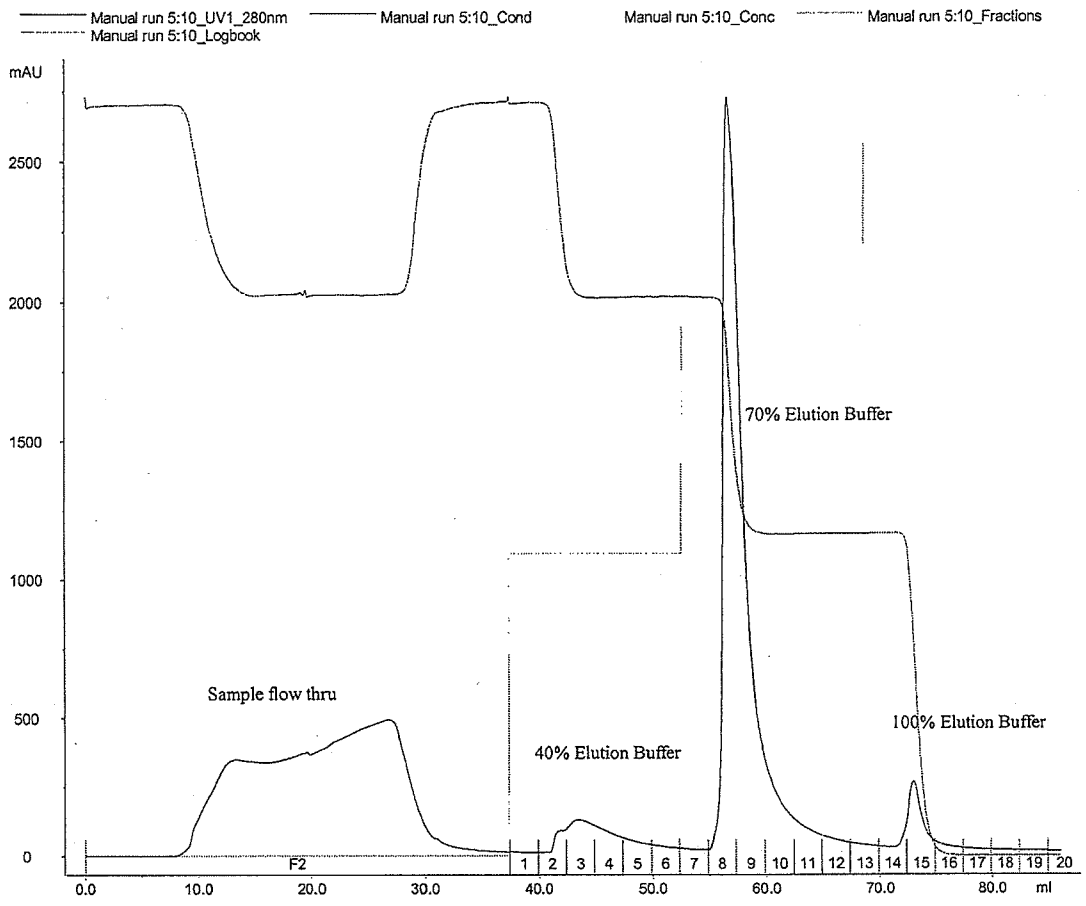

Manual run 5:10_UV1_280nm
Manual run 5:10_Cond
Manual run 5:10_Conc
Manual run 5:10_Fractions
Manual run 5:10_Logbook
mAU
2500
2000
1500
1000
500
0
70% Elution Buffer
Sample flow thru
40% Elution Buffer
100% Elution Buffer
F2
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0 80.0 ml

