

visualized by Phosphomolybdic Acid Spray Reagent (Sigma), R₀.3.

The crude product was purified by low pressure column chromatography (silica gel, 10% CH₃OH-CH₂Cl₂) to yield the product as a white solid (185.3 mg). The product was detected by a variable wavelength UV detector set at 230 nm.

EXAMPLE V

Preparation of Liposome Containing Rhodamine Dye Sensitized with Digoxigenin (Tracer)

Phosphatidyl choline, dipalmitoyl (dppc), cholesterol (chol), phosphatidyl ethanolamine, disteraroil-digoxigenin (dspe-dig) (Example V), and phosphatidyl glycerol, dipalmitoyl (dppG) are dissolved in chloroform/methanol (20:1) in the ratio of 50 mole % chol, 40 mole % dppc, 10 mole % dppg and a trace amount (e.g., 200 ug) of dspe-dig is added. The lipids are dried on the inside of a round bottom flask under reduced pressure on a rotary evaporator, and subsequently placed on a lyophilizer overnight to remove all traces of residual solvent. A solution of 0.01M sulforhodamine B in water is added to the flask (10 ml), and the flask is shaken vigorously or, if desired, sonicated briefly. This operation is conducted at 60° C. The liposomes form spontaneously under this condition as is known in the art, and contain approximately 0.1M rhodamine dye encapsulated. Detectable digoxigenin is exposed on the surface of the liposomes. The liposomes are washed several times in a buffer solution of the same osmolarity as the encapsulated dye (about 310 mosm/Kg) to prevent osmotic lysis. The preparation is filtered through a 0.4 or 0.2u filter to remove the larger liposomes. The liposomes are diluted in buffer solution so as to contain 1 mole of phospholipid per ml of buffer solution.

Although the tracer may be determined without lysis or destruction of the sac containing the marker, it is to be understood that the scope of the invention and claims is not limited to such a determination in that, as should be apparent, a user of the assay could elect to destroy the sac before making the determination.

Numerous modifications and variations of the present invention are possible in light of the above teachings and, therefore, within the scope of the claims the invention may be practiced otherwise than as particularly described.

What is claimed is;

1. A process for assaying for an analyte, comprising: contacting a binder supported on a test area of a solid support with analyte and a tracer, said binder being a specific binder for at least the analyte, said tracer being comprised of a ligand labeled with a liposome, said liposome including a detectable marker which is not visible, said ligand being bound to one of the binder on the support or the analyte bound to the binder on the support, said test area being formed of a material having a surface area for supporting the binder and said binder being supported in the test area in a concentration of at least 1 ug/cm and at which tracer may be determined without lysis of the liposome; and determining the tracer bound in said test area as a measure of analyte in a sample.
2. The process of claim 1 wherein analyte and tracer are sequentially contacted with the binder on the solid support.

3. The process of claim 1 wherein the analyte and tracer are simultaneously contacted with binder on the solid support.

4. The process of claim 1 wherein the analyte is digoxin.

5. The process of claim 1 wherein the analyte is (hCG) human chorionic gonadotropin.

6. The process of claim 1 wherein the tracer is determined without lysis of the liposome.

7. The process of claim 1 wherein the solid support is in sheet form.

8. The process of claim 1 wherein the binder is an antibody.

9. The process of claim 8 wherein the tracer is a labeled form of the analyte.

10. The process of claim 8 wherein the tracer is a labeled form of an antibody for the analyte.

11. The process of claim 1 wherein the assay is for human chorionic gonadotropin the binder is antibody to human chorionic gonadotropin and said tracer is comprised of antibody to human chorionic gonadotropin labeled with a (sac) liposome containing a fluorescent material as said detectable marker.

12. The process of claim 11 wherein the test area is formed of nitrocellulose.

13. The process of claim 1 wherein the assay is for digoxin, said binder is antibody to digoxin and the tracer is comprised of an analogue of digoxin (bound by said antibody) labeled with a sac containing a fluorescent material as said detectable marker(,), said analogue being bound by said antibody.

14. The process of claim 13 wherein the test area is formed of nitrocellulose.

15. A process for assaying for an analyte, comprising: contacting a binder supported on a test area of a solid support with analyte and a tracer, said binder being a binder specific for at least the analyte, said tracer being comprised of a ligand labeled with a liposome including a detectable marker which is not visible, said ligand being bound to one of the binder on the support or the analyte bound to the binder on the support, said test area being formed of nitrocellulose, said binder being supported in the test area in a concentration of at least 1 ug/cm and at which tracer may be determined without lysis of the liposome; and

determining the tracer bound in said test area as a measure of analyte in a sample.

16. The process of claim 15 wherein the tracer in said test area is determined without lysis of the liposome.

17. The process of claim 16 wherein the analyte is (hCG) human chorionic gonadotropin.

18. The process of claim 16 wherein the analyte is digoxin.

19. The process of claim 16 wherein the analyte is in a sample in a concentration of no greater than 10⁻⁹ gm/ml

20. The process of claim 15 wherein the analyte is in a sample in a concentration of no greater than 10⁻⁹ gm/ml.

21. The process of claim 15 wherein the solid support is in sheet form.

22. The process of claim 15 wherein the support contains a plurality of said test areas.

23. The process of claim 15 wherein the binder is supported in a concentration of at least 40 μg/cm².