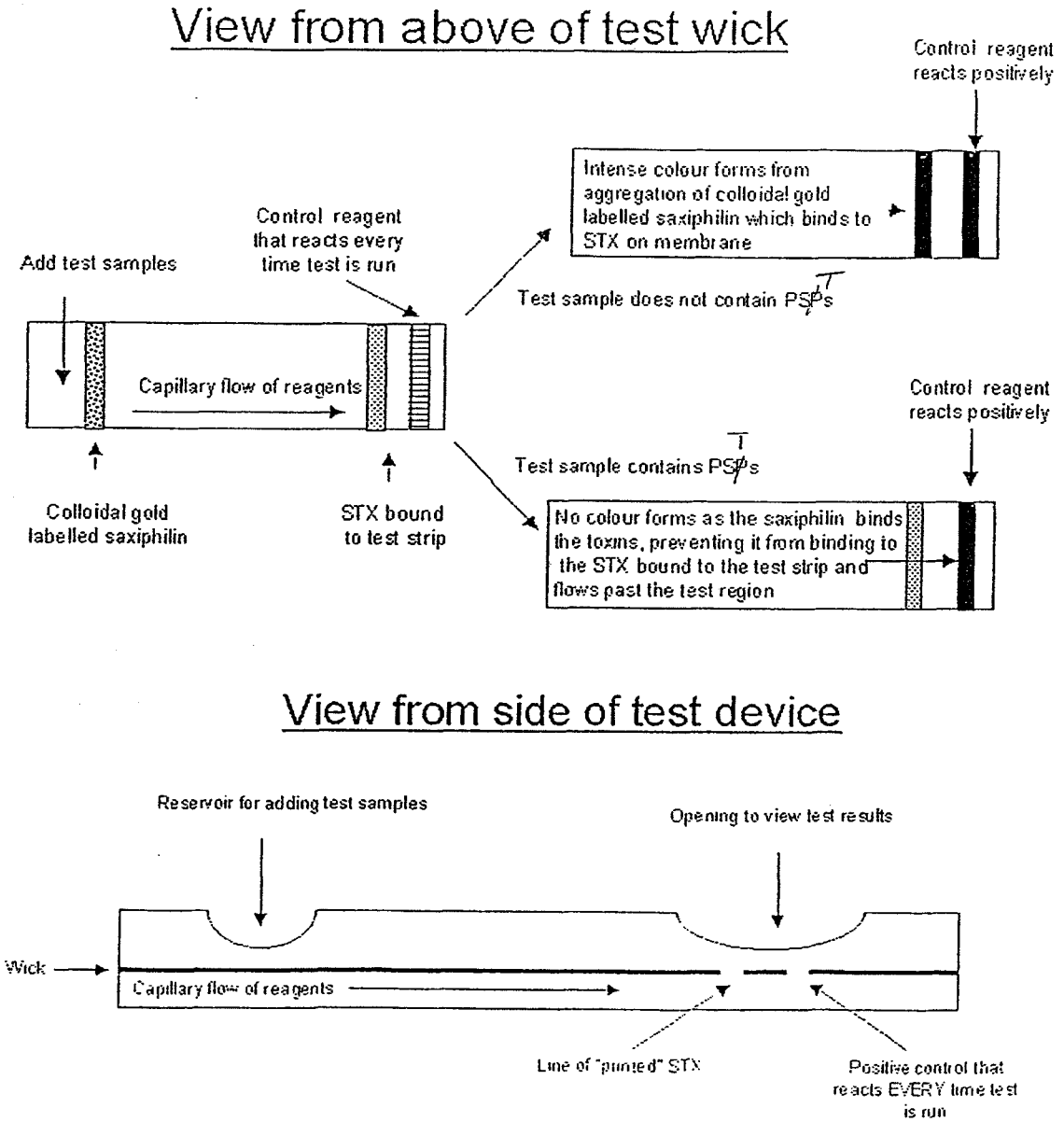

View from above of test wick
Control reagent reacts positively
Intense colour forms from aggregation of colloidal gold labelled saxiphilin which binds to STX on membrane
Control reagent that reacts every time test is run
Add test samples
Test sample does not contain PSPs
Capillary flow of reagents
Control reagent reacts positively
Test sample contains PSPs
Colloidal gold labelled saxiphilin
STX bound to test strip
No colour forms as the saxiphilin binds the toxins, preventing it from binding to the STX bound to the test strip and flows past the test region
View from side of test device
Reservoir for adding test samples
Opening to view test results
Wick
Capillary flow of reagents
Line of "printed" STX
Positive control that reacts EVERY time test is run