Figure 16

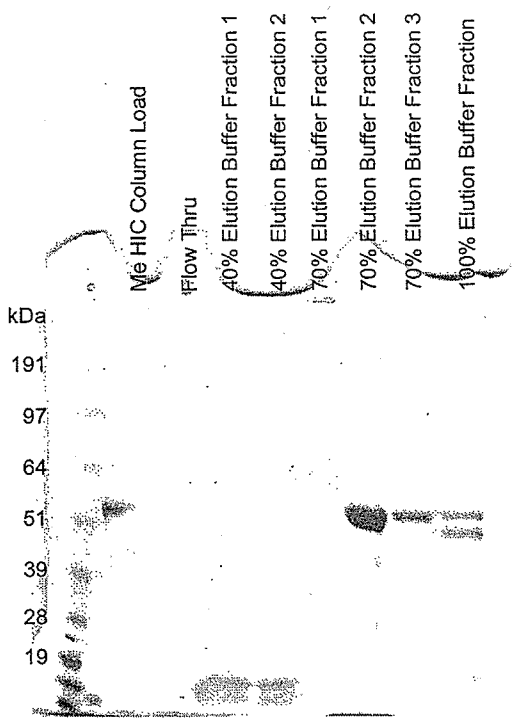

Me HIC Column Load
Flow Thru
40% Elution Buffer Fraction 1
40% Elution Buffer Fraction 2
70% Elution Buffer Fraction 1
70% Elution Buffer Fraction 2
70% Elution Buffer Fraction 3
100% Elution Buffer Fraction
kDa
191
97
64
51
39
28
19

Figure 17

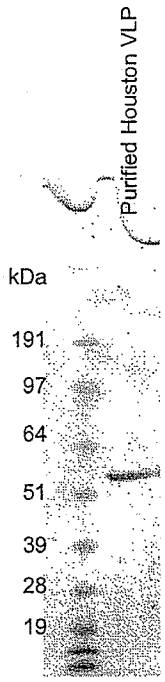


Figure 18

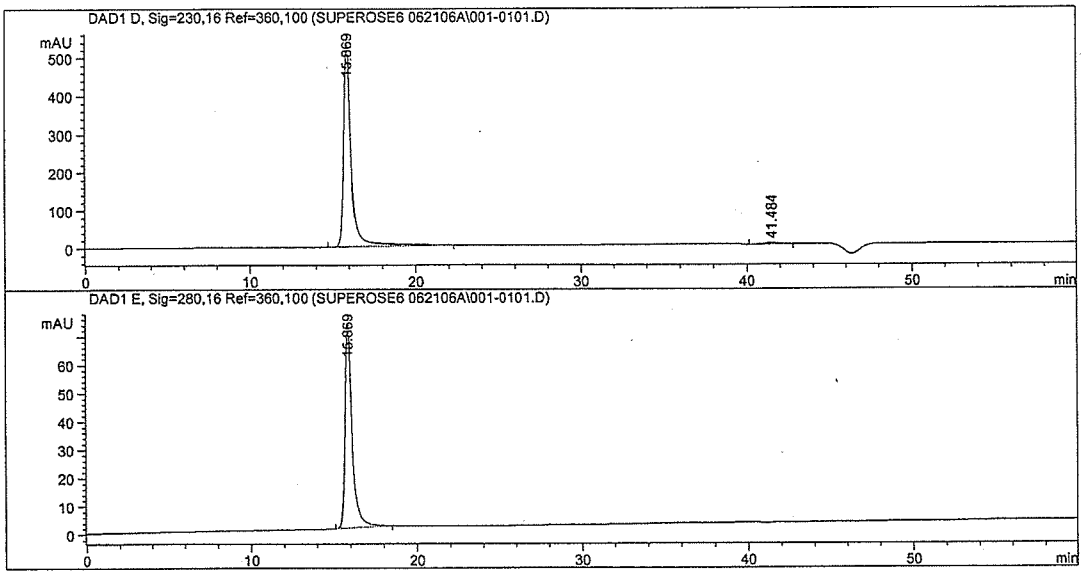

DAD1 D, Sig=230,16 Ref=360,100 (SUPEROSE6 062106A\001-0101.D)
mAU
500
400
300
200
100
0
15.869
41.484
0
10
20
30
40
50
min
DAD1 E, Sig=280,16 Ref=360,100 (SUPEROSE6 062106A\001-0101.D)
mAU
60
50
40
30
20
10
0
15.869
0
10
20
30
40
50
min

