

5,12-dihydro quinoxalo (2,3,6) phenazine, magnesium and zinc metalo porphyrins, neutral red, magdalla red, acridine red, acridine orange, dianisyl ethynyl tetracene, phenizine, rhodamine, 3,4,9,10 perylene tetracarboxylic dianhydride, and derivatives thereof.

40. a conjugated microencapsulated fluorescer/immunological specie composition useful in the detection of a biological of interest which has been formed via reacting an immunological specie with a microencapsulated fluorescer possessing a microcapsule structure having one or more reactive groups to enable the microcapsule's conjugation with an immunological specie specific to the analyte of interest.

41. A conjugated microencapsulated fluorescer/immunological specie composition useful in the detection of a biological of interest which has been formed by reacting an immunological specie with an encapsulated fluorescer possessing a microcapsule of uniform colloidal size whose structure has a membrane which is easily disrupted to free the fluorescer material.

42. A conjugated microencapsulated fluorescer/immunological specie composition useful in the detection of a biological of interest which has been formed by reacting an immunological specie with a microencapsulated fluorescer selected from the group consisting of 5,12-dihydro quinoxalo(2,3,6) phenazine, magnesium and zinc metalo porphyrins, neutral red, magdalla red, acridine red, acridine orange, dianisyl ethynyl tetracene, phenizine, rhodamine, 3,4,9,10 perylene tetracarboxylic dianhydride, and dertivatives thereof.

43. A test kit for use in the detection of a biological of interest by means of an assay technique comprising, in a packaged combination, one or more containers holding (1) a microencapsulated fluorescer material conjugated to an immunological specie specific to the biological of interest, (2) a means for disrupting the membrane structure of the microencapsulated fluorescer, and (3) chemical reagents capable of reacting to produce a high energy intermediate which will excite the freed fluorescer material to cause same to emit light.

44. The kit of claim 43 wherein the chemical reagents comprise (i) hydrogen peroxide or a chemical system for generating hydrogen peroxide and (ii) an oxamide or a bis-oxalate ester.

45. A test kit for use in the detection of a biological of interest by means of an assay technique comprising, in a packaged combination, one or more containers holding (1) a microencapsulated quenching/poisoning material conjugated to an immunological specie specific to the biological of interest ,

(2) chemical reagents capable of reacting to produce a chemluminescent reaction generating an energy signal, and

(3) a means for disrupting the membrane structure of the microencapsulated quencher/poisoning material to liberate the quencher/poison to free solution.

46. A method for the qualitative detection of a biological analyte of interest comprising:

(a) labeling an immunological specie specific to the analyte of interest with a microencapsulated fluorescer material which is biologically compatible with such specie;

(b) contacting the specie labeled by the micro-encapsulated fluorescer and the biological analyte of interest to form a specie labeled by a microencapsulated fluorescer/biological analyte complex;

(c) disrupting the capsule containing the fluorescer label thus freeing it to solution;

(d) contacting the freed fluorescer with an energy source other than electro-magnetic radiation which is capable of activating the fluorescer label; and

(e) determining the presence of chemiluminescent light emitted.

47. A quantitative method for measuring the amount of a biological analyte of interest comprising:

(a) labeling an immunological specie specific to the analyte of interest with a microencapsulated fluorescer material which is biologically compatible with such specie;

(b) contacting the specie labeled by the microencapsulated fluorescer and the biological analyte of interest to form a specie labeled by a microencapsulated fluorescer/biological analyte complex;

(c) disrupting the capsule containing the fluorescer label thus freeing it to solution;

(d) contacting the freed fluorescer with an energy source other than electro-magnetic radiation which is capable of activating the fluorescer label; and

(e) measuring the quanta of chemiluminescent light emitted.

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