Figure 1

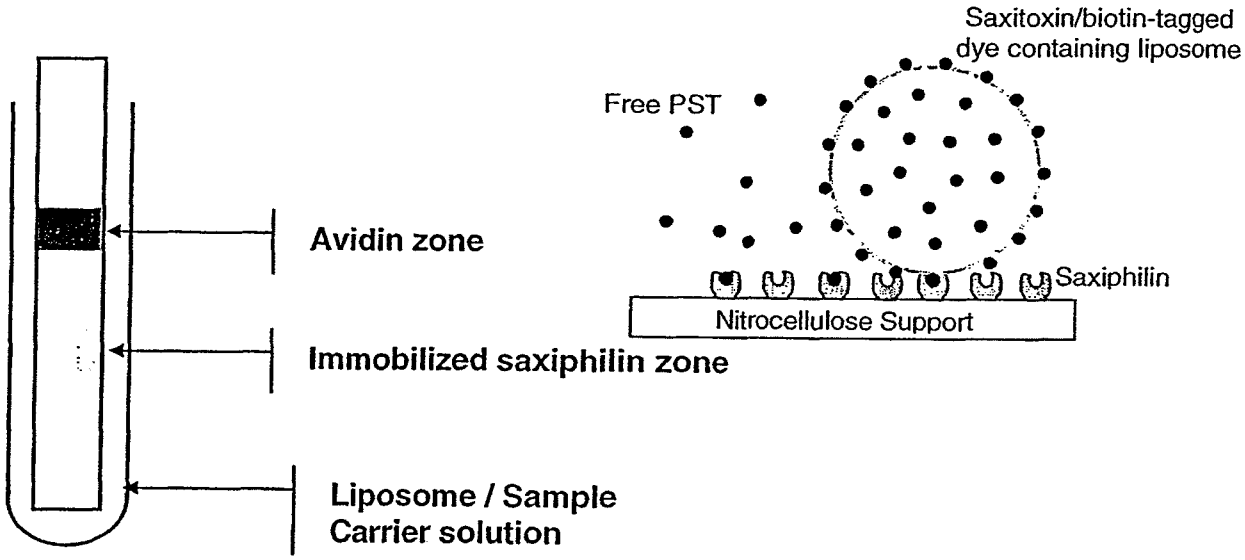


Fig. 2. Saxiphilin migration assay device

Figure 2

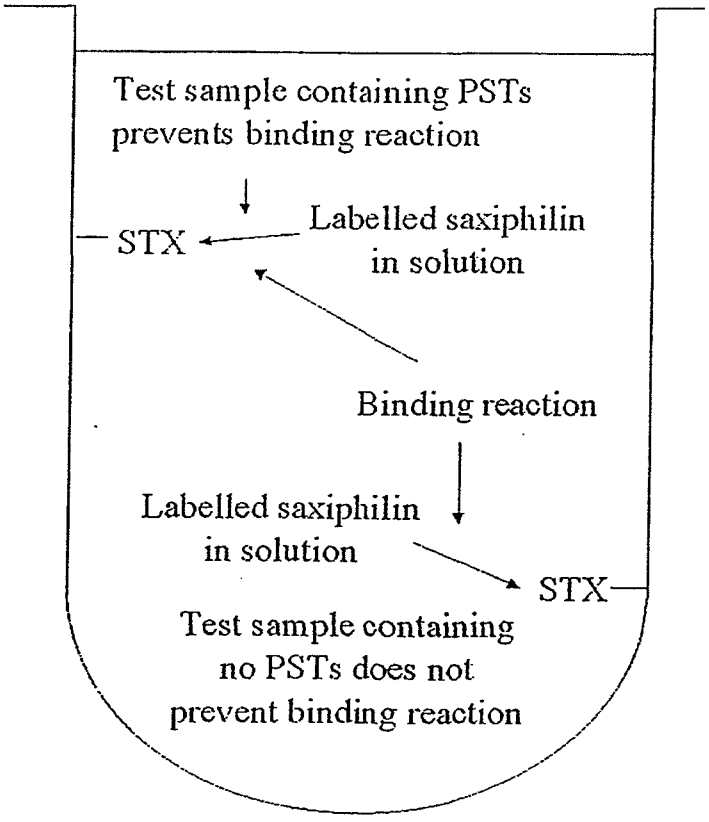

Test sample containing PSTs prevents binding reaction
STX
Labelled saxiphilin in solution
Binding reaction
Labelled saxiphilin in solution
STX
Test sample containing no PSTs does not prevent binding reaction