Figure 19

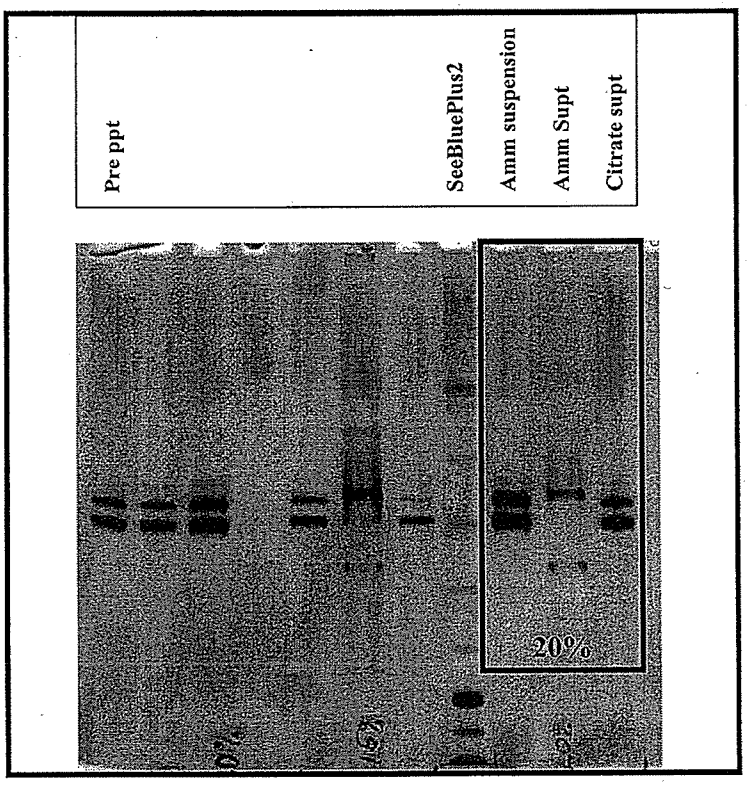

Pre ppt
SeeBluePlus2
Amm suspension
Amm Supt
Citrate supt
20%

Figure 20

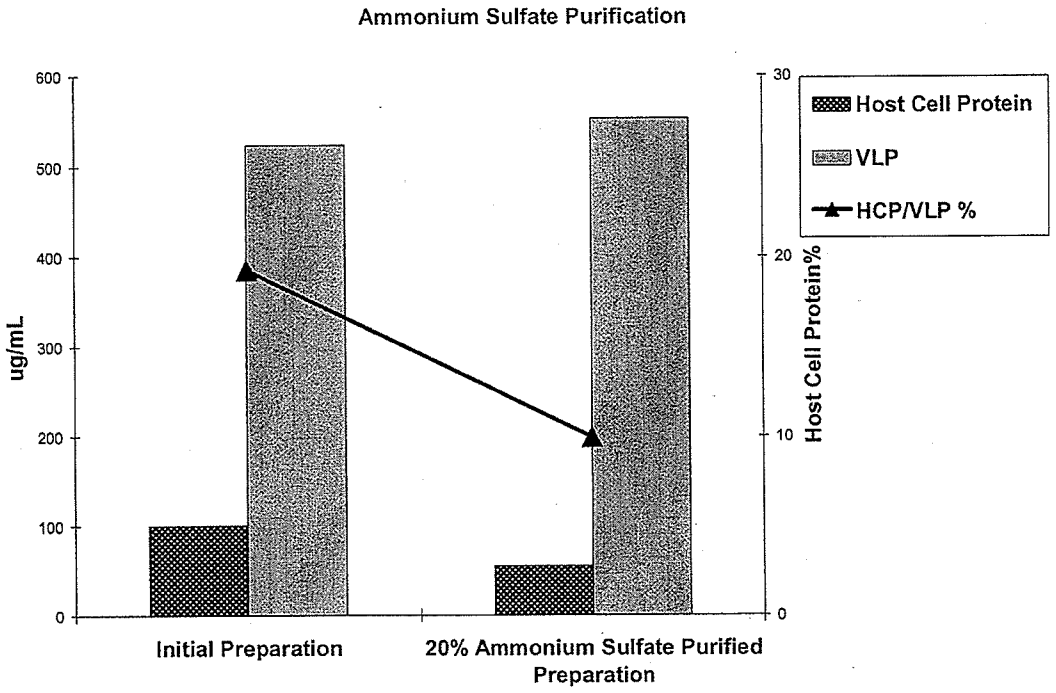
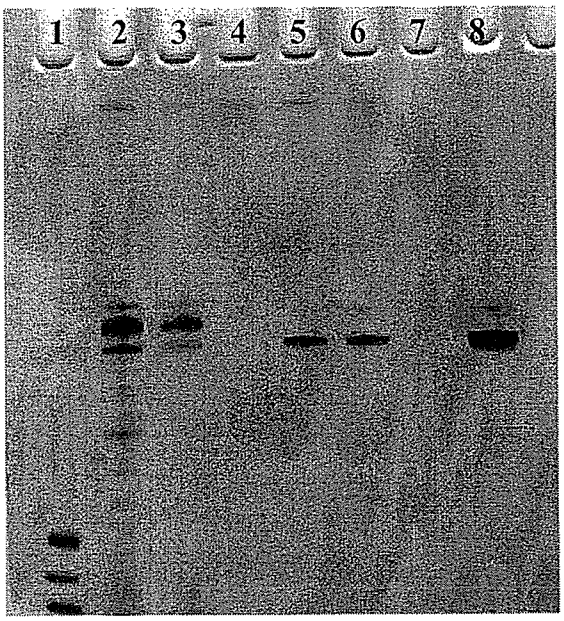
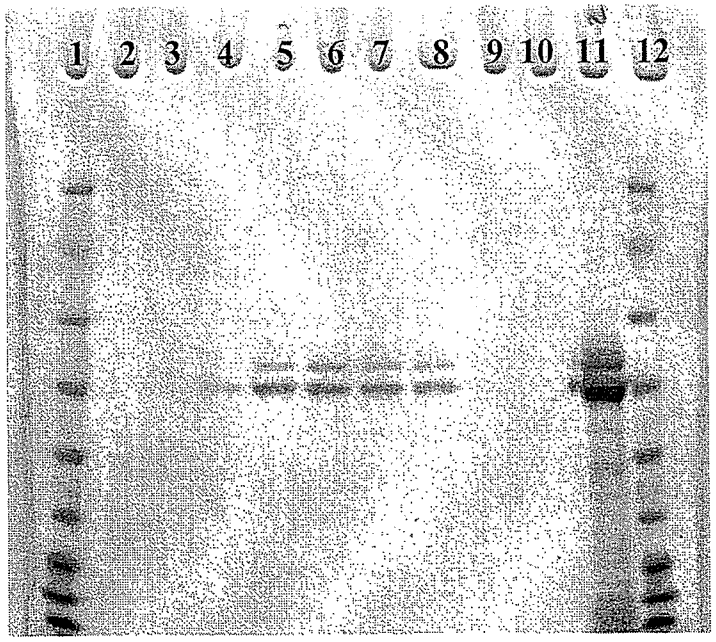

Ammonium Sulfate Purification
600
500
400
300
200
100
0
ug/mL
30
20
10
0
Host Cell Protein%
Host Cell Protein
VLP
HCP/VLP %
Initial Preparation
20% Ammonium Sulfate Purified Preparation

Figure 21



Lane	Sample ID
1	MW Std
2	Infected Culture
3	Infected Culture at pH 5.5
4	Supernatant of pH 5.5 Culture
5	Resuspended Pellet
6	VLP Extract
7	Q100 20% Elution
8	Q100 50% Elution

