

[54] METHOD AND APPARATUS FOR RADIOIMMUNOASSAY WITH REGENERATION OF IMMUNOADSORBENT

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[56]

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[57]

ABSTRACT

Method and apparatus for radioimmunoassay providing a continuously reusable short cycle analytical system of particular use in biochemical analysis such as the determination of steroids, polypeptides and the like. The method disclosed comprises admixing an unlabelled antigen sample with a known concentration of labelled antigen, bringing the mixture into contact with a mass of appropriate antibody that has been immobilized thereby to bind at least part of the mixed antigen to the antibody. The amount of bound and/or unbound labelled antigen is detected and counted and, by use of previously prepared standards, the unknown concentration of unlabelled antigen is found. The still immobilized antibody is regenerated for immediate reuse by rinsing it with a selected eluting solution that is capable of breaking the antigen-antibody bond without altering the characteristics of the antibody. Alternate ways of immobilizing the antibody are described. Several suitable eluting solutions are disclosed. Also disclosed is a novel apparatus by which the new method may be automatically carried out and the antibody reused many times. By proper substitution, the antibody and antigen may be reversed.

10 Claims, 1 Drawing Figure