Figure 3

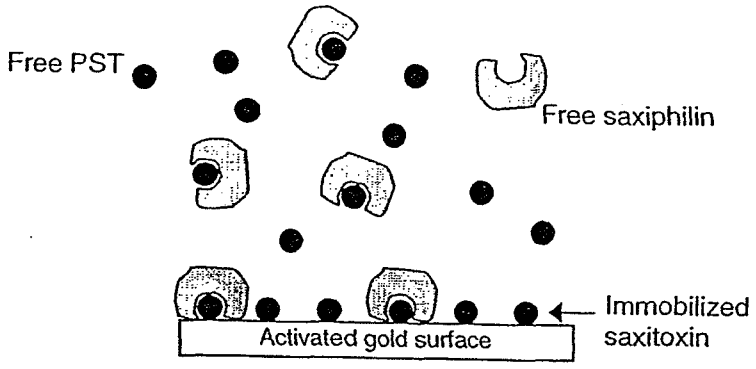

Free PST
Free saxiphilin
Immobilized
saxitoxin
Activated gold surface

Figure 4

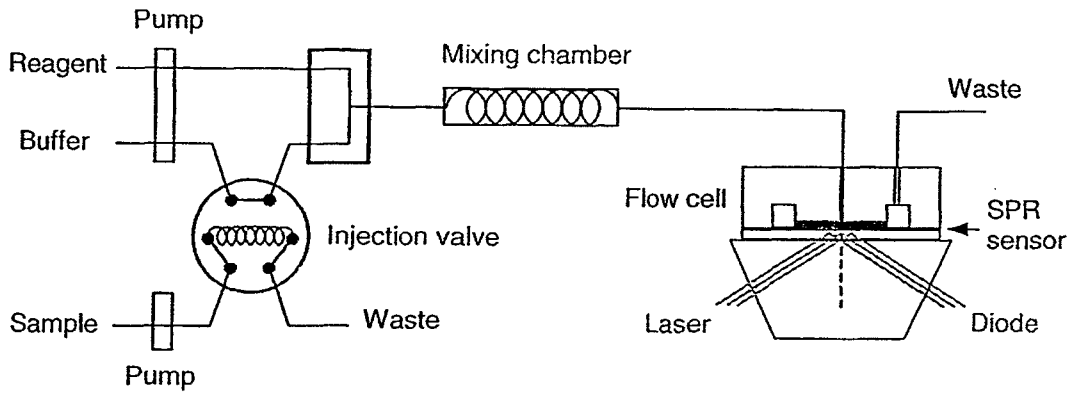


Fig. 5. Flow-injection SPR assay

Figure 5

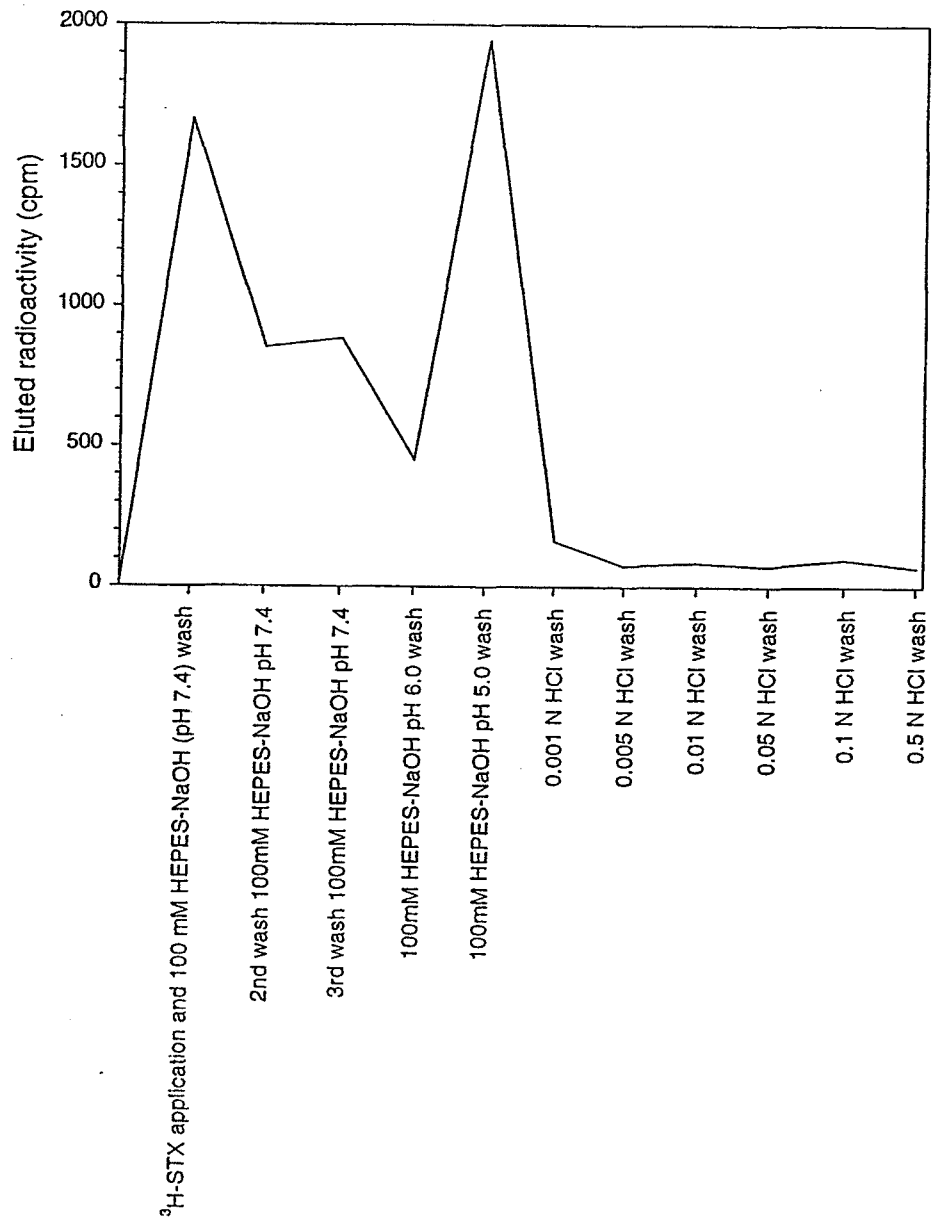

2000
1500
1000
500
0
Eluted radioactivity (cpm)
^{3}H-STX application and 100 mM HEPES-NaOH (pH 7.4) wash
2nd wash 100mM HEPES-NaOH pH 7.4
3rd wash 100mM HEPES-NaOH pH 7.4
100mM HEPES-NaOH pH 6.0 wash
100mM HEPES-NaOH pH 5.0 wash
0.001 N HCl wash
0.005 N HCl wash
0.01 N HCl wash
0.05 N HCl wash
0.1 N HCl wash
0.5 N HCl wash