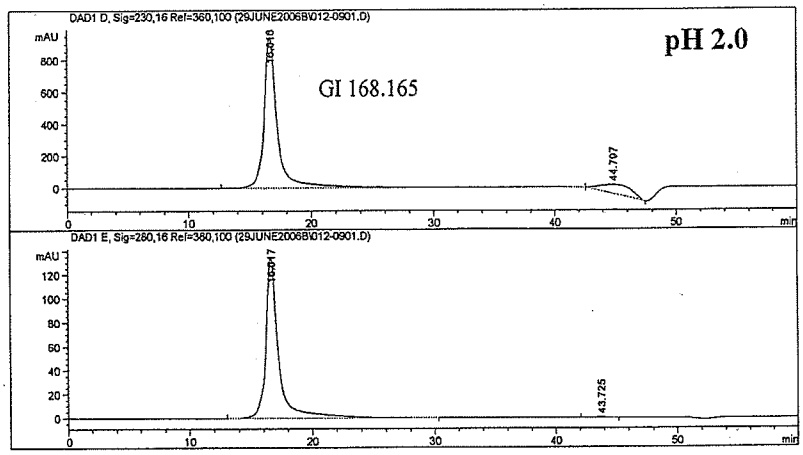
Figure 22



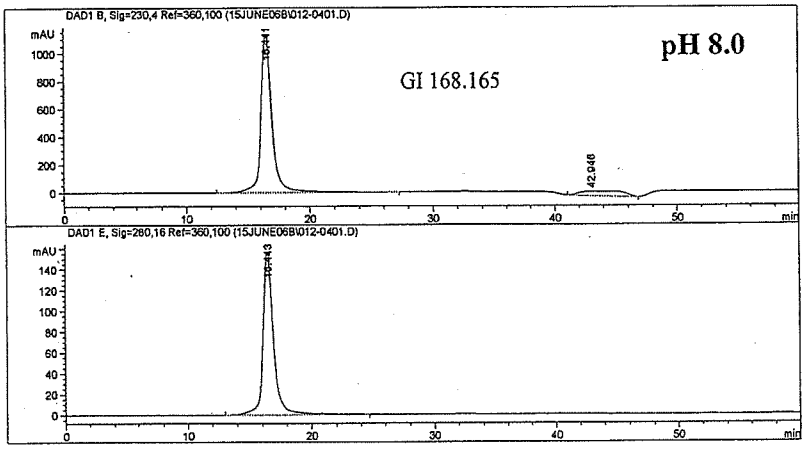
Lane	Sample ID
1	MW Std
2	Q100 Flow Through
3	Q100 20% Wash Fraction
4	Q100 20% Wash Fraction
5	Q100 40% Elution Fraction
6	Q100 40% Elution Fraction
7	Q100 40% Elution Fraction
8	Q100 40% Elution Fraction
9	Q100 100% Wash Fraction
10	Q100 100% Wash Fraction
11	VLP Extract

