

spleen ferritin by ammonium sulphate precipitation followed by DEAE-cellulose chromatography. The IgG, at a final concentration of 8 mg/ml in 0.1 M phosphate solution, pH 8.5, was reduced for 1 hour at 37° C. with 1.1 mM dithiothreitol (DTT). Mixtures comprising 1 ml of the 0.5% suspension of freshly prepared NCA-lactoferrin-latex and various volumes (15 μ l to 125 μ l) of reduced IgG Ab solution were deoxygenated by bubbling nitrogen through for a few seconds; the tube was then sealed under vacuum. After 24 hours at room temperature in the dark, the latex was washed twice with 0.4 M carbonate buffer pH 9.6 containing 1% BSA and 0.1% Tween-20 and resuspended in GBS-BSA. Non-covalently bound IgG was removed with Tween-20. To digest the Ab (IgG) coupled to the protein interface, the particles were suspended in 0.1 M acetate buffer, pH 3.2, and incubated for 1 hour at 37° C. with pepsin at an enzyme/substrate ratio of 1/10 (w/w). After centrifugation and twice washing the particles with 0.1 M glycine-HCl buffer, pH 9.2, containing 0.17 M NaCl (GBS) and 1% bovine serum albumin (BSA) (GBS-BSA), the presence of intact IgG on the particles was checked by measuring agglutination with rheumatoid sera, and latex preparations reacting with rheumatoid sera were again digested with pepsin until no such further agglutination was observed. Latex agglutination tests for ferritin in serum were carried out as in Example 1 using the above reagent, with very satisfactory results.

We claim:

1. A method of immunoassay which comprises reacting an antigen in a fluid with insolubilized F(ab')₂ fragments of an immunoglobulin which is specific to said antigen, the reaction being effected in the substantial absence of the (whole) immunoglobulin and of F(c) fragments thereof.
2. A method of assaying a fluid by agglutination for an antigen therein, which comprises the steps of:
 - (a) mixing a sample of the fluid with F(ab')₂ fragments of an immunoglobulin which is specific to said antigen to form a reaction mixture, said fragments being bound to water-insoluble particles, wherein, to avoid interference from exogenous Clq and RF, the reaction mixture is substantially free from the whole immunoglobulin and the F(c) fragments thereof;
 - (b) incubating the mixture to allow reaction between the said F(ab')₂ fragments and any said antigen present to cause agglutination of said particles; and

- (c) directly determining the extent to which agglutination of said particles has occurred in the mixture and thereby the presence and/or amount of said antigen in the fluid sample.
3. A method according to claim 2, wherein said particles are latex particles.
4. A method according to claim 2, wherein the extent of agglutination is determined by selectively counting the agglutinated or unagglutinated latex particles.
5. A method according to claim 2, wherein said particles are magnetically attractable and wherein, after reaction between the antigen and the fragments, the particulate material is separated by using a magnetic field.
6. A method according to claim 2, wherein the fluid under assay is a biological fluid.
7. A method according to claim 2, wherein the fluid under assay is human serum.
8. A method according to claim 2, which is effected by continuous flow techniques.
9. A method according to claim 2, which is effected by a discrete manual technique.
10. A reagent for use in immunoassay which comprises a suspension of finely divided particulate material having bound thereto the F(ab')₂ fragments of an immunoglobulin, the suspension being substantially free from the said whole immunoglobulin and F(c) fragments thereof.
11. A reagent according to claim 10 in which the said particulate material comprises magnetically attractable material.
12. A reagent according to claim 10 which is in the form of a latex suspension.
13. A method of assaying a fluid by agglutination for an antigen therein, which comprises the steps of:
 - (a) mixing a sample of the fluid with labelled F(ab')₂ fragments of an immunoglobulin which is specific to said antigen to form a reaction mixture, the labels being water-insoluble particles, wherein, to avoid interference from exogenous Clq and RF, the reaction is substantially free from the whole immunoglobulin and the F(c) fragments thereof;
 - (b) incubating the mixture to allow a competition binding reaction between the F(ab')₂ fragments and any said antigen present;
 - (c) analyzing the amount of labelled fragments which have reacted with the antigen or remain unreacted in the mixture to determine the presence and/or amount of antigen in the fluid.

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