Figure 6

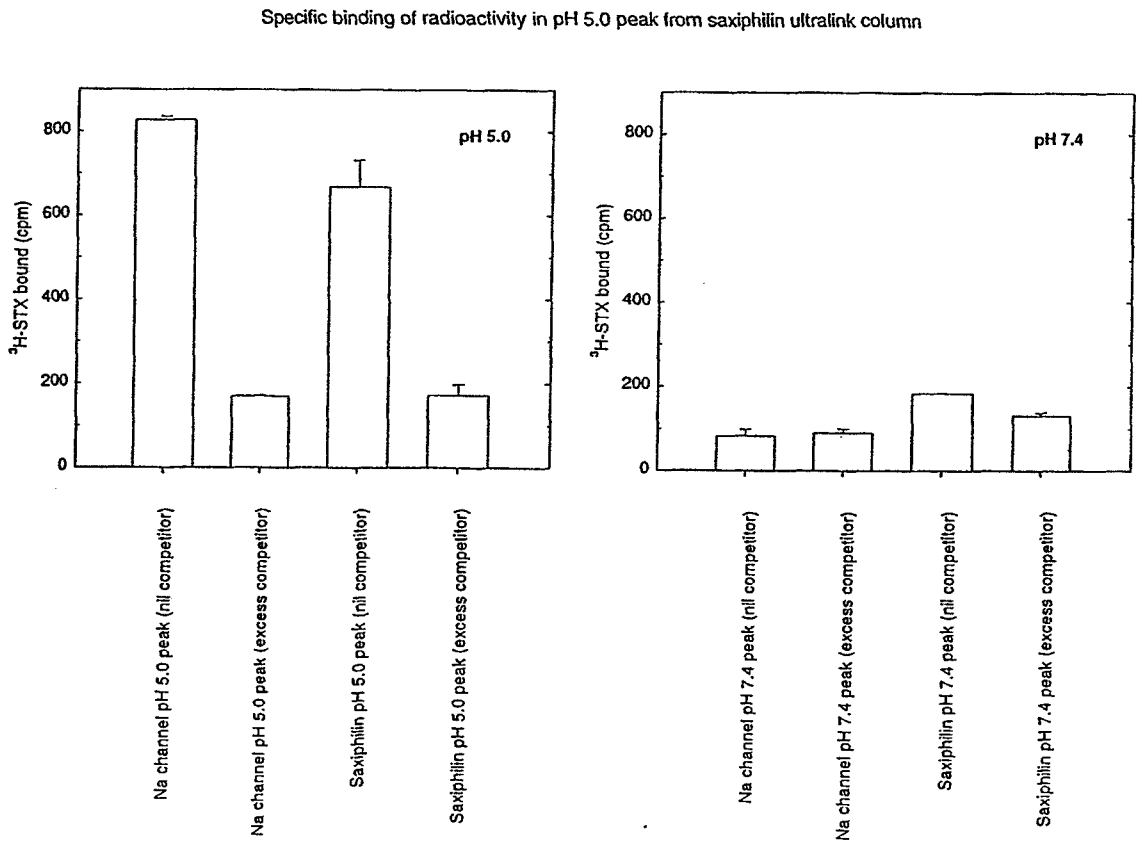

Specific binding of radioactivity in pH 5.0 peak from saxiphilin ultralink column
pH 5.0
pH 7.4
^{3}H-STX bound (cpm)
0
200
400
600
800
Na channel pH 5.0 peak (nil competitor)
Na channel pH 5.0 peak (excess competitor)
Saxiphilin pH 5.0 peak (nil competitor)
Saxiphilin pH 5.0 peak (excess competitor)
Na channel pH 7.4 peak (nil competitor)
Na channel pH 7.4 peak (excess competitor)
Saxiphilin pH 7.4 peak (nil competitor)
Saxiphilin pH 7.4 peak (excess competitor)