Figure 23

A



B



C

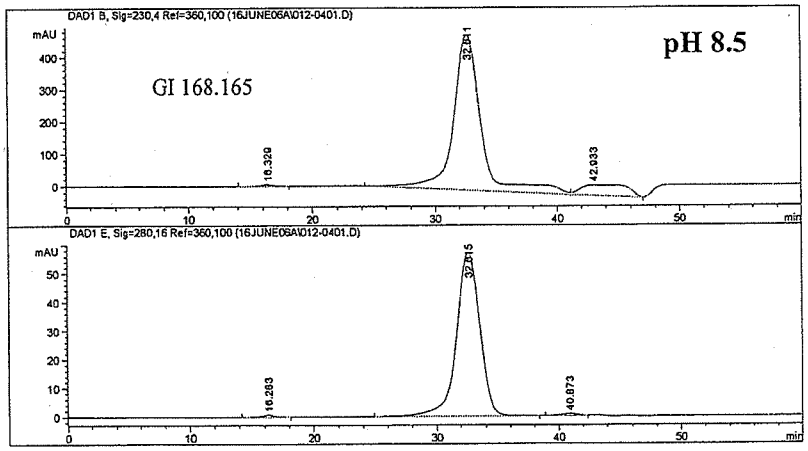
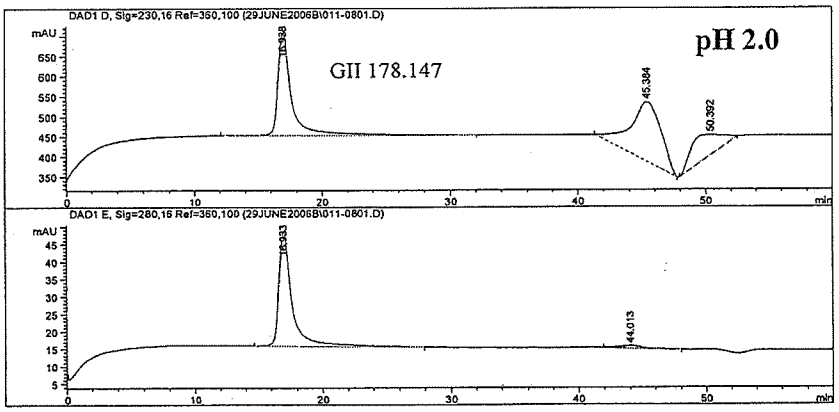
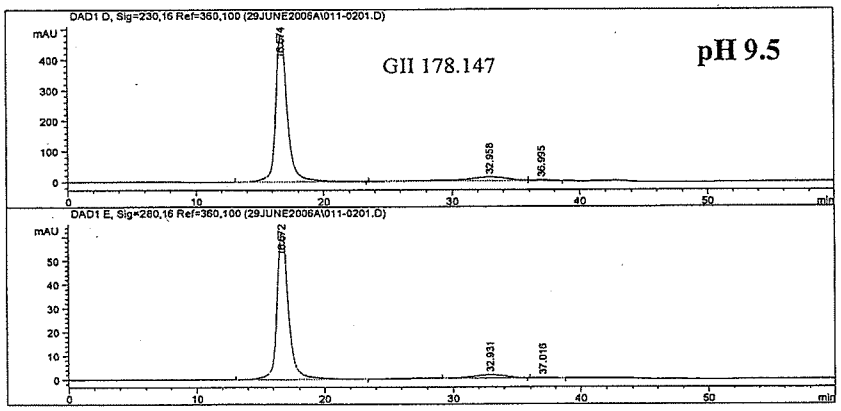


Figure 24

A



B



C

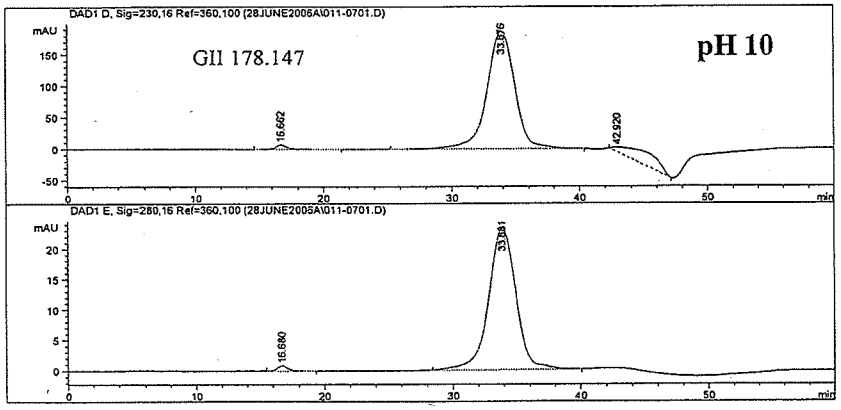


Figure 25