Figure 7

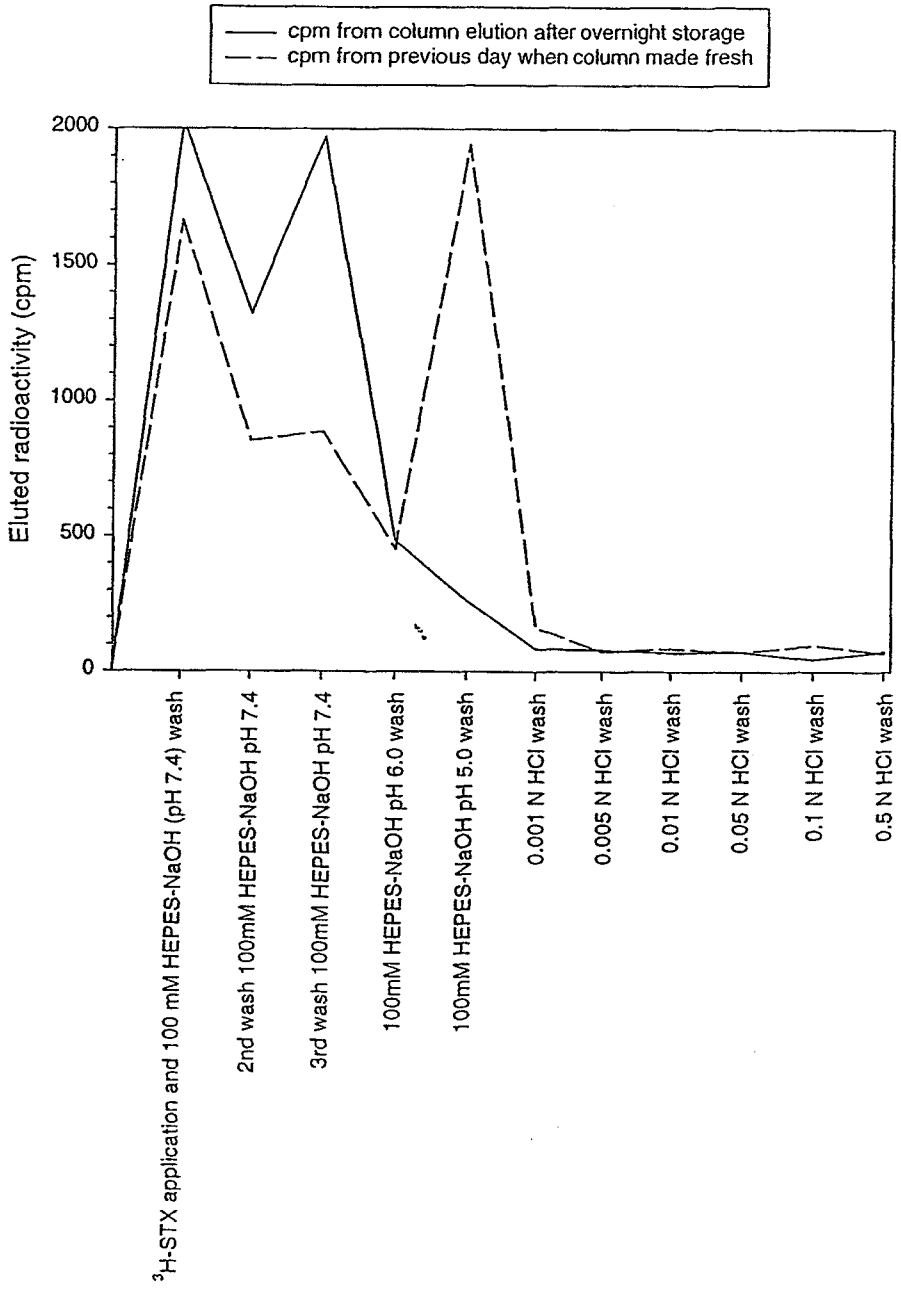

cpm from column elution after overnight storage
cpm from previous day when column made fresh
Eluted radioactivity (cpm)
2000
1500
1000
500
0
^{3}H-STX application and 100 mM HEPES-NaOH (pH 7.4) wash
2nd wash 100mM HEPES-NaOH pH 7.4
3rd wash 100mM HEPES-NaOH pH 7.4
100mM HEPES-NaOH pH 6.0 wash
100mM HEPES-NaOH pH 5.0 wash
0.001 N HCl wash
0.005 N HCl wash
0.01 N HCl wash
0.05 N HCl wash
0.1 N HCl wash
0.5 N HCl wash

Figure 8